

Schedule 22

Part A -

Air Traffic Services

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SUBPART A: GENERAL**22.101 Applicability**

- (a) The requirements of this Part apply to all Air Traffic Service (ATS) providers, including any Air Traffic Service provider that currently provides or has submitted an application to the Authority to provide any kind of Air Traffic Service and any of its sub-contractors.
- (b) This Part prescribes requirements governing:
 - (1) the operation of organizations providing air traffic services in the sovereign airspace of the Bahamas that are:
 - (i) Within the flight information region (FIR) administered by another ICAO Contracting State in accordance with the terms of a Regional Air Navigation Agreement; or
 - (ii) the subject of a written agreement between an organization responsible for the provision of ATS service in adjacent airspace which delegates the provision of ATS service to that organization;
 - (2) The provision of air traffic services within the Sovereign airspace of the Bahamas; and
 - (3) The operating standards for the provision of air traffic services.
- (c) An Air Traffic Service provider shall comply with the operating standards for the provision of Air Traffic Services contained in the BCAD Order 7110.1 and all other applicable Orders/Directives.
- (d) An Air Traffic Service provider's failure to comply with any of the requirements of these regulations or provisions of any Operating standards manual issued thereunder may:
 - (1) Constitute a breach of these Regulations; and
 - (2) Result in proceedings for any such breaches; or
 - (3) Result in the refusal of an application for renewal of an approval; or
 - (4) Result in action to suspend, revoke or impose conditions in respect of the ATS provider's Certificate.
- (e) The ATS provider shall comply with these regulations and any other applicable national legislation in force at any point during the certification process, once such process has begun.
- (f) Any reference in this Part to an Annex to the Convention includes the differences notified to ICAO by The Bahamas in respect of the Standards specified in that Annex and published in the AIP of The Bahamas.

22.102 Definitions

- (a) For the purpose of this Part, the following definitions shall apply:
 - "**Accepting unit.**" Air Traffic control unit next to take control of an aircraft.
 - "**Accuracy.**" A degree of conformance between the estimated or measured value and the true value.
 - "**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.
 - "**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 traffic.**" All traffic on the maneuvering area of an aerodrome and all aircraft flying in the vicinity of an aerodrome.
 - "**Aeronautical: fixed service (AFS).**" A telecommunication service between specified fixed points provided primarily for the safety of air navigation and for the regular, efficient and economical operation of air service.
 - "**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 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 operates 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.

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

“AIRMET information.” Information issued by an 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-levels flights in the flight information region concerned or sub-area thereof.

“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).

“Aeronautical information service (AIS).” A service established in a defined area of coverage that is responsible for the provision of aeronautical information or data necessary for the safety, regularity and efficiency of air navigation, and includes personnel and facilities employed to provide information pertaining to the availability of air navigation services and their associated procedures necessary for the safety, regularity and efficiency of air navigation (i.e. AIP, AIC, NOTAM etc.);

“Airport control service.” Air traffic control service in respect of airport traffic;

“Airport control tower.” A unit established to provide air traffic control service to airport traffic;

“Airport traffic.” All traffic on the maneuvering area of an airport and all aircraft flying in the vicinity of an airport;

“Airport traffic zone.” Airspace of defined dimensions established around an airport for the protection of airport traffic;

“Air Traffic.” All aircraft in flight or operating on the maneuvering area;

“Air traffic advisory service.” A service provided within advisory airspace to ensure separation, insofar as is practical, between aircraft which are operating on IFR flight plans;

“Air traffic control clearance.” An authorisation for an aircraft to proceed under conditions specified by an air traffic control unit;

“Air traffic control instruction.” A directive issued by the air traffic control service for the purpose of requiring a pilot to take specific action;

“Air traffic control service.” A service provided for the purpose of preventing collisions:

(a) between aircraft; and

(b) on the manoeuvring area between aircraft and obstructions; and expediting and maintaining an orderly flow of air traffic;

“Air traffic control unit.” Various, area control unit, approach control unit or airport (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 services or “ATS”. Air traffic control services, air traffic advisory services, alerting services or flight information services;

“Air traffic services airspaces” means 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;

“Air traffic reporting office.” A unit established for the purpose of receiving reports concerning air traffic services and flight plans submitted before departure.

“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.

“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.

“Alternate aerodrome.” An aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or to land at the aerodrome of intended landing.

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

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

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

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

“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 airports;

“Appropriate ATS authority.” The relevant authority designated by the State responsible for providing air traffic services in the airspace concerned;

“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.

“Apron management service.” A service provided to regulate the activities and the movement of aircraft and vehicles on an apron.

“Area control center.” A unit established to provide air traffic control service to controlled flights in control areas under its jurisdiction.

“Area control service.” Air traffic 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.

“ATS route.” A specified route designated for channeling the flow of air traffic as necessary for the provision of air traffic services;

“Automatic dependent service (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 the 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.

“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.

“Change-over point.” The point at which an aircraft navigating on an ATS route segment defined by reference to very high frequency omnidirectional radio ranges is expected to transfer its primary navigational reference from the facility behind the aircraft to the next facility ahead of the aircraft.

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

“Conference communications.” Communication facilities whereby direct speech conversation may be conducted between three or more locations simultaneously.

“Control Area.” The controlled airspace that is specified in The Bahamas AIP and that extends from a specified limit above the earth;

“Controlled aerodrome.” An aerodrome at which air traffic control service is provided to aerodrome traffic.

“Controlled airspace.” means an airspace of defined dimensions that is so specified in the Bahamas AIP and within which an air traffic control service is provided in accordance with the airspace classification;

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

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

“Control zone.” The controlled airspace that is so specified in The Bahamas AIP and that extends upwards vertically from the surface of the earth up to a specified upper limit;

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

“Cyclic redundancy check (CRC).” A mathematical algorithm applied to the digital expression of data that provides a level of assurance against loss or alteration of data.

“Data link communications.” A form of communication intended for the exchange of message via a data link.

“Data quality.” A degree or level of confidence that the data provided meets the requirements of the data user in terms of accuracy, resolution and integrity

“Datum.” Any quantity or set of quantities that may serve as a reference or basis for the calculation of other quantities (ISO 19104*).

“Declared capacity.” A measure of the ability of the ATC system or any of its subsystems or operating positions to provide service to aircraft during normal activities. It is expressed as the number of aircraft entering a specified portion of airspace in a given period of time, taking due account of weather, ATS unit configuration, staff and equipment available, and any other factors that may affect the workload of the controller responsible for the airspace.

“DETRESFA.” The code word used to designate a distress phase.

“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 clearance.” A clearance issued to an aircraft by an air traffic control unit that is not the current controlling authority of that aircraft.

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

“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:
- (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:
 - (i) a landing can be made: or
 - (ii) 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.” A unit established to provide flight information service and alerting service.

“Flight information region.” An airspace of defined dimensions within which flight information service and alerting service are provided

“Danger area.” An airspace of defined dimensions that is so specified in the Bahamas AIP within which activities dangerous to the flight of aircraft may exist at specified times;

“Duty Period”. Period during which an Air Traffic Controller License holder is required to carry out any task associated with the ATC service provider, including breaks and any extension of duty.

“Emergency assistance services.” Services provided for the purpose of:

- (a) assisting aircraft in a state of emergency, including aircraft in uncertainty, alert and distress phases;
- (b) assisting aircraft involved in a hijacking; or
- (c) alerting rescue coordination agencies of missing or overdue aircraft;

“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 (FL).” A surface of constant atmospheric pressure which is related to a specific pressure datum, 1013.2 hectopascals, and is separated from other such services by specific pressure intervals;

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

Note: -Specifications for flight plans are contained in Annex 2. When the expression “Flight plan form” is used it denotes the model flight plan form at Appendix 2 to the PANS-ATM

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

“Geodetic datum.” A minimum set of parameters required to define location and orientation of the local reference system with respect to the global reference system/frame.

“Gregorian calendar.” Calendar in general use: first introduced in 1582 to define a year that more closely approximates the tropical year than the Julian calendar (ISO 19108*).

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

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

“ICAO Doc. 4444.” Doc. 4444-RAC/501 (Procedures for Air Navigation Services – Air Traffic Management) approved and published by decision of the Council of the International Civil Aviation Organisation, as in force from time to time;

“ICAO Doc. 7030.” Doc. 7030 (Regional Supplementary Procedures) approved and published by decision of the Council of the International Civil Aviation Organisation, as in force from time to time;

“IFR.” Instrument flight rules.

“IFR air traffic control message.” A message that contains an air traffic control clearance or instruction, a position report or procedure related to the conduct of an IFR flight;

“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.

“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.

“Integrity (aeronautical data).” A degree of assurance that an aeronautical data and its value has not been lost nor altered since the data origination or authorized amendment.

“International NOTAM office.” An office designated by a State for the exchange of NOTAM internationally.

“Instrument approach procedure.” A series of predetermined manoeuvres by reference to instruments with specified protection from obstacles from the initial approach fix, or where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or en-route obstacle criteria apply;

“Level.” The vertical position of an aircraft in flight and meaning variously, level;

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

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

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

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

“Night Shift.” Any duty period equal to or greater than four (4) hours during any period of Night

“NOTAM.” A notice to airmen concerning the establishment or condition of, or change in, any aeronautical facility, service or procedure, or any hazard affecting aviation safety, the knowledge of which is essential to personnel engaged in flight operations;

“Obstacle.” All fixed (whether temporary or permanent) and mobile objects, or parts thereof, that are located on an area intended for the surface movement of aircraft or that extend above a defined surface intended to protect aircraft in flight.

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

“Operational duty.” The period during which an air traffic controller is actually exercising the privileges of the controller’s license at an operational position.

“Printed communications.” Communications which automatically provide a permanent printed record at each terminal of a circuit of all messages which pass over such circuit.

“Operational location.” The physical location of an operational air traffic control unit or flight service station.

“Operational Time/Hour” The period which an ATCO is actually exercising the privileges of the ATCO’s licence at an operational position.

“Prohibited area.” An airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is prohibited.

“Radio telephony.” A form of radio communication primarily intended for the exchange of information in the form of speech.

“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.

“Rescue coordination center (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.

“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.

“Runway.” A defined rectangular area on a land aerodrome prepared 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 programme.” An integrated set of regulations and activities aimed at improving safety.

“Standby Duty.” A period during which, by prior arrangement, a controller is required to be available to report to any Air Traffic Service unit with the intention of providing an air traffic control service. Standby duty is calculated at half period of duty time.

“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 points.” A specified geographical location used in defining an ATS route or the flight path of an aircraft and for other navigation and ATS purposes

“Restricted area.” An airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is restricted in accordance with certain specified conditions;

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

“Station declination.” An alignment variation between the zero degree radial of a VOR and true north, determined at the time the VOR station is calibrated.

“SARPs.” Standards and Recommended Practices

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

“Terminal control area.” An airspace of fixed dimensions that is so specified in the Bahamas AIP and within which an air traffic control service for IFR flights is provided;

“Track.” The protection 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 manoeuvres 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.” Air traffic control unit in the process of transferring the responsibility for providing air traffic control service to an aircraft to the next air traffic control unit along the route of flight.

“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” situation wherein uncertainty exists as to the safety of an aircraft and its occupants.

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

“Transponder airspace.” An airspace of fixed dimensions which aircraft shall not enter while in flight unless the aircraft is equipped with a serviceable and functioning transponder and VFR flight means visual flight rules.

“VFR.” Visual Flight Rules.

“VFR flight.” A flight conducted in accordance with the visual night rules.

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

“VMC.” 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.

- (b) Every other term shall have the same meaning as in Appendix 1 to Schedule 1 to these Regulations or as contained in the Chicago Convention and ICAO Document 9713, “International Civil Aviation Vocabulary.”

22.103 Use of English

- (a) All documentation, written communications and data (electronic or otherwise) for submission to the Authority or in support of an application for an approval and used by the ATS provider in providing services shall be provided and published in English.

22.104 Compliance with laws, requirements and procedures

- (a) The ATS provider shall take all actions necessary to ensure that all persons employed, engaged or contracted by the holder are familiar with the safety and security requirements of all appropriate sections of Civil Aviation and National legislation, the requirements of this Part, all related operating standards and requirements published by the Authority, any applicable conditions of the ANS Certificate and the procedures specified in the ATS provider’s safety assurance documentation, Quality System and plan.

22.105 Procedure compliance

- (a) Each person performing duties in the ATS provider's organization shall comply with the applicable procedures specified in the appropriate Manuals which authorise the operation.

SUBPART B: OBJECTIVES AND DIVISION OF THE AIR TRAFFIC SERVICES

22.106 Objective of air traffic services

- (a) The objectives of the Air Traffic Services shall be to:
 - (1) Prevent collisions between aircraft;
 - (2) Prevent collisions between aircraft on the manoeuvring area of an aerodrome and obstacles on that area;
 - (3) Expedite and maintain an orderly flow of air traffic;
 - (4) Provide advice and information useful for the safe and efficient conduct of flights; and
 - (5) Notify appropriate organizations regarding aircraft in need of search and rescue aid, and assist such organizations as required.

22.107 Division of air traffic services

- (a) Air traffic services shall comprise three services identified as follows:
 - (1) Air traffic control service, comprising one or more of the following:
 - (i) Area control service: the provision of air traffic control service for controlled flights, except for those parts of such flights described in paragraphs 22.013(a)(1)(ii) and (iii);
 - (ii) Approach control service: the provision of air traffic control service for those parts of controlled flights associated with arrival or departure; or
 - (iii) Aerodrome control service: the provision of air traffic control service for aerodrome traffic, except for those parts of flight described in paragraph 22.013(a) (1) (i) and (ii).
 - (2) Flight information service; and
 - (3) Alerting service.
- (b) Any air traffic control service shall include provision of flight information and alerting services.
- (c) The need for the provision of air traffic services shall be determined by consideration of: the types and density of traffic involved, the meteorological conditions, and such other factors as may be relevant.
- (d) The naming and identification of air traffic service units and airspace shall be in accordance with the following:
 - (1) An area control centre or flight information centre should be identified by the name of a nearby town or city or geographic feature;
 - (2) An aerodrome control tower or approach control unit should be identified by the name of the aerodrome at which it is located; and
 - (3) A control zone, control area or flight information region should be identified by the name of the unit having jurisdiction over such airspace.

22.108 CLASSIFICATION OF AIRSPACE

- (a) ATS airspaces shall be classified and designated in accordance with the following:
 - (1) Class A: IFR flights only permitted; all flights are provided with air traffic control service and are separated from each other;
 - (2) Class B: IFR and VFR flights are permitted; all flight are provided with air traffic control service and separated from each other;
 - (3) Class C: IFR and VFR flights are permitted; all flights are provided with air traffic control service and IFR flights are separated from other IFR flights and from VFR flights. VFR flights are separated from IFR flights and receive traffic information in respect of other VFR flights;
 - (4) Class D: IFR and VFR flights are permitted and all flights are provided with air traffic control service; IFR flights are separated from other IFR flights and receive traffic information in respect of VFR flights. VFR flights receive traffic information in respect of all other flights; and
 - (5) Class E: IFR and VFR flights are permitted; IFR flights are provided with air traffic control service and are separated from other IFR flights. All flights receive traffic.

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SUBPART C: ATS CERTIFICATE REQUIREMENTS

22.109 Applicability

- (a) No person shall provide a service which the Authority deems to be an air traffic service except under the Authority of, and in accordance with the provisions of, any ATS approval issued under this Part.
- (b) Each person authorised to provide an ATS before the entry into force of these regulations, may continue to do so, subject to compliance with the requirements of this Part.

22.110 Application for Certificate

- (a) An applicant for the grant of ATS Certificate shall apply to the Authority in the form and manner required by the Authority and at least 90 days before the date of intended operation, except the Air Traffic Manual and Equipment Maintenance Control Manual which may be submitted later than but not less than 60 days before the date of intended operation, supplying:
 - (1) The applicant's name and address;
 - (2) The specific air traffic service or services to be provided;
 - (3) The aerodrome location or airspace designation at, or within which, the service will be provided;
 - (4) The Plan and proof of Financial Capacity and Liability Insurance;
 - (5) Payment of any applicable fee required by the appropriate requirements; and
 - (6) Such other particulars relating to the applicant and the intended service as may be required by the Authority
- (b) An applicant who is requesting to operate a Flight Information Service Unit shall make application at least 30 days prior to the date of intended operation.

22.111 Issue of ATS Certificate

An applicant may be granted an ATS Certificate if the Authority is satisfied that:

- (1) The applicant meets the requirements of this Part or any other requirements of these Regulations;
- (2) The applicant, and the applicant's key person or persons, are fit and proper persons and are deemed acceptable by the Authority;
- (3) The organization has the Financial Capacity and Liability Insurance Coverage required for it to execute its functions; and
- (4) The granting of the approval is not contrary to the interests of aviation safety and security.

22.112 Demonstration Sessions

- (a) No person may operate an air traffic service unless the person first conducts satisfactory demonstration sessions as required by the Authority.
- (b) Subject to the provision under paragraph (d) of this Subsection, no person may provide any air traffic service following any major change(s) and/or re-certification unless it conducts a satisfactory demonstration session for the Authority.
- (c) Demonstration sessions required under paragraph (a) of this Subsection shall be conducted in accordance with the regulations applicable to the type of operation, equipment used and services provided.
- (d) The Authority may authorize deviations from this Subsection if the Authority finds that special circumstances make full compliance with this section unnecessary.

22.113 Privileges of ATS Certificate

- (a) ATS Certificate shall state:

- (1) The aerodrome or airspace at, or within which, the service may be provided; and
- (2) The type of air traffic service which may be provided.
- (b) An air traffic service Certificate may include such conditions as the Authority may consider appropriate.
- (c) The ATS provider issued with ATS Certificate under this Subpart shall provide the air traffic service in accordance with the provisions of this Part and with any conditions attached to the approval.

22.114 Amendment and Revocation of ATS Certificate

- (a) The Authority may amend any Air Navigation Service (ANS) Certificate or amend the conditions under which any person authorised to provide an ATS before the entry into force of these regulations, may continue to provide the service if:
 - (1) The Authority determines that aviation safety and the public interest require the amendment; or
 - (2) The ATS provider applies for an amendment.
- (b) The Authority may, if the requirements of this Part are met, amend the ATS Certificate, where there is a change in the services provided.
- (c) If the Authority stipulates in writing that an emergency exists requiring immediate amendment in the public interest with respect to aviation safety, such an amendment is effective without stay on the date the ATS provider receives notice.
- (d) The ATS provider may appeal the amendment, but shall operate in accordance with, unless subsequently withdrawn.
- (e) Amendments proposed by the Authority, other than emergency amendments, become effective thirty (30) days after notice to the ATS provider, unless the Certificate holder appeals the proposal in writing prior to the effective date.
- (f) The filing of an appeal stays the effective date until the appeal process is completed.
- (g) Amendments proposed by any such ATS provider shall be made at least 30 days prior to the intended date of the start of any service under that amendment.
- (h) No person may provide an ATS that is not included in a current and valid ANS Certificate and related ATS Operations Specifications and for which an amendment to such Certificate is required, unless the person has received notice of approval from the Authority

22.115 Duration of approval

- (a) ATS approval Certificate shall be valid for a period not exceeding one (1) calendar year from the date of issuance until midnight of the date of expiry.
- (b) ATS Certificate shall remain in force until it is suspended or revoked.
- (c) The holder of an ANS Certificate with ATS Certificate that has been suspended or revoked shall forthwith surrender such certificate to the Authority.
- (d) The holder of ATS Certificate shall make any payment required by the appropriate requirements in respect of continued validity or amendment of the approval.

22.116 Renewal of Certificate

- (a) The application for the renewal of ATS Certificate shall be in a form and manner prescribed by the Authority.
- (b) The application shall be submitted to the Authority not less than 30 days before the certificate expiry date.

22.117 Establishment or transfer of service

- (a) An applicant for the grant of ATS Certificate shall include with the application:
 - (1) For each aerodrome and airspace, a Part of the proposed hours of service; and

- (2) In respect of an aerodrome or airspace not currently provided with an air traffic service, a summary of safety factors considered before seeking approval.
- (b) An applicant for the grant of ATS Certificate that intends to assume responsibility for providing any air traffic service from an existing ATS provider shall include with its application full details of transitional arrangements endorsed by the Accountable Managers of both organizations.

22.118 Withdrawal or transfer of service

- (a) The holder of ATS Certificate who wishes permanently to withdraw an air traffic service shall give the Authority 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.
- (b) The holder of ATS Certificate who intends permanently to reduce the hours of operation of an air traffic service shall provide to the Authority advance notice of, and the reasons for, the proposed reduction.
- (c) The holder of ATS Certificate who is the outgoing provider of an air traffic service shall provide all necessary assistance in the preparation and execution of the transitional arrangements.

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SUBPART D: SURVEILLANCE AND REVALIDATION**22.119 Continuing Validation of the Certification Basis Required**

- (a) The holder of ATS Certificate shall be subject to a continuing system of surveillance administered by the Authority to validate the original certification basis and the organization's continued eligibility to hold its approval.
- (b) The holder of ATS Certificate shall allow the Authority to conduct tests and inspections, at any time or place, to determine whether a holder of ATS Certificate is complying with the applicable laws, regulations and approval terms and conditions.
- (c) The holder of ATS Certificate shall:
 - (1) continue to meet the standards and comply with the requirements of this Part;
 - (2) comply with all procedures and programmes detailed in its approved Plan and Manual of Operations ; and
 - (3) provide, at each location covered by the Plan, in hard copy, electronic or other form acceptable to the Authority:
 - (i) all portions of its current Air Navigation Service Certificate and ATS Certificate;
 - (ii) all portions and sufficient copies of the Manual of Operations that are readily accessible by all personnel who may need to refer to it.
 - (iii) all applicable portions of its Equipment Maintenance Manuals;
 - (iv) at least one current copy of the relevant sections of its Plan applicable to the operation; and
 - (v) a current listing that includes the location and individual positions responsible for each record, document and report required to be kept by an ANS Certificate holder with ATS Certificate under the applicable aviation law, regulations or standards.
- (d) The ATS provider shall make its records available to the Authority upon request, either at the Authority's offices or other location stipulated by the Authority.
- (e) Failure by the ATS provider to make available to the Authority upon request, any or all portions of the Certificate, Operations and Equipment Maintenance Manuals and any required record, document or report is grounds for suspension of all or part of the Certificate and associated ANS Certificate.

22.120 Access for Inspection

- (a) To determine continued compliance with these regulations, the ATS provider shall –
 - (1) grant the Authority free and uninterrupted access to and co-operation with any of its organizations, facilities and equipment;
 - (2) ensure that any person authorised by the Authority shall have free and uninterrupted access to any documentation relating to activities associated with the approval.
 - (3) ensure that the Authority is granted access to and co-operation with any organization or facilities that it has contracted for services associated with any air navigation service and equipment maintenance for those services;
 - (4) grant the Authority free and uninterrupted access to any ATS unit at any time during operations; and
 - (5) be responsible for ensuring that, if requested to do so by an Authorized Person, documentation is produced within a period prescribed by the Authority.
- (b) The ATS provider shall provide to the Authority an observer's position at each operating position in any ATS unit which the appropriate ATS personnel actions and conversations may be easily observed whenever required by the Authority.

22.121 Changes to ATS provider's organization

- (a) The holder of ATS Certificate shall ensure that its Plan is amended so as to remain a valid description of the holder's current and planned organization and services.
- (b) The ATS provider shall ensure that any amendments made to the holder's Plan:
 - (1) meets the applicable requirements of this Part; and
 - (2) complies with the amendment procedures contained in the holder's Plan.
- (c) Subject to sub-paragraph (d) below, the ATS provider shall provide the Authority with a copy of each amendment to the holder's Plan as soon as practicable after its incorporation into the Plan as follows:
 - (1) printed amendments, at least 15 working days in advance of their effective date; and
 - (2) amendments of an urgent or immediate nature, without delay, and no later than the date on which they are effective.
- (d) Prior notification to and acceptance by the Authority is required whenever The ATS provider proposes to make a change to any of the following,:
 - (1) The Accountable Manager;
 - (2) Any of the listed key persons; or
 - (3) Any aspect of air traffic management that may have an adverse effect on air traffic services provided by agencies responsible for adjacent airspace.
- (e) No significant safety-related change to the ATS system, including the implementation of a reduced separation minimum or a new procedure, shall be effected until a safety assessment has demonstrated that an acceptable level of safety will be met and users have been consulted. When appropriate, the responsible authority shall ensure that adequate provision is made for post-implementation monitoring to verify that the defined level of safety continues to be met.
- (f) The Authority may prescribe conditions under which the ATS provider may operate during or following any of the changes specified in this paragraph and the ATS provider shall comply with those conditions.
- (g) Where any of the changes referred to under this paragraph require an amendment to the Certificate, the ATS provider shall forward the documentation describing the changes to the Authority for review as soon as practicable.
- (h) The ATS provider shall make such amendments to the holder's Plan as the Authority may consider necessary in the interests of aviation safety.

22.122 Subsequent Certification Requirement

- (a) The Authority may require that a full certification process be completed prior to the implementation of any major change in any aspect of the ATS provider's service provision described in 22.039 or as prescribed by the Authority.

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SUBPART E: AIR TRAFFIC SERVICE MANUALS & DOCUMENTATION**22.123 Organisation Plan**

- (a) An applicant for the grant of ATS Certificate shall provide the Authority with a plan that shall be approved by the Authority and covers a minimum period of five years.
- (b) The plan shall contain:
 - (1) A set of overall aims and goals of the ATS provider and its strategy towards achieving them in consistency with any overall longer term plan of the provider and any other requirements prescribed by the Authority;
 - (2) Appropriate performance objectives in terms of quality and level of service, safety and cost – effectiveness
 - (3) A statement signed by the Accountable Manager on behalf of the applicant's organization confirming that the plan and the appropriate Manual of Operations:
 - (i) defines the organization and demonstrate its means and methods for ensuring safe air traffic services are provided to aircraft and continuing compliance with this and any other applicable Part; and
 - (ii) Are required to be complied with by its personnel at all times; and
- (c) The titles and names of the key person or persons required by this Part; and
 - (1) the duties and responsibilities of the key person or persons specified in this Part including matters for which they have responsibility to deal directly with the Authority on behalf of the organization;
 - (2) an organization chart showing lines of responsibility of the key personnel and extending to each location approved by the Authority;
 - (3) The location of the each ATS unit, airspace or aerodrome being served;
 - (4) a list of the air traffic services to be provided;
 - (5) Details of the applicant's staffing structure for each ATS unit;
 - (6) details of procedures regarding the competency, qualifications, maintenance of current operating practice and fitness of personnel;
 - (7) Details of procedures regarding the training and assessment of ATS personnel and the qualifications of ATS training personnel;
 - (8) Details of procedures regarding the observation of Human Factors Principles in all systems, procedures, documentation and programmes
 - (9) Details of the systems, procedures, and programmes regarding the safety and quality management system;
 - (10) Details of the systems, procedures and programmes regarding the organization's Security Programme as required under the BASR Part 29;
 - (11) Details of the maximum number of hours to be worked by ATS staff; and
 - (12) Procedures to control amend and distribute the plan.
- (d) The holder of ATS Certificate shall:
 - (1) hold at least one complete, current copy of its Plan at each ATS unit listed in its Plan, except that parts relating solely to a particular place need only be held at principal locations and the place concerned;
 - (2) amend or revise the plan, as is necessary, to ensure that the information contained therein is kept up to date;
 - (3) incorporate in the plan, any material as the Authority may require;
 - (4) Comply with all procedures and standards detailed in its Plan;
 - (5) Make each applicable part of its Plan available to personnel who require those parts to carry out their duties;
 - (6) Continue to meet the standards and comply with the requirements under this Part; and
 - (7) Notify the Authority promptly of any change of address for service, telephone number or facsimile number prior to and within 30 days of the intended date of the change.

22.124 ATS Manuals of Operations and Unit Specific Manuals

- (a) The ATS provider shall prepare and keep current for compliance by its personnel, a Manual of Operations (MANOPs) that contains the procedures and policies for the use and guidance of its personnel in the provision of the services listed in its Plan.
- (b) The ATS provider whose Certificate provide for the provision ATS or other services from more than one location shall provide a separate Unit Specific Manual (USM) to be used in conjunction with the MANOPs.
- (c) The USM shall contain procedures and instructions of a local nature which are either subject to frequent change or limited in application, but are, in all cases, supplementary to the provisions of the MANOPs.
- (d) The accountable manager shall sign a MANOPs or USM submitted to the Authority for approval.
- (e) The MANOPs and USMs shall be deemed acceptable by the Authority and amended or revised as directed by the Authority and as otherwise necessary to ensure that the information contained therein is appropriate and kept up-to-date.
- (f) The ATS provider shall control the distribution of the MANOPs and USMs, or pertinent portions, together with all amendments and revisions to ensure their provision to all personnel that are required to use them.
- (g) No person may provide for use of its personnel in the provision of ATS, any MANOPs, USM or any portion of such manual which has not been reviewed and found acceptable or approved by the Authority.
- (h) The MANOPs shall describe the overall (general) company policies and procedures regarding the provision of air traffic services listed in the Plan. The contents of the MANOPs shall include but is not limited to:
 - (1) the information regarding hours of service, the establishment of an air traffic service and any transitional arrangements;
 - (2) personnel requirements and their responsibilities;
 - (3) details of the procedures regarding the control of documentation;
 - (4) details of the systems and procedures regarding general information requirements;
 - (5) details of the procedures regarding the notification of facility status;
 - (6) details of the systems and procedures regarding meteorological information and reporting;
 - (7) details of altimeter setting procedures;
 - (8) details of the procedures regarding the keeping of watch logs;
 - (9) Procedures regarding shift administration;
 - (10) Procedures to mitigate the effects of fatigue;
 - (11) details of the procedures regarding responsibility for control;
 - (12) details of the systems and procedures regarding co-ordination requirements;
 - (13) details of the procedures regarding contingency plan(s) ;
 - (14) details of the procedures to assist and to safeguard strayed or unidentified aircraft.
 - (15) details of the procedures regarding incidents and accidents;
 - (16) details of the procedures regarding search and rescue and co-ordination with the designated search and rescue organization;
 - (17) details of the procedures relating to the requirements of the ATS security programme, including provisions to protect against cyber-security threats;
 - (18) details of systems and procedures regarding the retention and management of records; and
 - (19) details of the procedures required in accordance with the Safety Management and Quality Management systems;
 - (20) details of the procedures regarding disruptions to service;
 - (21) details of the procedures for issuing ATC clearances and obtaining a correct read- back of clearances and safety-related information;
 - (22) details of systems and procedures regarding the provision of approach control services, where applicable;
 - (23) details of systems and procedures regarding the provision of aerodrome control service, where applicable;

- (24) details of systems and procedures to ensure separation between controlled flights and active special use airspace;
 - (25) principles, use and limitations of automation equipment associated with the service provision;
 - (26) details of the procedures regarding the application of priorities;
 - (27) details of the procedures regarding flow control;
 - (28) details of systems and procedures regarding the provision of flight information service;
 - (29) details of systems and procedures regarding the provision of an aerodrome flight information service;
 - (30) details of systems and procedures regarding the provision of alerting service;
 - (31) details of the systems and procedures for reporting radio frequency interference and other occurrences of interference regarding any air navigation facility;
 - (32) details of the procedures regarding the processing of flight plans;
 - (33) details of the procedures regarding time system and accuracy in the provision of ATS;
 - (34) details of the procedures to ensure that information on the operational status of navigational aids is promptly forwarded to appropriate ATS units;
 - (35) details of the procedures regarding the exchange of information between all users and operators including the Meteorological Services, Aeronautical Information Services, Aerodrome Operators and Air Operators;
 - (36) details of the radio and telephone procedures;
 - (37) details of the procedures regarding the provision of ATS surveillance services, where applicable;
 - (38) details of the procedures regarding aircraft emergencies and irregular operation;
 - (39) details of the arrangements in place for provision of AIS;
 - (40) details of the systems and procedures governing ATIS broadcasts;
 - (41) details of the procedures regarding the reporting of suspected infringements of legislation;
 - (42) details of steps taken to prevent emission of laser beams from adversely affecting flight operations;
 - (43) details of procedures for air-ground radio communications failure; and
 - (44) any other information required by the Authority.
- (h) The MANOPs shall also contain:
- (i) a chart depicting the ATS provider's organizational structure and shows the accountable manager and the position of each key person along with the name, qualification, experience, duties and responsibilities of each key person and all other personnel involved in service provision; and
 - (ii) information on the status of the ATS provider's compliance with the applicable requirements of these regulations and the Operating standards manual– Air Traffic Services and any deviations approved by the Authority.
- (i) The contents of each USM shall include but is not limited to:
- (i) detailed unit operational procedures and requirements;
 - (ii) detailed unit administrative requirements, including the responsibilities of each operating position;
 - (iii) amplification and/or explanation of provisions of the MANOPs, where necessary.

22.125 Equipment Maintenance Control Manual

- (a) The ATS provider shall provide to the Authority an equipment maintenance control manual and subsequent amendments, for the use and guidance of equipment maintenance and operational personnel concerned, containing details of the organization's structure including –
- (1) the accountable manager and designated person(s) responsible for the equipment maintenance system;
 - (2) procedures to be followed to satisfy the maintenance responsibility of these regulations and manufacturer specifications.
 - (3) procedures for the reporting of failures, malfunctions, and defects to the Authority, and the manufacturer within 22 hours of discovery; in addition, items that warrant immediate

notification to the Authority by telephone/telex/fax, with a written follow-on report as soon as possible but no later than within 72 hours of discovery, are –

- (i) failure of any piece of surveillance equipment resulting in partial or complete failure;
 - (ii) partial or complete air-ground
 - (iii) system failure;
 - (iv) failure of any component of the aeronautical fixed network ;
 - (v) failure or malfunction of any automation system;
 - (iv) failure or malfunction of any automatic voice or data recording system;
 - (v) any software or hardware malfunction resulting in a disruption to the safe provision of air traffic services; and
 - (vi) any other condition considered an imminent hazard to safety.
- (b) This manual shall be amended or revised as is necessary to ensure that the information contained therein is kept up-to-date.
 - (c) The ATS provider shall furnish the Manual described in this section, or pertinent portions, together with all amendments and revisions to all personnel and organizations that are required to use it.
 - (d) No person may provide for use of its personnel in the provision of any air traffic service any Equipment Maintenance Control Manual or portion of this manual which has not been reviewed and approved by the Authority.
 - (e) Upon receipt of material the Authority prescribes as mandatory for inclusion in any portion of the Equipment Maintenance Control Manual, the ATS provider shall make the necessary amendments as soon as reasonably possible.

22.126 Equipment Operating Manuals

- (a) Subject to paragraph (d) of this Subsection, the ATS provider or applicant shall submit proposed equipment operating manuals for each type and variant of equipment used, containing the normal, abnormal and emergency procedures relating to their use for approval by the Authority.
- (b) Every equipment operating manual shall be based upon the equipment manufacturer's data for the specific equipment type and variant used by the ATS provider and shall include specific operating parameters, details of the equipment systems, and of any other operating instructions or information applicable to the operations of the ATS provider that are approved by the Authority.
- (c) The design of the manual shall observe human factors principles.
- (d) The equipment operating manual shall be issued to all persons assigned operational control functions using any piece of equipment used by the ATS provider.

22.127 Submission and Revision of Manuals

- (a) Each manual required by this Part must –
 - (1) include instructions and information necessary to allow the personnel concerned to perform their duties and responsibilities with a high degree of safety;
 - (2) be in a form that is easy to revise and contains a system which allows personnel to determine the current revision status of each manual;
 - (3) have a date of the last revision on each page concerned;
 - (4) not be contrary to any requirement under these regulations and/or as prescribed by any Authorized Person and the ATS provider's Certificate; and
 - (5) Observe Human Factors Principles in their design and utilization
- (b) No person may use or cause the use of any policy and procedure for any air navigation function prior to co-ordination with or approval by the Authority.
- (c) The ATS provider shall ensure that hard and soft copies of the manuals required under this Part and any other manual outlining any policy or procedure arrive at the Authority:
 - (1) For initial reviews: No later than 60 business days prior to the intended date of publication
 - (2) For all other reviews: No later than 30 business days

- (d) A report that demonstrates compliance with the applicable Civil Aviation Regulations, the requirements of this Part and the procedures contained in the Operating standards manual– Air Traffic Services shall accompany all manuals submitted to the Authority as appropriate.
- (e) The compliance document shall be deemed acceptable and appropriate to the Authority
- (f) The MANOPs and Unit Specific Manuals shall be kept up to date and any requests for amendments thereto shall be forwarded to the Authority:
 - (1) At least 15 working days in advance of their effective date; or
 - (2) in the case of amendments of an urgent or immediate nature, without delay, and no later than the date on which they are effective.
- (g) Operations personnel shall be expeditiously informed of the amendments to the manual of operations applying to their duties as well as of their entry into force.
- (h) Upon receipt of material the Authority prescribes as mandatory for inclusion in any portion of any manual required under these regulations, the ATS provider shall make the necessary amendments as soon as reasonably possible or at a time specified by the Authority.
- (i) The ATS provider shall ensure that the contents of the MANOPs and USM includes at least those subjects prescribed by the Authority that are applicable to the ATS provider's operations, including any additional materials made mandatory by the Authority.

22.128 Operational Documentation

- (a) The ATS provider shall hold copies of the relevant manuals and any other document necessary for the provision and operation of the services listed in its Plan.
- (b) The ATS provider shall establish a procedure to control all the documentation required under this Part which shall ensure that:
 - (1) All incoming documentation, including amendments, are reviewed, and actioned as required by Authorized Personnel;
 - (2) All documentation is reviewed and authorised before issue;
 - (3) all obsolete documentation shall be removed promptly from all points of issue or use;
 - (4) any obsolete documents retained as archives are suitably identified as obsolete;
 - (5) changes to documentation are reviewed and approved by an Inspector of the Flight Safety Division who shall have access to pertinent background information upon which to base their review and approval;
 - (6) safety-significant changes are assessed in accordance with the safety management system; and
 - (7) the current version of each item of documentation can be identified to preclude the use of out-of-date editions.
- (c) Current issues of the following documents shall be made available to personnel at all locations where they need access to such documentation for the provision of ATS. These documents shall include but not limited to:
 - (1) the Civil Aviation Act and Civil Aviation Regulations;
 - (2) the Operating standards manual– Air Traffic Services;
 - (3) the MANOPs and USM;
 - (4) Aerodrome Manual of Operations, where applicable; and
 - (5) Relevant ICAO Annexes and Documents
- (d) The ATS provider shall ensure that where documents are held as computer based records and where paper copies of computer based records are made, they are subjected to the same control as paper documents.

22.129 Aeronautical Publications

- (a) The ATS provider shall provide for the use of all persons assigned operational functions during the performance of their duties, aeronautical charts and other publications approved by the Authority.
- (b) The aeronautical charts and other publications shall be current and appropriate for the proposed types and areas of operations to be conducted by the ATS provider.

22.130 Checklists

- (a) The ATS provider shall issue and or display at each operating position, as appropriate, a condensed checklist of procedures approved by the Authority as applicable for use during Normal, Abnormal, Emergency or Contingency procedures as prescribed by the Authority.
- (b) The ATS provider shall ensure that approved procedures include each item necessary for operational personnel to safely Takeover and Handover watches and for abnormal and emergency operations.
- (c) The ATS provider shall make the approved procedures readily useable at each operating position and the operations personnel shall be required to follow them when required by any operational manual submitted to the Authority.
- (d) The ATS provider shall ensure that the checklist procedures are designed so that operations personnel will not need to rely upon their memory for items to be checked, unless such items are required by an emergency check list.
- (e) The design and utilization of checklists shall observe relevant Human Factors Principles.

SUBPART F: SAFETY AND QUALITY MANAGEMENT SYSTEMS**22.131 Safety management system**

- (a) The ATS provider shall establish a safety management system appropriate to the size and complexity of the operation, for the proactive management of safety, that integrates the management of operations and technical systems with financial and human resource management, and that reflects quality assurance principles.
- (b) The safety management system shall include policy and objectives for continuous improvement to the organization's overall safety performance.
- (c) As a part of the continuous safety improvements referred to under paragraph (b), The holder of ATS Certificate shall ensure that:
 - (1) safety reviews of ATS units are conducted on a regular and systematic basis by personnel qualified through training, experience and expertise and having a full understanding of relevant Civil Aviation legislation, Procedures contained in the Operating standards manual– Air Traffic Services, safe operating practices and Human Factors principles; and
 - (2) Any actual or potential hazard related to the provision of ATS within any airspace or at an aerodrome, whether identified through an ATS safety management activity or by any other means, shall be assessed and classified by the appropriate ATS authority for its risk acceptability.
- (c) The safety management system shall clearly define lines of safety accountability throughout the operator's organization, including a direct accountability for safety on the part of senior management.
- (d) The safety management system shall include, as a minimum, the following:
 - (1) Processes to identify actual and potential safety hazards and assess the associated risks;
 - (2) Processes to develop and implement remedial action necessary to maintain agreed safety performance;
 - (3) Provision for continuous monitoring and regular assessment of the safety performance;
 - (4) Recurring processes for continuous improvement of the performance of the safety management system; and
 - (5) Quality assurance processes to:
 - (i) Identify applicable requirements, regulations and standards and demonstrate compliance with them;
 - (ii) Ensure technical manuals, checklists and other documentation are appropriately maintained and incorporate the latest amendments; and
 - (iii) Ensure that training programmes maintain staff proficiency and competency.
- (e) The safety management system shall be described in relevant documentation, and shall be acceptable to the Authority.
- (f) The programme referred to under paragraph (a) shall have an accountable manager that –
 - (1) has direct access to the Chief Executive Officer or Accountable Manager, on operational system safety matters;
 - (2) Conducts risk assessments of current and proposed operational policies, plans and procedures; and
 - (3) Coordinates the collection and analysis of operational risk related data.
- (g) Before introducing any change to an ATS system which may have safety implications, the ATS provider shall:
 - (1) Conduct safety assessment in respect of proposals for significant airspace reorganizations, for significant changes in the provision of ATS procedures applicable to an airspace or an aerodrome, and for the introduction of new equipment, systems or facilities;
 - (2) Consult users as far as practicable about the intended change;
 - (3) Ensure that hazard identification as well as risk assessment and mitigation are systematically conducted for any changes to those parts of the Air Traffic Management (ATM) functional

system and supporting arrangements within managerial control, in a manner, which addresses:

- (i) the complete life cycle of the constituent part of the ATM functional system under consideration, from initial planning and definition to post-implementation operations, maintenance and de-commissioning.
 - (ii) the airborne, ground and, if appropriate, spatial components of the ATM functional system, through cooperation with responsible parties; and
 - (iii) the equipment, procedures and human resources of the ATM functional system, the interactions between these elements and the interactions between the constituent part under consideration and the remainder of the ATM functional System; and
- (4) Demonstrate that an acceptable level of safety will be achieved as a result of the intended change, taking into account any associated effects of the change.
- (h) In relation to any change referred to under paragraph (g) and notwithstanding any actions taken in respect of those changes, the holder of an air traffic service shall ensure that adequate provision is made for monitoring after implementation to verify whether or not the expected levels of safety are being met.
- (i) The safety management system shall be integrated with the safety management systems of all related services for which coordination is required or otherwise beneficial for the safety of air navigation.

22.132 Quality Management System

- (a) The ATS provider shall establish a quality management system within 2 years after the issuance of any operational approval by the Authority and designate technically qualified auditor(s) who will monitor compliance with, and adequacy of, procedures required to ensure safe operational practices.
- (b) The quality management system shall be in conformity with the International Organization for Standardization (ISO) 9000 series of quality assurance standards and shall be certified by the National standards body of The Bahamas.
- (c) The quality management system and the quality manager shall be approved by the Authority.
- (d) The ATS provider shall describe the quality management system in relevant documentation.
- (e) The Authority may accept the nomination of two quality management persons, one for ATS operations and one for equipment maintenance.
- (f) the quality management system shall cover all services being provided and shall include—
 - (1) a quality policy and safety policy designed to meet the needs of all the different users as closely as possible;
 - (2) a quality assurance program that contains procedures designed to verify that all operations are being conducted in accordance with applicable requirements, standards and procedures.
 - (3) procedures to demonstrate the functioning of the quality system by means of manuals and monitoring documents and other quality indicators;
 - (4) an audit programme to audit the organization for compliance with the quality policy and remedial actions as appropriate
 - (5) a procedure for preventive action to ensure that potential causes of problems that have been identified within the system are remedied; and
 - (6) management reviews of the quality management system to ensure compliance with, and adequacy of, procedures to ensure safe and efficient operational practices.
- (g) The safety policy procedures shall ensure that the safety policy is understood, implemented, and maintained at all levels of the organization.
- (h) The procedure for corrective action shall specify how—
 - (1) to correct an existing problem;
 - (2) to follow up a corrective action to ensure the action is effective;
 - (3) to amend any procedure required by this Part as a result of a corrective action; and
 - (4) management will measure the effectiveness of any corrective action taken.
- (i) The procedure for preventive action shall specify how—

- (1) to correct a potential problem;
 - (2) to follow-up a preventive action to ensure the action is effective;
 - (3) to amend any procedure required by this Part as a result of a preventive action; and
 - (4) management will measure the effectiveness of any preventive action taken.
- (j) The internal quality audit programme shall—
- (1) specify the frequency and location of the audits taking into account the nature of the activity to be audited;
 - (2) ensure audits are performed by trained auditing personnel who are independent of those having direct responsibility for the activity being audited;
 - (3) ensure the results of audits are reported to the personnel responsible for the activity being audited and the manager responsible for internal audits;
 - (4) require preventive or corrective action to be taken by the personnel responsible for the activity being audited if problems are found by the audit; and
 - (5) ensure follow up audits to review the effectiveness of any preventive or corrective action taken.
- (k) The procedure for management review shall—
- (1) specify the frequency of management reviews of the quality assurance system taking into account the need for the continuing effectiveness of the system;
 - (2) identify the responsible manager who shall review the quality assurance system; and
 - (3) ensure the results of the review are evaluated and recorded.
- (l) The key person who has the responsibility for internal quality assurance shall report directly to the Chief Executive or the Accountable Manager on matters affecting the safe provision of any air traffic service provided.

SUBPART G: COMMUNICATION NAVIGATION AND SURVEILLANCE EQUIPMENT MAINTENANCE

22.133 Authorized Equipment

- (a) No person may operate any equipment listed in the ATS provider's Equipment Control Manual unless that equipment is in a serviceable condition as prescribed by the manufacturer and meets the applicable manufacturer requirements for all operations that require the equipment so specified.
- (b) No person may use or cause to be used any specific type of equipment until it has completed satisfactory initial certification and lists that type of equipment in the approved EMCM.
- (c) No person may operate additional or replacement equipment of a type and/or specification for which it is currently authorized unless it can show that each piece of equipment has completed an evaluation process for inclusion in the ATS provider's equipment inventory.

22.134 Maintenance Quality System

- (a) Subject to paragraph (d), for maintenance purposes, the ATS provider shall establish a maintenance quality system that shall include at least the following functions –
 - (1) monitoring the activities that are being performed in accordance with the accepted procedures;
 - (2) ensuring that all contracted maintenance is carried out in accordance with the contract;
 - (3) monitoring the continued compliance with the maintenance requirements; and
 - (4) monitoring compliance with, and adequacy of, procedures required to ensure safe maintenance practices and serviceable equipment.
- (b) The ATS provider's equipment maintenance quality system shall include a quality assurance programme that contains procedures designed to verify that all maintenance operations are being conducted in accordance with all applicable requirements, standards and procedures.
- (c) Where the ATS provider also maintains its own equipment, the ATS provider's quality management system may be combined with the requirements of an approved equipment maintenance program and submitted for approval and acceptance to the Authority.
- (d) The ATS provider may have a system of quality assurance that is at variance with the requirements referred to under paragraph (a) when prescribed or approved by the Authority.

22.135 Equipment Service and Maintenance Records

- (a) The ATS provider shall have an equipment technical log that contains the record of all maintenance records on that equipment during the course of its operations in a form prescribed by the Authority.
- (b) The equipment technical log, its contents, layout and the procedures for its use shall be approved by the Authority prior to its use in the provision of ATS.
- (c) Each page of the equipment technical log, shall be identifiable to the ATS provider, separately numbered with a unique number and shall be arranged chronologically in a bound document.
- (d) Each page of the equipment technical log shall be provided in at least duplicate with each copy being a different colour, carbonless and detachable.
- (e) The equipment technical log, bound document will be assigned to a specific piece of equipment operated by the ATS provider until all pages are used.
- (f) This document shall be retained by the ATS provider in safe custody as long as the equipment is operated or for three months, whichever is longer.
- (g) If the ATS provider desires to use a different methodology, the ATS provider must submit the forms and procedures to the Authority for technical evaluation and approval, prior to use of the different methodology in the provision of ATS.

22.136 Deferred Defects Summary

- (a) The ATS provider shall have for each piece of equipment, a log of the deferred defects for that equipment that is attached to or aligned with the Equipment Technical Log.

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- (b) The log of deferred defects for each piece of equipment, may be included in the printed Equipment Technical Log or attached in some manner to the cover of that log and will include the information prescribed by the Authority.
- (c) The log referred to under paragraph (b), shall be retained by the ATS provider in safe custody as long as the equipment is included in the organization's equipment inventory.
- (d) The maximum period of deferral with respect to any equipment or component of any such equipment that is used by the ATS provider shall be as prescribed by the manufacturer or as approved by the Authority, whichever is shorter.

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SUBPART H: AIR TRAFFIC SERVICE ORGANIZATION**22.137 Applicability**

(a) This Subpart provides those certification requirements that apply to management of air traffic service operations personnel and their functions.

22.138 Key Personnel

(a) The ATS provider shall have recruit a sufficient number of appropriately skilled and qualified personnel with proven competency in civil aviation to manage, support, supervise and ensure the provision of ATS in a safe, efficient continuous and sustainable manner relevant to the services provided.

(b) The ATS provider shall engage, employ or contract:

(1) A key person identified as the Chief Executive Officer or Accountable Manager, acceptable to the Authority, who has the corporate authority within the applicant's organization to ensure that each air traffic service listed in its Plan:

(i) Provides a safe service to aircraft to the highest degrees of safety standards required by the Authority;

(ii) Can be adequately and continuously financed and resourced; and

(iii) Is provided in accordance with the requirements prescribed by this Part.

(2) A key person or persons who are responsible for ensuring that the applicant's organization provides a safe service to aircraft and complies with the requirements of this Part. The nominated person or persons shall be ultimately responsible to the Chief Executive Officer or Accountable Manager; and

(c) Persons mentioned under section 22.065 (b) (2) shall be available and serve in the following positions or their equivalent –

(1) Director of Operations;

(2) Operations Manager;

(3) Director of Safety;

(4) Safety Manager;

(5) Quality Manager; and

(6) Chief Equipment Maintenance Engineer

(d) the persons occupying the positions specified under paragraph (c) above shall report to the accountable manager

(e) The ATS provider shall ensure that all the functions and responsibilities identified in Appendix 1 to 22.073 and allocated to the positions indicated under paragraph (a) above are assigned.

(f) The job descriptions and minimum qualifications for all positions in the ATS organization shall be subject to the approval of the Authority.

(g) The Authority may approve positions or numbers of positions, other than those listed, if the ATS provider is able to show that it can perform the operation with the highest degree of safety under the direction of fewer or different categories of management personnel due to—

(1) the kind of operations involved;

(2) the scope of service provision; and

(3) the area(s) of operation.

22.139 Personnel Qualifications

(a) The ATS provider shall ensure that all operations personnel are properly instructed in their duties and responsibilities and the relationship of such duties to the operation as a whole.

- (b) The ATS provider shall establish procedures to ensure that those personnel who provide the air traffic services hold appropriate current licences and ratings issued under BASR Part 8 and in particular that:
 - (1) personnel giving instruction in an operational environment hold an appropriate and current ATS instructor qualifications;
 - (2) personnel carrying out assessment for the issue of licences or the issue or validation of ratings, hold an appropriate current ATS instructor or examiner qualifications as specified by the Authority; and
 - (3) facilitate, for validated air traffic service licence holders, compliance with the recent requirements of BASR Part 8.
- (c) The ATS provider shall ensure that all ATS Electronics Personnel or other personnel engaged, in the operation, maintenance and installation activities of ATS equipment listed in the organizational Plan or otherwise required to provide any Air Traffic Service, whether employed directly or sub-contracted, shall be qualified for their job functions in accordance with ICAO Training Manual, Document 7192 Part-E2 or any equivalent document issued by the Authority.
- (d) The ATS provider shall ensure, as far as practicable, that licence holders do not exercise the privileges of the licence:
 - (1) Unless they are familiar with all relevant and current information; and
 - (2) Unless they are in possession of current medical certificates and comply with any endorsements specified therein; or
 - (3) While under the influence of any psychoactive substance; or
 - (4) When any decrease in their medical fitness might render them unable safely to exercise the licence privileges.
- (e) The ATS provider shall ensure that any incidence of an individual granted a licence under Part 8 "A" who has reported for performs duties while suspected of being under the influence of any psychoactive substance is immediately suspended from duty and submits without delay, a report of the details of the case to the Authority.

22.140 Proficiency Checks

- (a) As part of the quality system, the ATS provider shall assess the proficiency of the personnel under his employment.
- (b) A formal proficiency assessment shall be carried out to assess whether the applicant has achieved and is maintaining the required level of competence.
- (c) At each facility the ATS provider shall nominate a person to establish and maintain unit proficiency standards;
- (d) Specific senior officers shall be appointed and tasked by the person responsible for the services as proficiency assessment officers for each discipline;
- (e) At units where operational staff are multi - disciplined, the person responsible for the services shall appoint and task at least 1 proficiency assessment officer.
- (f) Proficiency assessment officers may be appointed and tasked for each discipline although operating within a multi- disciplined environment.
- (g) At each major facility, the appropriate manager shall appoint and task an ATS officer responsible for satellite units as the proficiency assessment officer.
- (h) A person assessed as unsatisfactory shall not be permitted to continue in the assessed discipline without supervision.
- (i) If after a reasonable period a person is unable to pass the proficiency check, all details pertaining to the unsatisfactory assessment shall be assembled and sent to the Authority.
- (j) Proficiency assessment officers shall prepare proficiency check rosters so that all operational staff are screened on a regular basis.
- (k) Personnel shall be given advanced notice of a real time annual proficiency check so that adequate preparation, mentally and functionally, can be made.

- (l) In addition to the requirements referred to under paragraph (h), a formal assessment shall be carried out at least every 12 months to determine whether all operational personnel are maintaining the required level of competence in the positions for which a valid rating is held. Routine assessments should be conducted on an on - going basis during duty assignment.
- (m) Personnel shall be assessed in key elements of the performance areas detailed on an assessment form.
- (n) An assessment shall be made of both the quality of work and the level of knowledge of the elements assessed.
- (o) The Manual of Operations shall also include the procedures for:
 - (1) ATS personnel to undertake remedial training; and
 - (2) Updating ATS personnel skills when introducing new equipment into service and any change of procedures or other operationally significant change.
- (p) Proficiency and training records shall be maintained for all ATS personnel.

22.141 Training and assessment

- (a) The ATS provider shall establish policies and procedures that are approved by the Authority, for the recruitment and training of all personnel.
- (b) The training programmes and procedures established in accordance with paragraph (a) shall be designed to assess and ensure the initial and continuing competence of operational personnel including continued competence in using new equipment procedures, updated communications and record keeping policies.
- (c) The programmes and procedures referred to under paragraph (b) shall ensure that operational personnel are trained, given regular recurrent training, at least annually, in normal and emergency procedures and are assessed on such.
- (d) The ATS provider shall conduct a yearly review of the training plan for each staff at the beginning of the year to identify any gaps in competency, changes in training requirement and prioritize the type of training required for the coming year.
- (e) The Authority may issue interim training programme approval in order to permit the conduct of required training subject to such conditions as may be stipulated.
- (f) Following evaluation of the programme by the Authority, the results of which are satisfactory, final training programme approval will be issued.
- (g) The ATS provider shall submit to the Authority any revision to an approved training programme, and shall receive written approval from the Authority before that revision can be used.

22.142 Facility requirements

- (a) Each ATS provider shall establish the following facilities that are appropriate to the air traffic services it provides:
 - (1) aerodrome control towers;
 - (2) approach control offices;
 - (3) area control centres;
 - (4) aerodrome flight information offices;
 - (5) flight information centres; and
 - (6) dedicated training and assessment facilities.
- (b) An applicant for approval of an aerodrome control service or an aerodrome flight information service, shall establish procedures to ensure that any aerodrome control tower or aerodrome flight information office, including any mobile tower or office is:
 - (1) Constructed and situated to provide a suitable environment which gives:
 - (i) unrestricted visibility of all runways, taxiways and aprons;
 - (ii) the maximum practicable visibility of traffic flying in the vicinity of the aerodrome;
 - (iii) protection from glare and reflection;

- (iv) assurance that an acceptable level of security is assured in accordance with the organization's Security Programme; and
- (v) protection from noise and extremes of temperature.
- (2) Safeguarded from any development that would affect the requirements referred to under paragraph sub-paragraph (1) above;
- (3) At solo watch locations, provided with amenities that ensure the minimum possible interruption to, or degradation of, air traffic services;
- (4) Equipped so as to permit rapid, clear and reliable two-way voice communication with:
 - (i) aircraft in or adjacent to airspace for which the applicant has responsibility; and
 - (ii) aircraft, vehicles and persons, on or adjacent to the manoeuvring area; and
- (5) Provided with the following minimum equipment specified by the Authority, appropriately located
- (c) An Applicant for an approval which includes an approach control service shall establish procedures to ensure that approach control offices are provided with:
 - (1) equipment enabling to the fullest extent practical, two-way voice communication; and
 - (2) the minimum equipment specified by the Authority, appropriately located:
- (d) At units where approach control and aerodrome control are performed as a combined function in the same office, the facilities referred to under paragraphs (b) and (c) need not be duplicated solely as a consequence of appearing in both paragraphs.
- (e) Any duplication may be limited to those elements that are necessary for any particular operating position.
- (f) The applicant shall establish procedures to ensure that the aeronautical telecommunications equipment referred to under paragraphs (b) and (c) are installed, commissioned, operated and maintained in accordance with manufacturer specifications, the requirements of these regulations, ICAO Annex 10 to the Convention and any other requirement of the Authority.
- (g) The applicant shall establish procedures to ensure that visual display units used by air traffic services are positioned and the information presented with due regard to the relative importance of such information displayed and ease of use by the staff concerned.
- (h) The equipment required by under this section shall have a level of reliability, availability and equipped with appropriate redundancies as applicable and maintained in accordance with manufacturer specifications, the requirements of these regulations, ICAO Annex 10 to the Convention and any other requirement of the Authority.
- (i) Appropriate procedures for direct-speech communications shall be developed, in respect of each ATS facility referred to under paragraph (a), to permit immediate connections to be made between all units, operators or agencies which exchange information with any ATS unit for very urgent calls concerning the safety and security of aircraft, and the interruption, if necessary, of less urgent calls in progress at the time.
- (j) The applicant shall establish procedures to ensure that the status monitors required under sub-paragraphs (b)(5)(xi) and (c)(2)(vii) and (xi) are fitted with:
 - (1) an audible signal to indicate a change of status; and
 - (2) a visual indication of the current status.

22.143 Security

- (a) The ATS provider shall establish a security programme which shall specify the physical security, practices and procedures to be followed to minimise the risk of destruction of, damage to, or interference with the operation of any ATS facility where such destruction, damage or interference is likely to endanger the safety of aircraft.
- (b) The security programme shall conform to all requirements prescribed in the Twentieth Part.
- (c) The security programme shall include and specify such physical security requirements, practices and procedures that may be necessary:
 - (1) to ensure that all appropriate personnel are familiar, and comply with, the relevant requirements of all national security programmes;

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- (2) to ensure that all employees are acquainted with preventive security measures and techniques in regards to all related air transport operations so that they may contribute to the prevention of acts of sabotage or other forms of unlawful interference;
 - (3) to ensure that these personnel are able to take appropriate action to prevent acts of unlawful interference such as sabotage or unlawful seizure of aircraft and to minimize the consequences of such events should they occur;
 - (4) to make a report of unlawful interference from any crewmember is made, without delay, to the designated local authority and the Authority in the State of the operator; and
 - (5) to ensure that all operating positions contain a checklist of the procedures to be followed in the event of unlawful interference or other security provisions. All checklists shall observe Human Factors Principles and shall be supported by guidance –
 - (i) On the course of action to be taken should a bomb or suspicious object be found;
 - (ii) To ensure that access to permanent ATS facilities operated by the applicant are subject to control to prevent unauthorised entry;
 - (iii) To protect personnel on duty;
 - (iv) to secure operational information and data that is received or produced or otherwise employed, so that access to it is restricted only to those authorized;
 - (v) To be followed in the event of a bomb threat or other threat of violence against an ATS unit;
 - (vi) to monitor unattended ATS unit buildings to ensure that any intrusion or interference is detected;
 - (vii) to conduct security risk assessments and mitigation, security monitoring and improvement, security reviews and lesson dissemination; and
 - (viii) to contain the effects of security breaches and to identify recovery action and mitigation procedures to prevent re- occurrence.
- (d) The ATS provider shall ensure the security clearance of its personnel as required under the Twentieth Part and coordinate with the relevant authorities to ensure the security of its facilities, personnel, information and data.

SUBPART I: AIR TRAFFIC SERVICE REQUIREMENTS FOR INFORMATION**22.144 General information requirements**

- (a) The ATS provider shall establish systems and procedures to ensure that each ATS unit, as appropriate to the area of responsibility, is kept informed of the operational status of:
 - (1) non-visual navigation aids;
 - (2) visual aids essential for take-off, departure, approach, and landing procedures; and
 - (3) visual and non-visual aids essential for surface movement.
- (b) The ATS provider approved to provide a service at an:
 - (1) aerodrome control unit;
 - (2) approach control unit; or
 - (3) aerodrome flight information service unit:
- (c) The ATS provider shall establish and procedures and agreement(s) with other ATS units, meteorological agencies and other interested organizations to ensure the unit is kept informed of operationally significant conditions on the movement area.
- (d) The procedures and agreements referred to under paragraph (c), shall include information on the existence of temporary hazards and the operational status of any associated facilities at the aerodrome.
- (e) The elements of information referred to under paragraph (d), shall at a minimum, cover those elements prescribed in the Operating standards manual– Air Traffic Services.
- (f) The ATS provider shall establish procedures for the receipt and use of information on the following activities where the activity could affect airspace used by flights within the applicant's area of responsibility:
 - (1) any activities requiring approval subject to an assessment regarding the impact on navigable airspace;
 - (2) pre-eruption volcanic activity;
 - (3) volcanic eruptions;
 - (4) volcanic ash-cloud; and
 - (5) release into the atmosphere of radioactive materials or toxic chemicals.
- (g) Procedures required under this paragraph shall include procedures and agreements regarding distribution and transmission of information to aircraft, other ATS units, meteorological agencies and other interested organizations.

22.145 Time in air traffic services

- (a) ATS unit shall use Coordinated Universal Time (UTC) and shall express the time in hours and minutes and, when required, seconds of the 22-hour day beginning at midnight.
- (b) ATS units clocks required in 22.079 shall display the time in hours, minutes and seconds in accordance with sub-paragraph (a) above and be clearly visible from each operating position in the unit concerned.
- (c) ATS unit clocks and other time-recording devices shall be checked as necessary to ensure correct time to within plus or minus 30 seconds of UTC.
- (d) 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.
- (e) The correct time shall be obtained from a standard time station or, if not possible, from another unit which has obtained the correct time from such station.
- (f) Aerodrome control towers shall, prior to an aircraft taxiing for take-off, provide the pilot with the correct time, unless arrangements have been made for the pilot to obtain it from other sources.
- (g) ATS units shall, in addition, provide aircraft with the correct time on request. Time checks shall be given to the nearest half minute.

22.146 Notification of facility status

- (a) The ATS provider shall establish procedures to notify users of its services of relevant operational information and of any changes in the operational status or availability of each facility or service listed in the applicant's Plan.
- (b) The procedures shall ensure, as a minimum, that:
 - (1) operational information for each of the applicant's air traffic services is forwarded to the aeronautical information service responsible for the AIP; and
 - (2) ATS units and the users of the air traffic services provided by them are notified without delay of any change in operational status of the facility or service that may affect the safety of air navigation and, except where the change is temporary in nature, information concerning any change in operational status is forwarded to the aeronautical information service for promulgation by NOTAM.

22.147 Meteorological information and reporting

- (a) The ATS provider shall establish systems, procedures and agreements to ensure satisfactory provision of meteorological information to ATS units.
- (b) The meteorological information shall be that necessary for the performance of their respective functions, in a form that requires a minimum of interpretation by ATS personnel.
- (c) The applicant shall establish procedures to ensure that equipment used in the compilation of routine or special weather reports:
 - (1) supplies data representative of the area for which the measurements are required; and
 - (2) where that equipment consists of multiple wind direction and speed indicators, identifies the runway, or section of the runway, monitored by each instrument.
- (d) The ATS provider shall establish a procedure to ensure that the information contained in a meteorological bulletin remains unchanged through onward transmission.
- (e) Procedures shall not prohibit the transmission to aircraft of meteorological information from a source other than those specified under paragraph (a) above where it is in the interests of safety, provided that the origin of the information is made clear when doing so.

22.148 Altimeter setting procedures

- (a) The ATS provider shall establish a procedure to ensure that:
 - (1) Altimeter settings are available in both hectopascals/millibars and inches of mercury;
 - (2) Altimeter settings given in hectopascals/millibars are rounded down to the nearest whole hectopascal/millibar;
 - (3) the appropriate aerodrome or area QNH setting is provided to all aircraft on initial radio contact, including aircraft that advise having received the current applicable ATIS broadcast;
 - (4) ATS units provide an aircraft, on request, the current applicable aerodrome or area QNH setting; and
 - (5) The requirements of these regulations and ICAO Annex 5 are met.

SUBPART J: SHIFT ADMINISTRATION

22.149 General

- (a) The ATS provider shall establish a procedure to ensure that adequate time is provided:
 - (1) At the beginning and end of each shift, for the performance of those duties required:
 - (i) Before providing an air traffic service; and
 - (ii) After ceasing to provide an air traffic service;
- (b) The duties mentioned in sub-paragraph (a) (1) above shall cover all takeover and handover of watch procedures outlined in the Manual of Operations.

22.150 Watch log

- (a) An air traffic service ATS provider shall ensure that a watch log, with sequentially numbered pages, is kept at each ATS unit or where a unit has physically separate operations areas at each such location within the unit.
- (b) The watch log procedures shall ensure that:
 - (1) the watch log is maintained by the watch supervisor, or the person that has assumed responsibility for watch at a particular operating position;
 - (2) the watch log is maintained throughout the hours of watch of the unit or operations room; and
 - (3) all entries include the time of entry;
 - (4) the person responsible for maintaining the watch log signs 'Take Over Watch' and 'Hand Over Watch' and that transfer of responsibility is indicated by successive 'Take Over Watch' and 'Hand Over Watch' entries;
- (c) Watch log entries shall be:
 - (1) in chronological sequence and in indelible ink;
 - (2) without erasure, defacement, or obliteration; and
 - (3) corrected by drawing a single line through the erroneous information and initialling the correction;
- (d) actual times of opening and closing watch are recorded in the watch log, together with the reason for every variation from published hours of service;
- (e) Significant items affecting any operational position is recorded accurately in the watch log; and
- (f) Watch logs are retained for a period of three (3) years from the date of final entry.

SUBPART K: PREVENTION OF FATIGUE**22.151 General**

- (a) The ATS provider shall establish suitable procedures to mitigate the effects of fatigue on ATS operational staff.
- (b) The ATS provider may, in compliance with paragraph (a) and for the purposes of managing its fatigue-related safety risks, establish either:
 - (1) Operating position time, duty period and rest period limitation that are within the prescriptive fatigue management regulations of this section;
 - (2) a Fatigue Risk Management System (FRMS) in compliance with 22.101 for all operations; or
 - (3) an FRMS in compliance with 22.101 for part of its operations and the requirements of sub-paragraph (b) (i) for the remainder of its operations.
- (c) The procedures required pursuant to paragraph (a) shall be approved by the Authority where the ATS provider has set out procedures to ensure that Air Traffic Control Officers are not assigned to duty during operational time while fatigued, taking into consideration -
 - (1) the numbers of sectors to be manned during each assignment;
 - (2) change in work Part between consecutive assignments;
 - (3) Single person operations
 - (4) night time operations;
 - (5) standby and reserve duty periods;
 - (6) any other duty assignments.
- (d) The ATS provider is required to receive approval of the policy mentioned in paragraph (a) from the Authority as well as any procedures and record completion and retention for the duty time scheme it uses with respect to its operations personnel.
- (e) Where the ATS provider operates or intends to operate in accordance with paragraph (b) (i) above, the ATS provider shall:
 - (1) Establish and include the maximum number of hours worked in a given period or minimum number of rest periods in the Organizational Plan prescribed in these regulations; and
 - (2) Maintain a record of each Air Traffic Control Officer's assigned and actual duty times and minimum rest periods in accordance with a system set out and approved by the Authority in its MANOPs.
- (f) When requested by an Air Traffic Control Officer, the ATS provider shall, within 5 working days of the request being made, provide ATS personnel with a copy of the record required under paragraph (c) of this subsection
- (g) The ATS provider shall ensure that the required records for tracking operational and duty times and rest periods are maintained in a manner so that an updated record is available before a person begins their duty day or their first operational duty assignment of the day.
- (h) The ATS provider shall ensure that the required records have been updated to the day on which an Air Traffic Control Officer begins duty.
- (i) Where the ATS provider adopts prescriptive fatigue management regulations for part or all of its operations, the Authority may approve, in exceptional circumstances, temporary variations to these regulations on the basis of a risk assessment provided by the ATS provider;
- (j) Approved variations shall provide a level of safety equivalent to, or better than that achieved through the prescriptive fatigue management regulations;
- (k) Any temporary variation issued under this sub-paragraph shall be subject to any conditions prescribed by the Authority.

22.152 Variation of Operational and Duty Time

- (a) No person shall adversely vary or cause any adverse variation of the limitations prescribed in Appendix 1 to 22.097, within normal operations or otherwise without the prior consent of the Authority.

22.153 Fatigue Risk Management System

- (a) Where the ATS provider establishes or intends to establish a FRMS in accordance with 22.097 (b) (2) or (3), the Authority shall approve the ATS provider's FRMS before it may take the place of any or all of the prescriptive fatigue management requirements under these regulations.
- (b) An approved FRMS shall provide a level of safety equivalent to, or better than, the prescriptive fatigue management regulations.
- (c) In order to obtain operational approval for the use of any FRMS, the ATS provider shall:
 - (1) establish maximum values for operating position times and duty period(s), and minimum values for rest periods. These values shall be based upon scientific principles and knowledge, subject to safety assurance processes acceptable to the Authority;
 - (2) mandate a decrease in maximum values and an increase in minimum values in the event that the ATS provider's data indicates these values are too high or too low, respectively; and
 - (3) approve any increase in maximum values or decrease in minimum values only after evaluating the ATS provider's justification for such changes, based on accumulated FRMS experience and fatigue related data.
- (d) Where The ATS provider implements a FRMS to manage fatigue-related safety risks, the operator shall, as a minimum:
 - (1) incorporate scientific principles and knowledge within the FRMS;
 - (2) identify fatigue-related safety hazards and the resulting risks on an on-going basis;
 - (3) ensure that remedial actions, necessary to effectively mitigate the risks associated with the hazards, are implemented promptly;
 - (4) provide for continuous monitoring and regular assessment of the mitigation of fatigue risks achieved by such actions; and
 - (5) provide for continuous improvement to the overall performance of the FRMS.
- (e) Where The ATS provider elects to adopt a FRMS, it shall be integrated with the SMS.

22.154 Air traffic controller Responsibilities: Prevention of Fatigue

- (a) Where an Air Traffic Control Officer is relieved of duties, he shall -
 - (1) while away from the principal operational location, use the period to obtain adequate rest prior to next reporting for duty; and
 - (2) take all measures necessary to report to duty in a rested condition following the relief from duty period.
- (b) Where an air traffic controller acts in an air traffic controller position for more than one ATS provider, that air traffic controller shall provide each ATS provider with an accurate record of all operational and duty time assignments.
- (c) Where an air traffic controller changes their place of employment as an air traffic controller, that air traffic controller shall provide a record of operational time for the last 12 months to his new employer.

22.155 Single Person Operations

- (a) The ATS provider shall not part or otherwise cause an Air Traffic Controller to, nor shall any Air Traffic Controller otherwise, provide any air traffic service at an operational position or sector within any ATS unit staffed by only that person unless the ATS provider establishes and maintains procedures approved by the Authority for such operations.
- (b) The procedures required under paragraph (a) above shall, at a minimum, covering the following:
 - (1) sector capacity and work load;
 - (2) distractions;
 - (3) fatigue;
 - (4) staff redundancy;
 - (5) ATS unit security;
 - (6) incident reporting procedures; and
 - (7) contingency plan should any person required by the operation becomes incapacitated

- (c) The ATS provider shall conduct a risk assessment pursuant to the requirements of the ATS provider's Safety Management System or any other system established for the conduct of risk assessments prior to implementing any single person operations.
- (d) The results of the risk assessment and mitigation measures developed thereto shall accompany any application required under sub-paragraph (a) to introduce single person operations within the ATS holder's organization.

22.156 Air traffic service provider Responsibilities

- (a) Where the ATS provider relieves an air traffic controller from duty at an operational location other than the air traffic controller's principal operational location, the ATS provider shall provide suitable accommodation for rest.
- (b) The ATS provider shall not assign an air traffic controller to duty where the assignment would result in an air traffic controller exceeding the operational time limitations of these Regulations;
- (c) The ATS provider shall not assign an air traffic controller to reserve or standby duty for a period of more than 12 hours in any 22 hour period.

22.157 Manual of Operations

- (a) The ATS provider conducting ATS operations on a 24-hour basis shall describe all measures and procedures regarding the prevention of fatigue in the Manual of Operations.

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SUBPART L: COORDINATION REQUIREMENTS**22.158 Coordination**

- (a) The ATS provider shall establish procedures to ensure that any controlled flight is under the control of only one ATC operating position at any given time.
- (b) The ATS provider 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.
- (c) Control of an aircraft or groups of aircraft may be delegated to other operating positions provided that co-ordination between all affected operating positions is assured.
- (d) The ATS provider shall establish procedures for the transfer of responsibility for the control of an aircraft which shall ensure that:
 - (1) Transfer arrangements are:
 - (i) Agreed between ATS units responsible for adjacent airspaces and published in ATS letters of agreement; and
 - (ii) In place for separate operating positions within an ATS unit and promulgated in the holder's Manual of Air Traffic Services; and
 - (2) Responsibility for control of an aircraft is not transferred from one ATS unit to another without:
 - (1) Communication of appropriate parts of the current flight plan;
 - (2) Any relevant control information; and
 - (3) The consent of the accepting unit.

22.159 Co-ordination requirements

- (a) The ATS provider shall establish systems and procedures to ensure, where applicable, effective two-way co-ordination between each ATS unit listed in the organizational Plan and at least the following agencies:
 - (1) each ATS unit responsible for adjoining airspace,
 - (2) any other ATS unit with which regular operational co-ordination may be required;
 - (3) aeronautical telecommunication service organizations;
 - (4) aviation meteorological services;
 - (5) aeronautical information services;
 - (6) air operators;
 - (7) search and rescue authorities;
 - (8) military authorities;
 - (9) where the ATS unit is an aerodrome control or aerodrome flight information unit:
 - (i) The aerodrome operator; and
 - (ii) The apron management service, if that service is not provided by the aerodrome control unit; and
 - (iii) The aerodrome rescue and firefighting service; and
 - (10) any other agency specified by the Authority.
- (b) Procedures shall facilitate both regular and ad- hoc communication and take account of any urgent need to pass information.
- (c) The procedures shall:
 - (1) detail such matters as are necessary for effective co-ordination between the parties; and
 - (2) be kept current; and
 - (3) be supported by a letter of agreement signed by senior representatives of the parties involved; and
 - (4) be part of the applicant's Manual of Air Traffic Services.
- (d) The procedures shall ensure in particular that ATS units and aircraft operators, where they require the information, are provided, through the exchange of ATS messages, with details of:
 - (1) The intended movement of each aircraft for which a flight plan has been filed, and any amendments to that flight plan; and

- (2) Current information on the progress of the flight.
- (f) ATS messages shall be prepared and transmitted in accordance with the procedures detailed in the Operating standards manual- Air Traffic Services.

22.160 Co-ordination of activities potentially hazardous to civil aircraft

- (a) The ATS provider shall establish procedures to ensure the safe coordination of activities potentially hazardous to aircraft.
- (b) In determining these arrangements the following should be applied:
 - (1) the locations or areas, times and durations for the activities should be selected to avoid closure or realignment of established ATS routes, blocking of the most economic flight levels, or delays of scheduled aircraft operations, unless no other options exist;
 - (2) the size of the airspace designated for the conduct of the activities should be kept as small as possible; and
 - (3) direct communication between the appropriate ATS authority or air traffic services unit and the organization or unit conducting the activities should be provided for use in the event that civil aircraft emergencies or other unforeseen circumstances require discontinuation of the activities.
- (c) The appropriate ATS authorities shall be responsible for initiating the promulgation of information regarding the activities.

22.161 Airport Collaborative Decision Making (A-CDM)

- (a) the ATS provider shall, where applicable, establish and maintain procedures to collaborate with all aerodrome operators and related aerodrome partners with an aim to improve the overall safety and efficiency of operations at an airport by reducing delays, streamlining the predictability of events during the progress of a flight and optimising the utilisation of resources.
- (b) The procedures established in accordance with sub-paragraph (a) above shall incorporate procedures that as a minimum, covers the following areas:
 - (1) airport Collaborative Decision Making (CDM) information sharing;
 - (2) milestone approach for the turn-around process;
 - (3) variable taxi times;
 - (4) pre-departure sequencing;
 - (5) airport CDM in adverse conditions; and
 - (6) collaborative management of flight updates.

SUBPART M: SERVICE DISRUPTIONS AND CONTINGENCY PLANNING**22.162 Service disruptions**

- (a) Each ATS provider shall establish procedures, to:
 - (1) Advise the Authority immediately of any planned disruption to the provision of air traffic services that could affect safety;
 - (2) Investigate any unplanned disruption to the provision of air traffic services; and
 - (3) report to the Authority, within 48 hours of the occurrence, the circumstances surrounding any unplanned disruption to air traffic services when the disruption affected, or could have affected, the safety of air traffic.
- (b) Disruptions reportable under paragraph (a) shall include, but are not limited to, any:
 - (1) Failure to open watch within 10 minutes of the promulgated opening time;
 - (2) Any interruption to the normal provision of an air traffic service; and
 - (3) Curtailment or extension of watch, by greater than 30 minutes, from the promulgated hours of service.

22.163 Contingency plans

- (a) Within one year after initial certification, the ATS provider shall establish contingency plans approved by the Authority that shall be used in the event of emergencies including degradation, disruption or potential disruption of air traffic services and related supporting services in airspace for which they intend to be responsible for providing such services.
- (b) At minimum the plan shall cover:
 - (1) Air Traffic Flow and Capacity Management (AFTCM)
 - (2) the actions to be taken by personnel responsible for providing the service during;
 - (i) Emergency situations and;
 - (ii) Degraded modes of operation
 - (3) hand-over and service continuity procedures during facility emergency evacuations
 - (4) provisions to protect against cyber related threats
 - (5) provisions for unplanned Single Person Operations
 - (6) security assessment of emergency/degraded modes
 - (7) determination of the need for service continuity including arrangements for cross-border provision of services if applicable;
 - (8) maximum agreed period of service disruption
 - (9) human Factors considerations;
 - (10) the arrangements for resuming normal operations.
 - (11) any other requirement prescribed by the Authority
- (c) Contingency plans shall be developed with the assistance of ICAO or any other regional body or agency as necessary and in close co-ordination with the air traffic services authorities responsible for the adjacent portions of airspace and, as far as practicable, with airspace users concerned and with any civil or military agencies which may be affected or whose participation is necessary for effective implementation of the plan.
- (d) Contingency plans shall take into account the Authority's guidance material as may be available from time to time, the *Operating standards manual– Air Traffic Services* and the guidance contained in Attachment C of ICAO Annex 11.
- (e) A contingency plan shall also ensure that procedures are established for radio communication contingencies and emergency separation, where applicable, short term collision alert, minimum safe altitude warning and aircraft equipped with ACAS.
- (f) The procedures referred to under paragraph (e) shall also be entered into the MANOPS.
- (g) The plans shall include provision for notifying appropriate personnel of its existence, amendments to it and the means of activating and terminating it.

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- (h) Contingency plans shall be reviewed at frequent intervals and when any operational change is planned to ensure their currency and continued efficacy.
- (i) Contingency plans shall require that Human Factors principles be observed in all communications between ATS units and aircraft in the event of an emergency, degradation, disruption or potential disruption of air traffic services.
- (h) The contingency plans shall also address natural disasters and public health emergencies.

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SUBPART N: RECORDS REQUIREMENTS**22.164 Communication and Data Recordings**

- (a) No person shall provide any air traffic service unless the equipment mentioned in this section is serviceable in accordance with the ATS provider's equipment maintenance program and manufacturer specifications.

22.165 Records

- (a) Each ATS provider shall establish systems and procedures to identify, collect, file, store securely, maintain, access and dispose of records necessary for:
 - (1) The operational provision of air traffic services; and
 - (2) The purpose of assisting with any accident or incident investigation.
- (b) No person shall provide or cause to be provided any air traffic service unless or until all voice and data recording equipment are in serviceable condition as prescribed by manufacturer specifications and the ATS provider's equipment maintenance control manual.
- (c) The ATS provider shall ensure that its procedures for providing information to the persons designated to complete a specific record are provided in a timely way so that the record is continuously up-dated and available for consideration for the planning and provision of air navigation services.
- (d) The person(s) designated to complete a specific record shall be given that designation in writing and provided training and written policy guidance for the completion of the document with respect to timing and accuracy.
- (e) Every person designated to complete and/or sign a record required under these regulations shall make the required entries accurately and in a timely manner so that the record used for planning and provision of air traffic service reflects the true situation at the time of use.
- (f) Every record required for the ATS provider's operations and equipment maintenance purposes shall be completed in ink or indelible pen, unless otherwise approved by the Authority.
- (g) Access to recorder equipment and tapes shall be restricted to only the authorized personnel listed in the ATS provider's MANOPs and or Unit Specific Manuals or as prescribed by the Authority.
- (h) Any ATS provider that withholds any records described under this subsection following any request from any Authorized person shall be guilty of an offence.

22.166 Voice and Data Recordings

- (a) The ATS provider which operates any equipment required to have voice and data recorders installed shall –
 - (1) conduct operational checks and evaluations of all recordings to ensure the continued serviceability of the recorders; and
 - (2) retain the most recent data recorder calibration, including the recording medium from which this calibration is derived; and
- (b) The factory specifications of all air traffic service communication and data equipment shall include the capacity for the automatic digital recording of all communications and data involved in the provision of any air navigation service. The records shall include:
 - (1) telephone communications;
 - (2) radio broadcasts and communications;
 - (3) air-ground digital data exchanges, where appropriate;
 - (4) Information derived from any situation display that is used in the provision of any air traffic service based on surveillance;
 - (5) filed flight plans including standard and repetitive plans;
 - (6) flight progress strips;
 - (7) staff duty time rosters;
 - (8) appropriate meteorological and aeronautical information, except where the information is retained for an equivalent period by a meteorological or AIS organization; and

- (9) a record of each internal quality assurance review carried out under the procedures outlined in the ATS provider's Quality Management System.
- (c) The ATS provider shall establish systems and procedures to ensure the electronic recording, in sufficient clarity to enable events to be reconstructed, of:
 - (1) All ATS radio and telephone communications;
 - (2) All air-ground communications;
 - (3) Where appropriate, all relevant data from primary and secondary radar equipment or obtained through Automatic Dependent Surveillance (ADS) or any other method of surveillance that may be used from time to time in providing or supporting an Air Traffic Service;
 - (4) All inter and intra air traffic service unit communications; and
 - (5) Any transfer and acceptance of control process not conducted by telephone; and
 - (d) In the event that the equipment was involved directly or indirectly in any accident, serious incident or occurrence requiring immediate notification of the Authority, the ATS provider shall remove and keep recorded information from the voice recorder and data recorder in safe custody pending their disposition as determined by the Authority.
 - (e) The ATS provider shall establish systems and procedures to ensure that for all electronic records required under paragraph (c)—
 - (1) Time recordings shall be checked to ensure correct time to within plus or minus 30 seconds of UTC.
 - (2) Where data-link communications are utilized, clocks and other time-recording devices shall produce time stamps accurate to within 1 second of UTC;
 - (3) The recordings shall either—
 - (i) Replicate the voice communications, and, if applicable, the surveillance display applying at the particular operating position; or
 - (ii) Are accompanied by a statement fully describing the differences between the recording supplied and a recording in accordance with subparagraph (i).
 - (f) For the purposes of paragraph (c)(3) the picture includes any visual presentation of aircraft position, however derived.
 - (g) The option provided by paragraph (e)(3)(ii) shall apply only to equipment in service on the date this Part comes into force.
 - (h) The ATS provider shall establish systems and procedures to ensure that all records, except where replication is required by paragraph (e)(3)(i), are of sufficient clarity to convey the required information.
 - (i) The ATS provider shall establish procedures to ensure that the records referred to in paragraph (b) are retained for at least 30 days from the date of entry, except for:
 - (1) Staff duty rosters; and
 - (2) Written records associated with the requirements of paragraph 22.129 (a) (2) and which shall be retained for 2 years; or
 - (3) Any record required under ICAO Annex 13 to be kept for a longer period following an accident or incident.

22.167 Retention and Maintenance of Personnel Records

- (a) The ATS provider shall maintain current records which detail the qualifications and training of all its employees, including contract employees, involved in all air traffic service operations and equipment maintenance of the ATS provider.
- (b) The ATS provider shall maintain records for those employees performing air traffic service operational duties in sufficient detail to determine whether the employee meets the experience and qualification for duties in ATS operations as prescribed under these Regulations.
- (c) This record, its contents, layout and the procedures for its use shall be approved by the Authority prior to its use in the provision of air traffic services.

- (d) This record shall be identifiable to the ATS provider and the specific individual.
- (e) This record shall be retained by the ATS provider in safe custody for at least six months after the individual is no longer employed by the ATS provider.
- (f) The Authority will also consider approval of a computer-based method for keeping any portion of this information.
- (g) Without this approval, any such computer records used by the ATS provider shall be secondary to the approved method in priority of updating and usage at the operational level.

22.168 Equipment Maintenance Personnel Qualification and Currency Records

- (a) The ATS provider shall have a record of the equipment maintenance person's qualification and currency with respect to all Part requirements for these persons.

22.169 Air Traffic Service Personnel Qualification and Currency Records

- (a) The ATS provider shall have a record of all personnel qualification and currency with respect to all Part requirements for these personnel.
- (b) All personnel shall be provided a current summary record showing the completion of the personnel's initial, recurrent, upgrade and re-qualification, as applicable, qualification requirements.

22.170 Form and Format of retention

- (a) Any records that are required under these regulations shall be retained in a form and format that is deemed acceptable to the Authority.

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SUBPART O: Operational Standards**22.171 Provision of Air Traffic Services**

- (a) The ATS provider shall not provide an air traffic service unless that service is provided in accordance with the approved Certificate and any other terms of a current Air Navigation Service Certificate and conditions of issuance, including equipment maintenance requirements in order to hold that certificate and approval.
- (b) Unless otherwise provided for in this Part or agreed by the Authority, air traffic services shall be provided and operated in accordance with:
- (1) Civil Aviation Regulations;
 - (2) The procedures to be applied by all operational personnel in providing the various air traffic services to aircraft as set out in The Operating standards manual– Air Traffic Services;
 - (3) All related Standards and Recommended Practices (SARPS) of ICAO including the SARPs contained in ICAO Annex 11 to the Convention; and
 - (4) Any other requirement as prescribed by the Authority
- (c) Detailed procedures to be employed by the ATS unit concerned, with any applicable limitations, shall be set out in the unit's Manual of Air Traffic Services.

22.172 Regional Supplementary Procedures

- (a) Where a regional supplementary procedure set out in ICAO Doc.7030 relates to an air traffic service that the provider provides, the provider must also ensure that the service is provided in accordance with that procedure.
- (b) The provider referred to under paragraph (b) may deviate from a procedure or rule mentioned in the *Operating standards manual– Air Traffic Services*, or a regional supplementary procedure, where an emergency, or other circumstance arises that makes the deviation necessary in the interest of aviation safety.
- (c) As soon as practicable, the provider must give an account of the deviation to the Authority and inform the Authority of the deviation and how long it is likely to last.

22.173 Human Factors

- (a) The ATS provider shall ensure that Human Factors (HF) aspects are taken into account in all aspects of service provision.
- (b) Areas to be considered include organizational issues, safety management concepts including the management of change and learning from incident data.

22.174 Automation

- (a) Automation in ATS shall be introduced at a level appropriate to the services being provided with the objective of improving the safe, orderly and efficient provision of ATS.
- (b) Automation shall be implemented in accordance with a detailed operational plan covering the time it will take to implement the automated system and the considerations during the transition towards increasing degrees of automation in the provision of ATS. The operational plan must contain a detailed specification of the procedures and working method.
- (c) The operational plan required under paragraph (b) shall be developed collaboratively within an appropriately allocated multi-disciplinary group of experts in the fields of ATS, Human Factors, CNS

and Information and Communication Technology and any other discipline as required.

- (d) The operation plan required under sub-paragraph (b) shall be integrated into the organizational Plan required under subsection 22.043.
- (e) The transition period during the implementation of higher degrees of automation within the ATS system shall be subject to the change management mechanisms included in the ATS provider's Safety Management System required under subsection 22.059.

22.175 Separation standards

- (a) Except as permitted under paragraph (b) of this section the standard departure, vertical, lateral, longitudinal and surveillance separation set out in the Operating standards manual- Air Traffic Services, subject to any modifications in Doc 7030, shall be used as appropriate by ATS units between aircraft which are required to be separated in accordance with the *Operating standards manual- Air Traffic Services*.
- (b) Where the above Manual permits a reduction in the standard separation in specified circumstances, the Authority may approve such reduced separation standards subject to any additional conditions it thinks fit.
- (c) The ATS provider that submits an application to the Authority for the reduction of separation standards under paragraph (b) above shall:
 - (1) Carry out a safety assessment to determine whether an acceptable level of safety will be maintained; and
 - (2) Consult users about the proposed reduction, as may be required by the Authority; and
 - (3) Provide the Authority with the results of the assessment and consultation with any other information he may consider relevant.
- (d) The safety assessment under paragraph (c)(1), shall take account of:
 - (1) the availability, reliability, accuracy and performance of ground-based or aircraft equipment which may permit such reduced separation;
 - (2) The reliability and performance of communications systems upon which the applicable equipment in paragraph 22.079 or the flight crew or ATS personnel rely;
 - (3) The effects of wake vortex;
 - (4) Where applicable, Aerodrome layout;
 - (5) The provisions of any applicable regional air navigation agreement including any conditions and limitations specified in it; and
 - (6) In the case of reduced separation which relies on visual methods, any actual or potential environmental factors which may limit the procedure.
- (e) The ATS provider shall ensure that adequate provision is made for post-implementation monitoring to verify that the defined level of safety continues to be met.
- (f) Any approved reduction in separation standards with any limitations on its use incorporated into the ATS unit's Manual of Air Traffic Services.

22.176 Runway Safety Programme

- (a) The ATS provider shall develop a runway safety programme.
- (b) The runway safety programme shall include provisions regarding the use of radiotelephony, phraseology, language proficiency, ATS procedures, aerodrome lighting and marking, situational awareness and human factors.

22.177 Incidents and accidents

- (a) The ATS provider shall establish procedures to be adopted following an incident or accident.
- (b) The procedures shall cover:
 - (1) The action required to determine whether any air navigation facilities may have contributed to the event and any subsequent action;
 - (2) The notification, investigation and reporting of incidents and accidents in accordance with ICAO Annex 13;
 - (3) The preservation of records required under Annex 13 to be kept to assist any investigation; and

- (4) The forwarding of facility malfunction reports to the applicable aeronautical telecommunication service provider.
- (c) The ATS provider shall establish procedures to report all known or suspected instances of radio frequency interference to the Authority and the Spectrum Management Authority.
- (d) Procedures shall also be established to report to the Authority and the applicable Communication Navigation and Surveillance organization, all other incidents involving interference with any other Air Navigation facility.

22.178 Drug and Alcohol Testing

- (a) The ATS provider shall comply with all of the appropriate Drug and Alcohol testing requirements prescribed in BASR Part 1.

22.179 Deviation from standards

- (a) The ATS provider may only deviate from the requirements of this section or the operational standards prescribed in the Operating standards manual- Air Traffic Services or this Part if an emergency or other circumstance arises that makes the deviation necessary in the interest of aviation safety.
- (b) The ATS provider shall notify the Authority in writing and submit the details of such occurrence within 48 hours of the deviation.

22.180 Aircraft Emergencies & Irregular Operation

- (a) Each applicant for an air traffic service 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 or in distress;
- (b) Each applicant shall, where appropriate, establish procedures to assist strayed aircraft, unidentified aircraft and aircraft subject to military interception and bomb threat; and
- (c) An aircraft operated as a controlled flight shall maintain continuous air-ground voice communication watch on the appropriate communication channel of, and establish two-way communication as necessary with, the appropriate air traffic control unit, except as may be prescribed by the appropriate ATS authority in respect of aircraft forming part of aerodrome traffic at a controlled aerodrome.
 - (d) If a communication failure precludes compliance with paragraph (c), the aircraft shall comply with the voice communication failure procedures of Annex 10, Volume II, and with such of the following procedures as are appropriate;
 - (e) The aircraft shall attempt to establish communications with the appropriate air traffic control unit using all other available means; and
 - (f) The aircraft, when forming part of the aerodrome traffic at a controlled aerodrome, shall keep a watch for such instructions as may be issued by visual signals.

End of Schedule 22 – Part A