

TWENTY-FOURTH “B” SCHEDULE (Regulations 216 -222)

AERONAUTICAL INFORMATION SERVICES

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SUBPART A: General

24.159 Applicability

- (a) The requirements of this schedule applies to all Aeronautical Information service (AIS) providers, including any Air Traffic Service organization that currently provides or has submitted an application to the Authority to include the provision of any kind of AIS service to its Operations Specifications and any of its sub-contractors.
- (b) This Schedule prescribes requirements governing:
 - (1) the certification and acceptable operation standards of any organization providing AIS in Jamaica or on its behalf; and
 - (2) The provision of aeronautical information services originating from Jamaica;
- (c) The AIS provider shall comply with the operating standards for the provision of AIS contained in the Manual of Standards - Aeronautical Information Services.
- (d) The AIS provider's failure to comply with any of the requirements of these regulations or provisions of any Manual of Standard issued thereunder may:
 - (1) Constitute a breach of the Civil Aviation Regulations of Jamaica; and
 - (2) Result in proceedings for any such breaches; or
 - (3) Result in the refusal of an application for renewal of Operations Specifications; or
 - (4) Result in action to suspend, revoke or impose conditions in respect of the AIS provider's Operations Specifications.
- (e) An AIS 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 Schedule to an Annex to the Convention includes the differences notified to ICAO by Jamaica in respect of the Standards specified in that Annex and published in the AIP of Jamaica.

24.161 Definitions

- (a) For the purpose of the Schedule, the following definitions shall apply:

1. **Accuracy.** A degree of conformance between the estimated or measured value and the true value.

Note.— For measured positional data the accuracy is normally expressed in terms of a distance from a stated position within which there is a defined confidence of the true position falling.

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

3. **Aerodrome mapping data.** data collected for the purpose of compiling aerodrome mapping information for aeronautical uses.

Note.— aerodrome mapping data are collected for purposes that include the improvement of the user's situational awareness, surface navigation operations, training, charting and planning.

4. **Aerodrome Mapping Database.** a collection of aerodrome mapping data organized and arranged as a structured data set.
5. **Aeronautical data.** A representation of aeronautical facts, concepts or instructions in a formalized manner suitable for communication, interpretation or processing.
6. **Aeronautical information.** Information resulting from the assembly, analysis and formatting of aeronautical data.
7. **Aeronautical Information Circular (AIC).** A notice containing information that does not qualify for the origination of a NOTAM or for inclusion in the AIP, but which relates to flight safety, air navigation, technical, administrative or legislative matters.
8. **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.
9. **Aeronautical information service (AIS).** A service established within the defined area of coverage responsible for the provision of aeronautical data and information necessary for the safety, regularity and efficiency of air navigation.
10. **AIP Amendment.** Permanent changes to the information contained in the AIP.
11. **AIP Supplement.** Temporary changes to the information contained in the AIP which are published by means of special pages.
12. **AIRAC.** An acronym (aeronautical information regulation and control) signifying a system aimed at advance notification based on common effective dates, of circumstances that necessitate significant changes in operating practices.
13. **AIS product.** Aeronautical information provided in the form of the elements of the Integrated Aeronautical Information Package (except NOTAM and PIB), including aeronautical charts, or in the form of suitable electronic media.
14. **Application.** Manipulation and processing of data in support of user requirements (ISO 19104*).
15. **ASHTAM.** A special series NOTAM notifying by means of a specific format change in activity of a volcano, a volcanic eruption and/or volcanic ash cloud that is of significance to aircraft operations.
16. **Assemble.** A process of merging data from multiple sources into a database and establishing a baseline for subsequent processing.

Note.— The assemble phase includes checking the data and ensuring that detected errors and omissions are rectified.

17. **ATS surveillance service.** Term used to indicate a service provided directly by means of an ATS surveillance system.
18. **ATS surveillance system.** A generic term meaning variously, ADS-B, PSR, SSR or any comparable ground-based system that enables the identification of aircraft.

Note - A comparable ground-based system is one that has been demonstrated, by comparative assessment or other methodology, to have a level of safety and performance equal to or better than monopulse SSR.

19. **the Authority.** In this Schedule, Means the Director General, Directors and Inspectors with the Jamaica Civil Aviation Authority responsible for regulatory oversight as empowered under the Civil Aviation Act and the applicable Delegations of Functions Order.
20. **Automatic dependant surveillance – broadcast (ADS-B).** A means by which aircraft, aerodrome vehicles and other objects can automatically transmit and/or receive data such as identification, position and additional data, as appropriate, in a broadcast mode via a data link.
21. **Automatic dependant surveillance – contract (ADS-C).** A means by which the terms of an ADS-C agreement will be exchanged between the ground system and the aircraft, via a data link, specifying under what conditions ADS-C reports would be initiated, and what data would be contained in the reports.

Note – The abbreviated term “ADS contract” is commonly used to refer to ADS event contract, ADS demand contract, ADS periodic contract or an emergency mode.

22. **Automatic terminal information service (ATIS).** The automatic provision of current, routine information to arriving and departing aircraft throughout 24 hours or a specific portion thereof.
 23. **Data link-automatic terminal service (D-ATIS).** The provision of ATIS via data link.
 24. **Voice-automatic terminal information service (Voice-ATIS).** The provision of ATIS by means of continuous and repetitive voice broadcasts.
 25. **Bare Earth.** Surface of the Earth including bodies of water and permanent ice and snow, and excluding vegetation and man-made objects.
 26. **Calendar.** Discrete temporal reference system that provides the basis for defining temporal position to a resolution of one day (ISO 19108*).
 27. **Canopy.** Bare Earth supplemented by vegetation height.
 28. **Control-pilot data link communications (CPDLC).** A means of communication between controller and pilot, using data link for ATC communications.
 29. **Culture.** All man-made features constructed on the surface of the Earth, such as cities, railways and canals
 30. **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.
 31. **Danger area.** An airspace of defined dimensions within which activities dangerous to the flight of aircraft may exist at specified times.
 32. **Database.** One or more files of data so structured that appropriate applications may draw from the files and update them.
- Note.— This primarily refers to data stored electronically and accessed by computer rather than in files of physical records.*
33. **Data product.** Data set or data set series that conforms to a data product specification (ISO 19131*).
 34. **Data product specification.** Detailed description of a data set or data set series together with additional information that will enable it to be created, supplied to and used by another party (ISO 19131*).

Note.— A data product specification provides a description of the universe of discourse and a specification for mapping the universe of discourse to a data set. It may be used for production, sales, end-use or other purpose.

35. **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.
36. **Data set.** Identifiable collection of data (ISO 19101*).
37. **Data set series.** Collection of data sets sharing the same product specification (ISO 19115*).
38. **Datum.** Any quantity or set of quantities that may serve as a reference or basis for the calculation of other quantities (ISO 19104*).
39. **Digital Elevation Model (DEM).** The representation of terrain surface by continuous elevation values at all intersections of a defined grid, referenced to common datum.

Note.— Digital Terrain Model (DTM) is sometimes referred to as DEM.

40. **Direct transit arrangements.** Special arrangements approved by the public authorities concerned by which traffic which is pausing briefly in its passage through the Contracting State may remain under their direct control.
41. **Ellipsoid height (Geodetic height).** The height related to the reference ellipsoid, measured along the ellipsoidal outer normal through the point in question.
42. **Feature.** Abstraction of real world phenomena (ISO 19101*).
43. **Feature attribute.** Characteristic of a feature (ISO 19101*).

Note.— A feature attribute has a name, a data type and a value domain associated with it.

44. **Feature operation.** Operation that every instance of a feature type may perform (ISO 19110*).

Note.— An operation upon the feature type dam is to raise the dam. The result of this operation is to raise the level of water in the reservoir.

45. **Feature relationship.** Relationship that links instances of one feature type with instances of the same or a different feature type (ISO 19101*).
46. **Feature type.** Class of real world phenomena with common properties (ISO 19110*).

Note.— In a feature catalogue, the basic level of classification is the feature type

47. **Geodesic distance.** The shortest distance between any two points on a mathematically defined ellipsoidal surface.
48. **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.
49. **Geoid.** The equipotential surface in the gravity field of the Earth which coincides with the undisturbed mean sea level (MSL) extended continuously through the continents.

Note.— The geoid is irregular in shape because of local gravitational disturbances (wind tides, salinity, current, etc.) and the direction of gravity is perpendicular to the geoid at every point.

50. **Geoid undulation.** The distance of the geoid above (positive) or below (negative) the mathematical reference ellipsoid.

Note.— In respect to the World Geodetic System — 1984 (WGS-84) defined ellipsoid, the difference between the WGS-84 ellipsoidal height and orthometric height represents WGS-84 geoid undulation.

51. **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*).

Note.— In the Gregorian calendar, common years have 365 days and leap years 366 days divided into twelve sequential months.

52. **Height.** The vertical distance of a level, point or an object considered as a point, measured from a specific datum.

53. **Heliport.** An aerodrome or a defined area on a structure intended to be used wholly or in part for the arrival, departure and surface movement of helicopters.

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

55. **Internet aviation service provider (IASP).** An accredited company that provides aeronautical information using the Internet as the means of communication.

56. **Integrated Aeronautical Information Package.** A package which consists of the following elements:

- (1) AIP, including amendment service;
- (2) Supplements to the AIP;
- (3) NOTAM and PIB;
- (4) AIC; and
- (5) checklists and lists of valid NOTAM

57. **Integrity (aeronautical data).** A degree of assurance that an aeronautical data and its value has not been lost or altered since the data origination or authorized amendment.

58. **International airport.** Any airport designated by the Contracting State in whose territory it is situated as an airport of entry and departure for international air traffic, where the formalities incident to customs, immigration, public health, animal and plant quarantine and similar procedures are carried out.

59. **International NOTAM office (NOF).** An office designated by a State for the exchange of NOTAM internationally.

60. **Logon address.** A specified code used for data link logon to an AIS unit.

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

62. **Metadata.** Data about data (ISO 19115*).

Note.— Data that describes and documents data.

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

64. **Minimum en-route altitude (MEA).** The altitude for an en-route segment that provides adequate reception of navigation and communication signals and provide the required obstacle clearance

65. **Minimum obstacle clearance altitude (MOCA).** The minimum altitude for a defined segment of flight that provides the required obstacle clearance.

66. **NOTAM.** A notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the

timely knowledge of which is essential to personnel concerned with flight operations.

67. **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.
68. **Obstacle/terrain data collection surface.** A defined surface intended for the purpose of collecting obstacle/terrain data.
69. **Orthometric height.** Height of a point related to the geoid, generally presented as an MSL elevation.
70. **Portrayal.** Presentation of information to humans (ISO 19117*).
71. **Position (geographical).** Set of coordinates (latitude and longitude) referenced to the mathematical reference ellipsoid which define the position of a point on the surface of the Earth.
72. **Post spacing.** Angular or linear distance between two adjacent elevation points.
73. **Precision.** The smallest difference that can be reliably distinguished by a measurement process.
- Note.— In reference to geodetic surveys, precision is a degree of refinement in performance of an operation or a degree of perfection in the instruments and methods used when taking measurements.*
74. **Pre-flight information bulletin (PIB).** A presentation of current NOTAM information of operational significance, prepared prior to flight.
75. **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.
76. **Quality.** Degree to which a set of inherent characteristics fulfils requirements (ISO 9000*).
- Note – The term “quality” can be used with adjectives such as poor, good or excellent.*
77. **Quality assurance.** All the planned and systematic activities implemented within the quality system, and demonstrated as needed, to provide adequate confidence that an entity will fulfil requirements for quality (ISO 9000*).
78. **Quality control.** The operational techniques and activities that are used to fulfil requirements for quality (ISO 9000*).
79. **Quality management.** All activities of the overall management function that determine the quality policy, objectives and responsibilities, and implementing them by means such as quality planning, quality control, quality assurance and quality improvement within the quality system (ISO 9000*).
80. **Relief.** The inequalities in elevation of the surface of the Earth represented on aeronautical charts by contours, hypsometric tints, shading or spot elevations.
81. **Requirement.** Needs or expectation that is stated, generally implied or obligatory (ISO 9000*).

Note 1 – “Generally implied” means that it is custom or common practice for the organization, its customers and other interested parties, that the need or expectation under consideration is implied.

Note 2 – A qualifier can be used to denote a specific type of requirement, e.g. product requirement, quality management requirement, customer requirement.

Note 3 – A specific requirement is one which is stated, for example, in a document. Note 4 – Requirements can be generated by different interested parties.

82. **Resolution.** A number of units or digits to which a measured or calculated value is expressed and used.
83. **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.
84. **Risk assessment.** An evaluation of the threats to a system, the likelihood that those threats will be exploited and the impact of such exploitation.
85. **Route stage.** A route or portion of a route flown without an intermediate landing.
86. **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.
87. **Terrain.** The surface of the Earth containing naturally occurring features such as mountains, hills, ridges, valleys, bodies of water, permanent ice and snow, and excluding obstacles.
Note.— In practical terms, depending on the method of data collection used, terrain represents the continuous surface that exists at the bare Earth, the top of the canopy or something in-between, also known as “first reflective surface”.
88. **Traceability.** Ability to trace the history, application or location of an entity by means of recorded identifications (ISO 9000*).
89. **Validation.** Confirmation, through the provision of objective evidence, that the particular requirements for a specific intended use are fulfilled (ISO 9000*).
90. **Verification.** Confirmation, through the provision of objective evidence that specified requirements have been fulfilled (ISO 9000*);
Note.— Objective evidence is information which can be proved true, based on facts obtained through observation, measurement, test or other means
91. **VOLMET.** Meteorological information for aircraft in flight.
92. **Data link-VOLMET (D-VOLMET).** Provision of current aerodrome routine meteorological reports (METAR) and aerodrome special meteorological reports (SPECI), aerodrome forecasts (TAF), SIGMET, special air-reports not covered by a SIGMET and, where available, AIRMET via data link.
93. **VOLMET broadcast.** Provision as appropriate, of current METAR, SPECI, TAF and SIGMET by means of continuous and repetitive voice broadcasts.
- (b) Every other term shall have the same meaning as contained in the Chicago Convention and ICAO Document 9713, “International Civil Aviation Vocabulary.”

24.163 Use of English

All documentation, written communications and data (electronic or otherwise) regarding Aeronautical Information Services shall be provided in English.

24.165 Laws, requirements and procedures

The AIS 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 Schedule, all related Manuals of Standards, any applicable conditions of the ANS Certificate and the procedures specified in the AIS provider’s safety assurance documentation, Quality System and Master Plan.

24.167 Procedure compliance

Each person performing duties in relation to the provision of aeronautical information service shall comply with the applicable procedures specified in the appropriate manuals which authorizes the operation.

SUBPART B: AERONAUTICAL INFORMATION SERVICE APPROVAL**24.169 Applicability**

- (a) No person shall provide a service which the Authority deems to be an AIS that serves any area:
- (1) Within the sovereign airspace of Jamaica; or
 - (2) for which Jamaica is responsible for the provision of air traffic or services; and
 - (3) in which Jamaica has engaged in any formal agreement with one or more other Contracting State(s) for the provision of a joint service;

Except under the Authority of, and in accordance with the provisions of an Air Navigation Service (ANS) Certificate with AIS Operations Specifications issued under this Schedule.

- (b) Each person authorized to provide an AIS before the entry into force of these regulations, may continue to do so, subject to approval by the Authority and compliance with the requirements of this Schedule.

24.171 Application for Operations Specifications

- (a) An applicant for AIS Operations Specifications 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 MANOPs 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; and
 - (2) The specific service or services to be provided; and
 - (3) The location(s) from which the service(s) will be provided; and
 - (4) The Master Plan and proof of Financial Capacity and Liability required under this Schedule; and
 - (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 an ATS Reporting Office shall make application at least 30 days prior to the dated of intended operation.

24.173 Issue of Operations Specifications

- (a) An applicant may be granted AIS Operations Specifications if the Authority is satisfied that:
- (1) The applicant meets the requirements of this Schedule; and
 - (2) The applicant, and the applicant's key person or persons required by paragraph 24.245, are fit and proper persons and are deemed acceptable to the Authority; and

- (3) The organization has the Financial Capacity and Liability Coverage required for it to execute its functions
- (4) The granting of the approval is not contrary to the interests of aviation safety.

24.175 Demonstration Sessions

(a) No person may provide an Aeronautical Information Service unless it first conducts satisfactory demonstration sessions as required by the Authority.

(b) Subject to the provision in paragraph (e) of this Subsection, no person may provide an Aeronautical Information Service following any major change(s) and/or re-certification unless it conducts a satisfactory demonstration session for the Authority.

(c) Demonstration sessions required by 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.

24.177 Privileges of Operations Specifications

(a) AIS Operations Specifications shall state:

(i) The aerodrome or airspace at, or within which, the service may be provided; and

(ii) The type of AIS which may be provided.

(b) An AIS approval may include such conditions as the Authority may consider appropriate.

(c) The holder of AIS Operations Specifications under this Subpart shall provide AIS in accordance with the provisions of this Schedule and with any conditions attached to the approval.

24.179 Amendment and Revocation of AIS Operations Specifications

(a) The Authority may amend any AIS approval or amend the conditions under which any person authorized to provide AIS 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 AIS provider applies for an amendment.

(b) The Authority may, if the requirements of this Schedule are met, amend AIS Operations Specifications, 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 AIS provider receives notice.

(d) The AIS provider may appeal the amendment, but shall operate in accordance with it, unless it is subsequently withdrawn.

(e) Amendments proposed by the Authority, other than emergency amendments, become effective 30 days after notice to the AIS provider, unless the AIS provider appeals the proposal in writing

prior to the effective date. The filing of an appeal stays the effective date until the appeal process is completed.

- (f) Amendments proposed by the AIS provider shall be made at least 30 days prior to the intended date of the start of any service under that amendment.
- (g) No person may provide an AIS that is not included in a current and valid ANS Certificate with AIS Operations Specifications and for which an amendment to such AIS approval is required, unless it has received notice of approval from the Authority.

24.181 Duration of Operations Specifications

- (a) AIS Operations Specifications 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) AIS Operations Specifications shall remain in force until it is suspended or revoked.
- (c) The holder of an ANS Certificate with AIS Operations Specifications that has been suspended or revoked shall forthwith surrender the approval certificate to the Authority.
- (d) The AIS provider shall make any payment required by the appropriate requirements in respect of continued validity or amendment of the approval.

24.183 Renewal of Operations Specifications

- (a) The application for the renewal of AIS Operations Specifications 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.

24.185 Establishment or transfer of service

An applicant for the grant of AIS Operations Specifications that intends to assume responsibility for providing any AIS from an existing AIS provider shall include with its application full details of transitional arrangements endorsed by the Accountable Managers of both organizations.

24.187 Withdrawal or transfer of service

- (a) The holder of AIS Operations Specifications who wishes permanently to withdraw the provision of AIS 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 AIS Operations Specifications who is the outgoing provider of an air traffic service shall provide all necessary assistance in the preparation and execution of the transitional arrangements required by paragraph 24.185.

SUBPART C: DUTIES AND RESPONSIBILITIES OF AIS PROVIDER

24.189 Aeronautical Information Service

- (a) The AIS provider shall receive, collate or assemble, edit, format, publish/store and distribute aeronautical data and aeronautical information concerning the entire territory of Jamaica as well as those areas over the high seas in which Jamaica is responsible for air traffic services.

24.191 Division of Services

The provision of aeronautical information services in Jamaica shall be divided into the following AIS/MAP functional areas of responsibility:

- (1) AIS/MAP Aerodrome Unit/ARO
- (2) AIS/MAP International NOTAM Office (NOF)
- (3) AIS/MAP Database Unit
- (4) AIS/MAP Publications/Editing/Text producing Unit
- (5) AIS/MAP Aeronautical Cartographic Unit

(See Appendix 1 to 24.191 for a description of the functions of each area)

24.193 Aeronautical Information Services to be provided

- (a) Subject to the Service Definition Agreement required under Subpart D, The AIS provider shall be responsible for providing aeronautical data and information as an Integrated Aeronautical Information Package in accordance with the Manual of Standards - Aeronautical Information Services and shall consist of the following—
- (1) the Jamaica Aeronautical Information Publication (AIP) ;
 - (2) AIP Amendments ;
 - (3) AIP Supplements ;
 - (4) Aeronautical Information Circulars; and
 - (5) checklists and lists of valid NOTAM.
- (b) The AIS provider shall, in addition to sub- paragraph (a):
- (1) designate an office as Jamaica's point of contact with the aeronautical information services of other States for the interchange of the Integrated Aeronautical Information Package, except NOTAM; and
 - (2) make the Jamaica AIP, AIP Amendments, AIP Supplements and AIC available to any person upon payment of any charge that may apply to the supply of the publications; and
 - (3) establish a system to disseminate the Jamaica AIP, AIP Amendments, AIP Supplements, aeronautical charts, and AIC in accordance with the Manual of Standards - Aeronautical Information Services; and
 - (4) ensure that all aeronautical charts published as part of the Jamaica AIP conform to the applicable standards for the charts; and
 - (5) coordinate the input of all aeronautical information from the originators prescribed in the Manual of Standards - Aeronautical Information Services and ICAO Doc. 8126, except:
 - (i) information which is of immediate operational significance necessitating the

immediate issue of a NOTAM; and

- (ii) temporary information of a duration of less than three months, that only requires the issue of a NOTAM.

24.195 NOTAM service

- (a) The AIS Provider shall:
 - (1) designate a NOF for Jamaica; and
 - (2) operate the NOF on a 24-hour basis; and
 - (3) establish agreements with other international NOTAM offices for the exchange of NOTAM; and
 - (4) ensure that:
 - (i) the NOF is connected to the Aeronautical Fixed Telecommunications Network (AFTN); and
 - (ii) the AFTN connection provides for printed communication; and
 - (iii) the NOF has appropriate facilities to issue and receive NOTAM distributed by means of telecommunication; and
- (b) promptly issue a NOTAM that is in accordance with the Manual of Standards - Aeronautical Information Services, whenever information received as described therein requires the issue of a NOTAM; and
- (c) at intervals of not more than one month, issue a checklist over the AFTN of the NOTAM that are currently in force.

24.197 Aeronautical Information Regulation and Control (AIRAC)

- (a) Information concerning the circumstances listed in the applicable sections of the Manual of Standards – Aeronautical Information Services, shall be distributed under the regulated system (AIRAC), i.e. basing establishment, withdrawal or significant changes upon a series of common effective dates at intervals of 28 days, including 29 January 1998.
- (b) The information notified therein shall not be changed further for at least another 28 days after the effective date, unless the circumstance notified is of a temporary nature and would not persist for the full period.

(Note.- Guidance material on the procedures applicable to the AIRAC system is contained in the Aeronautical Information Services Manual (ICAO Doc 8126).
- (b) The regulated system (AIRAC) should also be used for the provision of information relating to the establishment and withdrawal of; and premeditated significant changes in, the circumstances listed in the applicable section of the Manual of Standards – Aeronautical Information Services.
- (c) When information has not been submitted by the AIRAC date, a NIL notification shall be originated and distributed by NOTAM or other suitable means, not later than one cycle before the AIRAC effective date concerned.
- (d) Implementation dates other than AIRAC effective dates shall not be used for pre-planned operationally significant changes requiring cartographic work and/or for updating of navigation databases.
- (e) The use of the date in the AIRAC cycle which occurs between 21 December and 17 January inclusive should be avoided as an effective date for the introduction of significant changes under the AIRAC system.

24.199 **Aeronautical Charts**

- (a) The AIS provider shall, subject to the requirements of the Service Definition Agreement required under Subpart D and any agreements contained therein with any commercial service provider or government agency, secure the publication of aeronautical maps and pursuant to these regulations and includes but is not limited to the production of one or more of the following aeronautical charts:
- (1) Aerodrome Obstacle Chart – ICAO Type A
 - (2) Aerodrome Obstacle Chart – ICAO Type B;
 - (3) Aerodrome Terrain and Obstacle Chart – ICAO (Electronic);
 - (4) Precision Approach Terrain Chart – ICAO;
 - (5) Enroute Chart – ICAO;
 - (6) Area Chart – ICAO;
 - (7) Standard Departure Chart – Instrument (SID) – ICAO;
 - (8) Standard Arrival Chart – Instrument (STAR) – ICAO;
 - (9) Instrument Approach Chart – ICAO;
 - (10) Visual Approach Chart – ICAO.
 - (11) Aerodrome/Heliport Chart – ICAO;
 - (12) Aerodrome Ground Movement Chart – ICAO;
 - (13) Aircraft Parking/Docking Chart – ICAO;
 - (14) World Aeronautical Chart – ICAO 1:1 000 000;
 - (15) Aeronautical Chart — ICAO 1:500 000
 - (16) Aeronautical Navigation Chart — ICAO Small Scale
 - (17) Plotting Chart — ICAO
 - (18) Electronic Aeronautical Chart Display — ICAO
 - (19) ATC Surveillance Minimum Altitude Chart – ICAO;
- (b) The Authority may require that any Chart other than those listed in sub-paragraph (a) above be published where the Authority deems such action necessary in the public interest as it relates to safety or efficiency.
- (c) Where the AIS provider sub-contracts the production of any Aeronautical Chart listed in sub-paragraph (a) above to any commercial service provider or government agency, any agreement entered into thereto shall be approved by the Authority.
- (d) Aeronautical Charts and all elements contained therein shall be developed, prepared and promulgated in accordance with:
- (1) the Manual of Standards – Aeronautical Information Services; and
 - (2) ICAO Annex 4 to the Convention; and
 - (3) ICAO Aeronautical Chart Manual (Doc 8697); and
 - (4) any other standards required by the Authority from time to time.

24.201 **Exchange of aeronautical data and information**

- (a) The NOF office mentioned in 24.195 (a)(1) shall serve as the office to which all elements of the Integrated Aeronautical Information Package originated by other States shall be addressed. Such an office shall be qualified to deal with requests for aeronautical data and aeronautical information originated by other States.
- (b) Where more than one international NOTAM office is designated in the SDA, the SDA shall define the extent of responsibility and the territory covered by each office.
- (c) The Authority may require, as a part of the SDA, and wherever practicable, the establishment of direct contact between aeronautical information service providers in order to facilitate the international exchange of aeronautical data and aeronautical information.

- (d) One copy of each of the elements of the Integrated Aeronautical Information Package, that have been requested by the aeronautical information service provider of an ICAO Contracting State shall be made available by the originating State in the mutually-agreed form(s), without charge, even where authority for publication/ storage and distribution has been delegated to a non-governmental agency.

(Note 1 - The exchange of more than one copy of the elements of the Integrated Aeronautical Information Package and other air navigation documents, including those containing air navigation legislation and regulations shall be subject to bilateral agreement between ICAO Contracting states.

Note 2 – The procurement of aeronautical data and aeronautical information, including the elements of the Integrated Aeronautical Information Package, and other air navigation documents, including those containing air navigation legislation and regulations, by states other than ICAO contracting states, shall be subject to separate agreement with the originating State.)

SUBPART D: SERVICE DEFINITION

24.203 Service Definition Agreement

- (a) The Authority shall, with the close co-operation of the AIS provider or applicant for any such approval, formalize an agreement that defines the Aeronautical Information Services to be provided within a Territory and to ensure the fulfilment of the State's responsibility to provide AIS.
- (b) Before the signing of the agreement, the Authority will consult users, including:
- (1) commercial and private pilots; and
 - (2) commercial air operators; and
 - (3) Air Traffic Services (where separate);
 - (4) Meteorological Service provider(s); and
 - (5) other interested parties.
- (c) In addition to the users' opinions, the Authority will also consider the requirements of the ICAO Regional Air Navigation Agreement and Plan with regard to AIS in the Territory.
- (d) The Authority will formally consult the users at not more than five (5) year intervals in order to ensure that the services provided remain appropriate.
- (e) The results of the definition process shall be captured within the agreement which shall define:
- (1) the services to be provided, including the definition of the area of coverage of the information; and
 - (2) the International NOTAM Office for the Territory (which must be connected to the aeronautical fixed service); and

- (3) the methods by which information shall be collected, collated and distributed; and
 - (4) the locations and hours during which services shall be provided; and
 - (5) the standards and criteria to be applied; and
 - (6) the quality management system which shall be used by the service provider; and
 - (7) the requirement for agreements between the AIS provider, any sub-contacted service providers, AIS Units, ATS Units, Meteorological Service provider(s), Air Operators and other users where appropriate.
- (f) The agreement shall include the specific requirement for compliance with the Manual of Standards - Aeronautical Information Services for:
- (1) the compilation, production and distribution of an AIP; and
 - (2) a specific reference to the requirements for NOTAM and their receipt and distribution.
 - (3) a specific reference to the requirements for compliance with the AIRAC cycle; and
 - (4) specific reference to the requirement for Aeronautical Information Circulars, their contents and distribution
- (Note: The specific requirements regarding the above listed publications are outlined in the Manual of Standards – Aeronautical Information Services, Vol. I and ICAO Annex 15)*
- (g) The AIS provider shall make any payment required by the appropriate requirements in respect of continued validity or amendment of the SDA.

24.205 Arrangement of service provision

- (a) The agreement mentioned in 24.203 above shall identify a primary AIS provider which shall be responsible overall for the provision of AIS within the Territory and which may be:
 - (1) An AIS Office established by the Minister; or
 - (2) An ATS provider certified under the Twenty-Fourth “A” Schedule that also holds AIS Operations Specifications.
 - (2) A commercial service provider certified under the requirements of this Schedule
- (b) The AIS provider may sub-contract all or parts of the service, such as AIP publication or issue of NOTAMs, to one or more other agencies or service providers which may be:
 - (1) another State’s or Territory’s AIS Office; or
 - (2) a commercial service provider.
- (c) Where any services are sub-contracted in accordance with paragraph Sub-paragraph (b) above the AIS provider shall ensure that:

- (1) there is in each case a letter of agreement or formal contract between the AIS provider and the sub-contractor to ensure that the services and standards to be provided by each party are clearly defined, taking into account the requirements specified in the SDA; and
- (2) the service overall fully meets that defined by the SDA.
- (d) Any agreement or contract shall include the requirement for a quality management system to be implemented by the Aeronautical Information Services provider in accordance with Subpart G.

SUBPART E: PROVISION OF AERONAUTICAL INFORMATION VIA THE INTERNET

24.207 Applicability

This Subpart prescribes the requirements and conditions governing the use of the Internet as a means of providing or exchanging aeronautical data and information

24.209 Initial Certification Required

- (a) No AIS provider, their sub-contractors or any other aeronautical information entity (hereafter referred to as Internet aviation service providers (IASPs)) shall provide or cause to be provided an Internet-based provision/exchange of data and information unless having obtained approval following a certification procedure used by the Authority.
- (b) An AIS provider desirous of adopting wholly or in part, an internet-based provision/exchange of data and information shall submit an application describing the internet services to be delivered for review and in a manner prescribed by the Authority. The application shall describe the internet services that are to be delivered and, at a minimum, shall indicate:
 - (1) type of service(s).
 - (2) region of applicability (e.g. local, regional or global); and
 - (3) target market (e.g. general aviation, business aviation, commercial aviation).
 - (4) Measures to mitigate operational and security risks associated with internet-based provision
- (c) Any approval granted in accordance with sub-paragraph (a) above shall form a part of the SDA required under Subpart D.
- (d) Any person applying to the Authority for use of an Internet-based provision/exchange of data and information in accordance with sub-paragraph (a) shall adhere to the guidance and procedures described in ICAO Doc 9855 “*Guidelines on the Use of the Public Internet for Aeronautical Applications*” and any other standards promulgated by the Authority from time to time.

24.211 Risk Assessment and Risk Mitigation

- (a) an AIS provider who is or intends to obtain certification as an IASP shall establish and maintain an on-going risk assessment and management process for the services that it proposes to provide.
- (b) The AIS provider mentioned in sub-paragraph (a) above shall conduct a risk assessment in accordance with the applicable sections of ICAO Doc 9855.
- (c) The risk assessment shall be approved by the Authority and the risk management processes established following such assessment shall be subject to the Authority’s system of surveillance.

- (d) An AIS provider that is certified as an IASP shall incorporate internet specific risk management process into the organization's safety and quality management systems required under Subpart G.
- (e) The risk management process mentioned in sub-paragraph (g) shall incorporate the applicable provisions of ISO/IEC 17799:2000 *Information Technology — Code of Practice for Information Security Management*.

24.213 Duration of approval

- (a) Any approval issued under this subpart shall be valid for a period not exceed one (1) calendar year from the date of issuance until midnight of the date of expiry or until the SDA in force expires, whichever is first.
- (b) The approval shall remain in force until it is suspended or revoked.
- (c) The Authority may require that the organization go through the entire certification process utilized by the Authority where the services mentioned under this Subpart introduce major changes to the AIS provider's organization or infrastructure.

24.215 AIS Operational Considerations

- (a) The use of the Internet for aeronautical operational purposes shall be limited to the exchange of non-time-critical messages, information or data.
- (b) Unless otherwise prescribed by the Authority, the following aeronautical information shall be considered time-critical and, when provided via the Internet, shall not be relied upon for time-critical operational decisions, either in flight or immediately prior to departure:
 - (1) dynamic information of a temporary nature, such as current national and foreign NOTAM (including , ASHTAM and checklists); and
 - (2) other information of urgent character made available to flight crews in the form of plain-language pre-flight information bulletins (PIB).
- (c) the following static and basic AIS information is considered non-time-critical and can be provided via the Internet:
 - (1) **Static information.** Common documented permanent or long-term information, that includes but is not limited to:
 - (i) Aeronautical Information Publications (AIP) (which include aerodrome information, detailed descriptions of flight information regions (FIR), navaids, maps, charts, obstacle data, air routes, etc.);
 - (ii) AIP Amendments, both aeronautical information regulation and control (AIRAC) and regular amendments;
 - (iii) AIP Supplements, both AIRAC and regular supplements;
 - (iv) Aeronautical Information Circulars (AIC);
 - (v) monthly plain-language list of valid NOTAM, which also includes indications of the latest AIP amendments, AIC issued and a checklist of AIP Supplements; and
 - (vi) NOTAM containing a checklist of valid NOTAM, issued monthly, which also refers to the latest AIP Amendments, AIP Supplements and at least the internationally distributed AIC.

- (2) **Basic information.** Data required for enabling the processing of other information, which can consist of permanent, long-term or static data not provided to users (i.e. reference lists, custom/regular routes, distribution files, selection criteria, association criteria).
- (d) Where time-critical data is made available for information only, users should be advised that such data shall be obtained via appropriate means if intended for use in a time-critical context. For example, advising an aircraft in flight.
- (e) Notwithstanding the above, certain message types considered time-critical for aircraft in flight may be regarded as non-time-critical when used in a pre-flight context.
- (f) The Authority may approve the use of the Internet to provide information under the AIRAC system. However, appropriate arrangements for the provision of information in paper copy in accordance with the form prescribed in the Manual of Standards – Aeronautical Information Services shall remain available unless otherwise specified in the SDA.

SUBPART F: SURVEILLANCE AND REVALIDATION

24.217 Continuing Validation of the Certification Basis Required

- (a) The AIS provider 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 AIS Operations Specifications.
- (b) The AIS provider shall allow the Authority to conduct tests and inspections, at any time or place, to determine whether an AIS provider is complying with the applicable laws, regulations and any terms and conditions of the AIS Operations Specifications.
- (c) The AIS provider shall:
 - (1) continue to meet the standards and comply with the requirements of this Schedule; and
 - (2) comply with all procedures and programmes detailed in its approved Master Plan required under Subpart F and the Manual of Operations ; and
 - (3) provide, at each location described in the Master Plan, hold in hard copy, electronic or other form acceptable to the Authority:
 - (i) all portions of its current Air Navigation Service Certificate and AIS Operations Specifications;
 - (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 portions of its Equipment Maintenance Manuals; and
 - (iv) At least one current copy of the relevant sections of its Master 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 the AIS provider under the applicable aviation law, regulations or standards.

- (d) The AIS 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 any AIS provider to make available to the Authority upon request, all portions of the Operations Specifications, Operations and Equipment Maintenance Manuals and any required record, document or report is grounds for suspension of all or part of the approval.

24.219 Access for Inspection

- (a) To determine continued compliance with the applicable regulations, the AIS 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 authorized 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 service provided by the AIS provider and equipment maintenance for those services; and
 - (4) grant the Authority free and uninterrupted access to the AIS unit at any time during operations.
 - (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.

24.221 Changes to AIS provider's organization

- (a) The AIS provider shall ensure that its Master Plan is amended so as to remain a current description of the holder's organization and services.
- (b) The AIS provider shall ensure that any amendments made to the holder's Master Plan:
 - (1) meets the applicable requirements of this Schedule; and
 - (2) complies with the amendment procedures contained in the holder's Master Plan.
- (c) Subject to paragraph sub-paragraph (d) below, the AIS provider shall provide the Authority with a copy of each amendment to the holder's Master Plan as soon as practicable after its incorporation into the Master 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 a AIS provider proposes to make a change to any of the following,:
 - (1) The Accountable Manager; or
 - (2) The listed key personnel; or
- (e) The Authority may prescribe conditions under which an AIS provider may operate during or following any of the changes specified in this paragraph and the AIS provider shall comply

with those conditions.

- (f) Where any of the changes referred to in this paragraph require an amendment to the Operations Specifications, the approval holder shall forward the documentation describing the change(s) to the Authority for review as soon as practicable.
- (g) The approval holder shall make such amendments to the holder's Master Plan as the Authority may consider necessary in the interests of aviation safety.

24.223 Subsequent Certification Requirement

The Authority may require that a full certification process be completed prior to the implementation of any major change in any aspect of the AIS provider's service provision described in 24.221 or as prescribed by the Authority.

SUBPART G: AERONAUTICAL INFORMATION SERVICE MANUALS & DOCUMENTATION

24.225 Master Plan

- (a) An applicant for the grant of AIS Operations Specifications shall provide the Authority with a Master Plan that shall be approved by the Authority and covers a minimum period of five years.
- (b) The Master Plan shall contain:
 - (1) A set of overall aims and goals of the AIS 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, security and cost – effectiveness.
 - (3) A statement signed by the Accountable Manager on behalf of the applicant's organization confirming that the Master Plan and the appropriate Manual of Operations:
 - (i) define 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 24.245 and:
 - (1) the duties and responsibilities of the key person or persons specified in paragraph 24.245, including matters for which they have responsibility to deal directly with the Authority on behalf of the organization; and
 - (2) an organization chart showing lines of responsibility of the key persons specified in paragraph 24.245, and extending to each location from which each service will be provided; and
 - (3) The location of each AIS unit, airspace or aerodrome being served
 - (4) a list of the aeronautical information services to be covered by the approval; and

- (5) for a pre-flight information service, details of the area, airspace or aerodromes covered by the service; and
 - (6) the location and address details of the applicable offices required under 24.193 (b); and
 - (7) details of the format and standards specified in the Manual of Standards - Aeronautical Information Services, Vol. I for the publication of aeronautical information; and
 - (8) Details of the applicant's overall staffing structure and the staffing for each AIS unit; and
 - (9) details of procedures regarding:
 - (i) the competency, qualifications, maintenance of current operating practice and fitness of personnel; and
 - (ii) training and assessment of AIS personnel and the qualifications of AIS training personnel; and
 - (iii) the use of human factor principles
 - (iv) the control of documentation; and
 - (v) the collection of information; and
 - (vi) the publication of aeronautical information; and
 - (vii) the correction of errors in published information; and
 - (viii) the identification, collection, indexing, storage, maintenance, and disposal of records; and
 - (ix) internal quality assurance; and
 - (x) the protection of data against interference and cyber-attacks.
 - (10) Details of the systems, procedures, and programmes required by paragraph 24.237 regarding the safety management system; and
 - (11) Where application, details of measures to prevent fatigue as required by paragraph 24.267; and
 - (12) Procedures regarding document control, including the control, amendment and distribution of the Master Plan; and.
- (d) The AIS provider shall:
- (1) hold at least one complete, current copy of its Master Plan at each AIS unit listed in its Master Plan, except that parts relating solely to a particular place need only be held at principal locations and the place concerned; and
 - (2) amend or revise the Master Plan, as is necessary, to ensure that the information contained therein is kept up to date;
 - (3) incorporate in the Master Plan, any material as the Authority may require;
 - (4) comply with all procedures and standards detailed in its Master Plan; and
 - (5) make each applicable part of its Master Plan available to personnel who require those parts to carry out their duties; and
 - (6) continue to meet the standards and comply with the requirements of this Schedule; 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.

24.227 AIS Manual of Operations

- (a) An AIS 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 Master Plan.
 - (b) An AIS provider whose Operations Specifications allow for the provision AIS or other services from more than one location shall provide a separate Unit Specific Manual (USM) to be used in conjunction with the MANOPs. 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.
 - (c) The accountable manager shall sign a MANOPs or USM submitted to the Authority for approval.
 - (d) 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. Amendments to the MANOPs or USMs shall be recorded and brought to the attention of all controllers concerned in a manner that facilitates a record of acknowledgement of any such amendment.
 - (e) The AIS 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.
 - (f) No person may provide for use of its personnel in the provision of AIS, any MANOPs, USM or any portion of such manual which has not been reviewed and found acceptable or approved by the Authority.
- (a) The AIS MANOPs shall describe the overall (general) company policies and procedures regarding the provision of air traffic services listed in the Master Plan. The contents of the MANOPs shall include but is not limited to:
- (1) the information regarding hours of service, the establishment of an AIS and any transitional arrangements; and
 - (2) personnel requirements and their responsibilities; and
 - (3) details of the procedures regarding the control of documentation; and
 - (4) details of the systems and procedures regarding general information requirements; and
 - (5) details of the procedures regarding the notification of facility status to users as in accordance with the Service Definition Agreement; and
 - (6) details of the procedures regarding the notification of facility status; and
 - (7) details of the systems and procedures regarding meteorological information and reporting; and
 - (8) procedures regarding shift administration; and
 - (9) procedures to mitigate the effects of fatigue; and
 - (10) details of the procedures regarding contingency plans; and
 - (11) details of the systems and procedures regarding co-ordination requirements; and
 - (12) details of the procedures regarding incidents and accidents; and

- (13) details of systems and procedures regarding the retention and management of records; and
- (14) details of the procedures regarding disruptions to service.
- (15) details of the procedures regarding the processing of flight plans; and
- (16) details of the procedures relating to the requirements of the AIS security programme, including provisions to protect against cyber-security threats;
- (17) details of the procedures required in accordance with the Safety Management and Quality Management systems;
- (18) details of the procedures regarding demand and capacity management, where applicable; and
- (19) details of the procedures regarding the processing of flight plans; and
- (20) details of the procedures to ensure that information on the operational status of navigational aids is promptly forwarded to appropriate ATS units.
- (21) any other information required by the Authority.

(g) The MANOPs shall also contain:

- (i) a chart depicting the AIS provider's organizational structure and shows the accountable manager and the positions 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.
- (ii) information on the status of the AIS provider's compliance with the applicable requirements of these regulations and the Manual of Standards – Aeronautical Information Services and any deviations approved by the Authority.

(h) 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 the provisions of the MANOPs, where necessary.

24.229 Submission and Revision of Manuals

(a) Each manual required by this Schedule 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 AIS provider's Operations Specifications; 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 AIS function prior to coordination with or approval by the Authority.
 - (c) The AIS provider shall ensure that hard and soft copies of the manuals required under this Schedule and any other manual outlining any policy or procedure arrive at the Authority:
 - (i) For initial reviews: No later than 60 business days prior to the intended date of publication
 - (ii) 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 Schedule and the procedures contained in the Manual of Standards – Aeronautical Information Services shall accompany all manuals submitted to the Authority as appropriate. The compliance document shall be deemed acceptable and appropriate to the Authority
 - (e) AIS operational publications, including the AIS MANOPs and any other unit specific manuals shall be kept up to date and any requests for amendments thereto shall be forwarded to the Authority:
 - (i) At least 15 working days in advance of their effective date; or
 - (ii) in the case of amendments of an urgent or immediate nature, without delay, and no later than the date on which they are effective.
 - (f) 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
 - (g) Upon receipt of material that the Authority prescribes as mandatory for inclusion in any portion of any manual required under these regulations, the AIS provider shall make the necessary amendments as soon as reasonably possible or at a time specified by the Authority.
 - (h) The AIS provider shall ensure that the contents of the operational manuals and publications required under this subpart includes at least those subjects designated by the Authority that are applicable to the AIS provider's operations, including any additional materials made mandatory by the Authority.

(Note: In complying with sub-paragraph (f) above, The AIS provider shall ensure that a procedure is established to control the distribution of amendments to all manuals that includes a distribution list and describes the means by which the AIS provider confirms that each amendment is received and acknowledged by all members of staff affected by the amendment.)

24.231 Operational Documentation

- (a) The AIS provider shall hold copies of the relevant manuals and any other document necessary for the provision and operation of the services listed in its Master Plan.
- (b) The AIS provider shall establish a procedure to control all the documentation required under this Schedule which shall ensure that:

- (1) all incoming documentation, including amendments, are reviewed, and actioned; and
 - (2) current issues of relevant documentation are available to staff at all locations where they need access to such documentation for the aeronautical information services listed in their Master Plan; and
 - (3) all documentation is reviewed and authorised before issue; and
 - (4) all obsolete documentation shall be removed promptly from all points of issue or use; and
 - (5) any obsolete documents retained as archives are suitably identified as obsolete; and
 - (6) 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; and
 - (7) safety-significant changes are assessed in accordance with the safety management system; and
 - (8) 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 aeronautical information service. These documents shall include but not limited to:
- (1) the Civil Aviation Act and Civil Aviation Regulations of Jamaica
 - (2) the Manual of Standards – Aeronautical Information Services;
 - (3) the MANOPs an USM;
 - (4) Aerodrome Manual of Operations, where applicable;
 - (5) Relevant ICAO Annexes and Documents;
 - (6) records of all incoming and outgoing aeronautical information to be identified by serial number and date;
 - (7) records of each person who is authorized to check, edit and publish aeronautical information;
 - (8) records of internal quality and safety audit reports;
 - (9) records of reporting, investigation and correction of error;
 - (10) records of job description, training programme and plan of each staff.

(Note: see Appendix 1 to 24.231 for a minimum list of Documentation required at AIS units)

24.233 Electronic Record Keeping

The AIS 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.

24.235 Checklists

- (a) The AIS 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 the provision of AIS.
- (b) The AIS provider shall ensure that approved procedures include each item necessary for operational personnel to safely Takeover and Handover watches and for systems abnormalities and emergencies.
- (c) The AIS 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 AIS 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 H: SAFETY AND QUALITY MANAGEMENT SYSTEMS**24.237 Safety management system**

- (a) The AIS 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 organisation's overall safety performance.
- (c) The safety management system shall clearly define lines of safety accountability throughout the operator's organisation, 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; and
 - (2) Processes to develop and implement remedial action necessary to maintain agreed safety performance; and
 - (3) Provision for continuous monitoring and regular assessment of the safety performance; and
 - (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; and
 - (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 in paragraph (a) shall have an accountable manager that –
 - (1) has direct access to the Chief Executive Officer or Accountable Manager, of the entity providing the AIS operation, 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 AIS system which may have safety implications, the AIS provider shall:
 - (1) Consult users as far as practicable about the intended change; and
 - (2) Ensure that hazard identification as well as risk assessment and mitigation are systematically conducted for any changes to those parts of the 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.
 - (3) 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 in sub-paragraph (g), and notwithstanding any actions taken in respect of these 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 .

(See Appendix 1 to 24.237 for specific requirements pertaining to the SMS.)

24.239 Quality management system

- (a) The AIS provider shall implement and maintain internal quality assurance procedures that encompass all functions of an aeronautical information service to ensure compliance with, and the adequacy of, the procedures as prescribed by these regulations.
- (b) 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.
- (c) The Quality management system referred to in sub-paragraph (b) above shall be applicable to the whole aeronautical information data chain from data origination to distribution to the next intended user, taking into consideration the intended use of data.

Note 1 – Quality management may be provided by a single quality management system or serial quality management systems.

Note 2, – Letters of agreement concerning data quality between originator and distributor and between distributor and next intended user may be used to manage the aeronautical information data chain.

- (d) The key person who has the responsibility for internal quality assurance shall have direct access to the Chief Executive Officer or accountable manager on matters affecting the adequacy, accuracy, timeliness, format, and dissemination of the published aeronautical information.
- (e) The AIS provider's quality management system shall be established and implemented in conformity with the International Organization for Standardization (ISO) 9000 series of quality assurance standards, and be certified by the National standards body of Jamaica.
- (f) The Quality Assurance procedures shall ensure that
- (1) Users are provided with the necessary assurance and confidence that distributed aeronautical/data satisfy stated requirements for data quality (accuracy, resolution and integrity) and provide assurance of the applicability period of intended use of aeronautical data as well as that the agreed distribution dates will be met.
 - (2) the aeronautical data and information provided relating to its own territory is adequate, of required quality and timely.
 - (3) The AIS provider meets or exceeds the order of accuracy for aeronautical data as specified in the applicable sections of the Manual of Standards - Aeronautical Information Services and ICAO Annexes 11 and 14 to the Convention. In that respect, three types of positional data shall be identified:
 - (i) surveyed points (runway thresholds, navigation aid positions, etc.)
 - (ii) calculated points (mathematical calculations from the known surveyed points of points in space/fixes) and
 - (iii) declared points (flight information region boundary points).

(Note: The accuracy requirements for electronic terrain and obstacle data are specified in the Manual of Standards – Aeronautical Information Services)

- (4) Material to be issued as part of the integrated Aeronautical Information Package is thoroughly checked and coordinated with the responsible services before it is submitted to the aeronautical information service, in order to make certain that all necessary

information has been included and that it is correct in detail prior to distribution.

(d) The QMS shall include the following elements:

- (1) Functional procedures for audit and any required remedial action exists that work to establish/maintain compliance with the quality system.
- (2) staff qualifications and training detailed in the Manual of Standards - Aeronautical Information Services; and
- (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;
- (6) Management reviews of the quality management system to ensure compliance with, and adequacy of, procedures to ensure safe and efficient operational practices.

(Note: Compliance monitoring shall include a feedback system to the accountable manager to ensure corrective action as necessary)

- (7) Procedures to ensure that the service provided in accordance with the SDA meets and continues to meet the requirements of this Schedule
- (8) verification and validation procedures are in place for any Aeronautical Information Services information that is disseminated by the AIS holder's organization to ensure that the quality requirements specified in the Manual of Standards - Aeronautical Information Services, and other related standards is met or exceeded and for the traceability of such aeronautical information ; and
- (9) procedures for assurance and confidence that distributed aeronautical information or data satisfy all requirements for data quality, traceability and timeliness;
- (10) Procedures to ensure that material issued as part of the Integrated Aeronautical Information Package is checked and coordinated with the responsible services before it is published;
- (11) Procedures to ensure that publication resolution of aeronautical data is as specified in the Manual of Standards - Aeronautical Information Services.
- (12) Procedures to ensure that that Aeronautical information supplied to users conforms with human factors principles, which require the minimum of interpretation by users; and
- (13) established policies, processes and procedures, including those for the use of metadata, to ensure and verify that aeronautical data is traceable to its origin, at any moment throughout the aeronautical data chain, so as to allow any data anomalies or errors detected during the production/maintenance phases or in operational use to be identified by root cause, corrected and communicated to affected users; and
- (14) accommodation and facilities including, in particular, communications equipment and the availability of alternative suitable means of communication in the event of the failure of the primary means.

- (e) The safety policy procedures shall ensure that the safety policy is understood, implemented, and maintained at all levels of the organization.
- (1) The procedure for corrective action shall specify how—
 - (i) to correct an existing problem; and
 - (ii) to follow up a corrective action to ensure the action is effective; and
 - (iii) to amend any procedure required by this Schedule as a result of a corrective action; and
 - (iv) management will measure the effectiveness of any corrective action taken.
 - (2) The procedure for preventive action shall specify how—
 - (i) to correct a potential problem; and
 - (ii) to follow-up a preventive action to ensure the action is effective; and
 - (iii) to amend any procedure required by this Schedule as a result of a preventive action; and
 - (iv) management will measure the effectiveness of any preventive action taken.
 - (3) The internal quality audit programme shall—
 - (i) Specify the frequency and location of the audits taking into account the nature of the activity to be audited; and
 - (ii) Ensure audits are performed by trained auditing personnel who are independent of those having direct responsibility for the activity being audited; and
 - (iii) Ensure the results of audits are reported to the personnel responsible for the activity being audited and the manager responsible for internal audits; and
 - (iv) 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
 - (v) Ensure follow up audits to review the effectiveness of any preventive or corrective action taken.
 - (4) The procedure for management review shall—
 - (i) Specify the frequency of management reviews of the quality assurance system taking into account the need for the continuing effectiveness of the system; and
 - (ii) Identify the responsible manager who shall review the quality assurance system; and
 - (iii) Ensure the results of the review are evaluated and recorded.
- (d) Demonstration of compliance of the quality system shall be by audit. If nonconformity is identified, initiating action to correct its cause shall be determined and taken. All audit observations and remedial actions shall be evidenced and properly documented.

SUBPART I: ORGANIZATIONAL REQUIREMENTS

24.241 Applicability

This Subpart provides those certification requirements that apply to AIS organizational requirements

24.243 Personnel training

- (a) The AIS provider shall establish policies and procedures that are approved by the Authority, for the recruitment and training of all personnel to ensure that all its personnel, including cartographic

technical staff, possess the skills and competencies required in the provision of aeronautical information services.

- (b) The AIS provider shall develop an overall training policy and programme and detailed job descriptions for its staff. The training policy and programme shall describe the training courses that different levels of staff have to undergo to perform their duties, including initial, recurrent and specialized training in normal and emergency procedures and require that each staff member be assessed on such.
- (c) The programmes and procedures in sub-paragraph (a) 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 job descriptions mentioned in paragraph (b) above and minimum qualifications for all staff required to provide a safe AIS shall be subject to the approval of the Authority.
- (e) The training and recruitment programmes and procedures established in accordance with sub-paragraph (a) above 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.
- (f) The AIS 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.
- (g) 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. Following evaluation of the programme by the Authority, the results of which are satisfactory, final training programme approval will be issued.
- (h) The AIS 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.
- (i) The job description shall depict the job purpose, key responsibilities, and outcome to be achieved of each staff.
- (j) The AIS provider shall ensure that its staff undergoes a suitable period of supervised on-the-job training before being deployed for duties.
- (k) The AIS provider shall ensure, as far as practicable, that its personnel do not provide any Aeronautical Information Service:
 - (1) Unless they are familiar with all relevant and current information; and
 - (2) Unless they are medically fit to provide the service ; or
 - (3) While under the influence of any psychoactive substance; or
 - (4) When any decrease in their medical fitness might render them unable to safely provide the service.
- (k) The AIS provider shall report to the Authority, the details of any instance in which any person employed to the AIS organization has reported for or performs duties while suspected or known to be under the influence of any psychoactive substance and inform the Authority of any corrective action taken.

- (l) The AIS provider shall maintain individual training records for each of its staff, which should include a training plan detailing the courses completed by each staff as well as the time-frame for attending future courses as required under his training plan.
- (m) The AIS provider shall provide in the MANOPs an analysis of the number of personnel required to perform the aeronautical information service taking into account the duties and workload required.

(See Appendix 1 to 24.243 for a description of the minimum qualifications of operations personnel employed to the AIS organization)

24.245 Personnel requirements

- (a) The AIS provider shall engage, employ or contract:
 - (1) An accountable manager, who has the Authority within the applicant's organization to ensure that each aeronautical information service listed in their Master Plan:
 - (i) Provides a safe service to aircraft to the highest degrees of safety standards required by the Authority; and
 - (ii) Can be adequately and continuously financed and resourced; and
 - (iii) Is provided in accordance with the requirements prescribed by this Schedule.
- (b) a key person or group of key persons who are responsible for ensuring that the applicant's organization complies with the requirements of this Schedule. Such nominated person or persons shall be ultimately responsible to the accountable manager:
- (c) sufficient personnel to collect, collate, check, coordinate, edit, and publish aeronautical information for the aeronautical information services listed in the applicant's Master Plan.
- (d) Persons mentioned in sub-paragraph (c) above shall be available and serve in the following positions or their equivalent –
 - (1) Aeronautical Information Service/MAP Aerodrome unit/ ATS Reporting Office specialist.
 - (2) International NOTAM Office specialist.
 - (3) Aeronautical Information Service /MAP database specialist.
 - (4) Aeronautical Information Service /MAP documentation/editing/text producing specialist.
 - (5) Aeronautical cartography specialist.

(Note: Large organizations may prefer to use titles other than those above. However, the AIS provider must demonstrate to the Authority that the personnel serving in each office/division listed in are adequate for the services provided.)

- (e) The applicant shall:
 - (1) establish a procedure to assess the competence of those personnel authorized by the applicant to check, edit, and publish aeronautical information for the aeronautical information services listed in their Master Plan; and
 - (2) establish a procedure to maintain the competence of those authorized personnel; and
 - (3) provide those authorized personnel with written evidence of the scope of their authorisation.

(See Appendix 1 to 24.245 for a description of the qualifications and duties and responsibilities of key personnel)

24.247 Facility Requirements

- (a) The AIS provider shall establish offices and facilities that:
- (1) are appropriate for the aeronautical information services listed in their Master Plan; and
 - (2) meet the applicable requirements of this Schedule.

(Note: See Appendix 1 to 24.247 for Minimum Facility Requirements)

24.249 Security

- (a) The AIS 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 AIS 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 Schedule
- (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.
 - (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 a report of unlawful inference is made, without delay, to the Authority and any other designated local authority;
 - (4) 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; and
 - (ii) to ensure that access to permanent AIS facilities operated by the applicant are subject to control to prevent unauthorised entry; and
 - (iii) to protect personnel on duty; and
 - (iv) to secure operational data that is received or produced or otherwise employed, so that access to it is restricted only to those authorized; and
 - (v) To be followed in the event of a bomb threat or other threat of violence against an AIS unit; and
 - (vi) to monitor unattended AIS 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

(viii) to contain the effects of security breaches and to identify recovery action and mitigation procedures to prevent re- occurrence.

(d) An AIS provider shall ensure the security clearance of its personnel and coordinate with the relevant authorities to ensure the security of its facilities, personnel and data.

24.251 Scope of pre-flight information service

(a) The applicant for the grant of the aeronautical information service certificate for a pre-flight information service shall, for the pre-flight services listed in their Master Plan, specify—

- (1) the geographic area; and
- (2) the aerodromes; and
- (3) the applicable airspace.

24.253 Documentation

(a) The AIS provider shall:

- (1) document the format and standards for the aeronautical information published under the Authority of their certificate; and
- (2) ensure that the format and standards take into account the circumstances under which the information will be used; and
- (3) hold copies of relevant reference material, standards, practices and procedures, and any other documentation that is necessary for the aeronautical information services listed in their Master Plan.

24.255 Collection of Information

(a) The AIS provider shall establish procedures to collect and collate the information required for the aeronautical information services listed in their Master Plan.

(b) The procedures shall ensure that:

- (1) applicable information is obtained from organizations that provide services in support of Jamaican Air Navigation; and
- (2) applicable information is obtained from the aeronautical information services of other States relevant to the requirements of international aircraft operators operating :
 - (i) within the sovereign airspace of Jamaica and any other area for which Jamaica has assumed responsibility for the provision of AIS ; and
 - (ii) on international air routes originating from Jamaica; and

(c) arrangements for the complete and timely provision of aeronautical information of the required quality are made with the information originators mentioned in sub-paragraph (b)(1) and (2) above; and

(d) information received from the information originators mentioned in sub-paragraph (b)(1) is certified as accurate by a person identified by the originator to be responsible for the accuracy of that information.

(e) The procedures for the NOTAM service shall ensure that any originator's request for the issue of a

NOTAM does not require the NOTAM to be effective for more than 3 months.

24.257 Publication of Aeronautical Information

- (a) The AIS provider shall establish procedures to receive and/or originate, check, co-ordinate, edit, format, publish/store and disseminate aeronautical information for the services listed in their Master Plan.
- (b) The procedures shall ensure that:
- (1) the information received under 24.255 is checked against available information to verify its accuracy and integrity as specified in the applicable section of Annex 15 prior to publication; and
 - (2) the information received under 24.255 is edited, accurately published, and disseminated:
 - (i) in the format applicable to the operational significance of the information; and
 - (ii) in accordance with the Manual of Standards – Aeronautical Information Services; and
 - (iii) in a format that takes account of the circumstances under which the information will be used;
 - (iv) as a part of the Integrated Aeronautical Information Package;
 - (3) except for sub-paragraph(b) (2)(iv), permanent publications and long term temporary publications are clearly identified as being published under the Authority of the AIS provider; and
 - (4) when aeronautical information obtained from the aeronautical information services of other States under 24.255 (b) (2) is disseminated, that information is clearly identified as having the Authority of the originating State; and
 - (5) when information that has not been certified as required under 24.255 (d) is disseminated, that information is clearly identified as being unverified; and
 - (6) any permanent change to published information is coordinated with other applicable information originators before the change is published; and
 - (7) temporary information that is published without a defined expiry date is reviewed at an appropriate time to ensure that the originator takes the required action to cancel or reissue the information; and
 - (8) all aeronautical information is published in the English language; and
 - (9) place names are spelt according to local usage; and
 - (10) units of measurement are consistent with those prescribed under these regulations, the Jamaica AIP and as per the tables contained in ICAO Annex 5 – Units of Measurement to be used in Air and Ground Operations.
 - (11) abbreviations, consistent with those prescribed in ICAO Doc 8400, are used in the published aeronautical information when —
 - (i) their use is appropriate; and
 - (ii) their use will facilitate the dissemination of the information;

- (12) any of the aeronautical information published is promptly made available to the aeronautical information services of other States, upon request by those States; and
- (13) the aeronautical data and aeronautical information necessary for the safety, regularity or efficiency of air navigation is made available in a form that is suitable for the operational requirements of the Air Navigation community, including:
- (i) flight operations personnel, including flight crew members and the services responsible for pre-flight briefing; and
 - (ii) the air traffic service units responsible for flight information services.
- (c) The procedures for the Jamaica AIP service shall, in addition to paragraph (b), ensure that:
- (1) aeronautical charts, and operationally significant information published in Jamaica AIP Amendments and AIP Supplements, are published in accordance with the AIRAC system; and
 - (2) the information published under the AIRAC system is clearly identified with the acronym AIRAC; and
 - (3) the information published under the AIRAC system is distributed so that recipients receive the information at least 28 days before its effective date; and
 - (4) the information published under the AIRAC system is not changed for at least 28 days after the effective date, unless the circumstance notified is of a temporary nature and would not persist for the full period; and
 - (5) where an AIP Supplement is published to replace a NOTAM, the supplement includes a reference to the serial number of the NOTAM; and
 - (6) where an AIP Amendment or AIP Supplement is published under the AIRAC system, a NOTAM is originated giving a brief description of the operationally significant contents, the effective date and the reference number of each amendment or supplement. The NOTAM shall:
 - (i) come into force on the same effective date as the amendment or supplement; and
 - (ii) remain in force until the next AIRAC date; and
 - (7) when there is no applicable information to be published by the AIRAC date, a NIL notification is issued; and
 - (8) a NOTAM is originated when information to be published as an AIP Amendment or AIP Supplement takes effect prior to the effective date of the amendment or supplement.

24.259 Error Correction in Published Information

- (a) The AIS provider shall establish procedures to record, investigate, correct, and report any errors that are detected in the aeronautical information published under the Authority of their certificate.
- (b) The procedures shall ensure that —
 - (1) the error is corrected by the most appropriate means relative to the operational significance of the error; and
 - (2) the correction is clearly identified in the republished information; and

- (3) the source of the error is identified and, where possible, eliminated; and
- (4) the Authority is notified of a promulgated information incident in accordance with these regulations.

24.261 Records

- (a) The AIS provider shall establish procedures to identify, collect, index, store, maintain and dispose of the records that are necessary for the aeronautical information services listed in their Master Plan.
- (b) The procedures shall ensure that:
 - (1) there are records enabling all incoming and outgoing aeronautical information to be readily identified by serial number and date, and that supplementary information can be similarly verified and, where necessary, authenticated; and
 - (2) there is a record of each person who is authorized by the applicant to check, edit, and publish aeronautical information; and
 - (3) there is a record of each occurrence of error correction under the procedures required by 24.259; and
 - (4) there is a record of each internal quality assurance review of the applicant's organization carried out under the procedures required by 24.239; and
 - (5) all records are legible and of a permanent nature; and
 - (6) all records are retained for at least 5 years except NOTAM, AIP Supplements and Aeronautical Information Circulars, which need only be retained for 90 days after cancellation.
- (c) The AIS 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 AIS.
- (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 the provision of aeronautical information services reflects the true situation at the time of use.
- (f) Every record required for The AIS provider's operations and equipment maintenance purposes shall be completed in ink or indelible pen, unless otherwise approved by the Authority.
- (g) Any Certificate holder that withholds any records described under this subsection following any request from any Authorized person shall be guilty of an offence.

SUBPART J: SHIFT ADMINISTRATION

24.263 General

- (a) The AIS 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; and
- (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.

24.265 Watch log

- (a) An AIS provider shall ensure that a watch log, with sequentially numbered pages, is kept at each AIS 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 key person on duty, or the person on watch at a nominated operating position; and
 - (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; and
 - (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; and
- (c) Watch log entries shall be:
- (1) in chronological sequence and in indelible ink; and
 - (2) without erasure, defacement, or obliteration; and
 - (3) corrected by drawing a single line through the erroneous information and initialling the correction; and
- (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; and
- (e) Significant items affecting any operational position is recorded accurately in the watch log; and
- (f) Watch logs are retained for a period of 3 years from the date of final entry.

24.267 Prevention of Fatigue

An AIS provider shall not provide a 24 hour service unless procedures approved by the Authority are established and maintained to mitigate the effects of fatigue on AIS operational staff.

SUBPART K: OPERATIONAL REQUIREMENTS

24.269 Applicability

This Subpart sets out the operational requirements on the AIS provider.

24.271 Operational Standards

The AIS provider shall adhere to:

- (1) the requirements of these regulations; and
- (2) the requirements of the SDA; and
- (3) the Standards and, where required in the SDA, the recommendations of ICAO Annex 15; and
- (4) the Manual of Standards - Aeronautical Information Services; and
- (5) applicable requirements contained in ICAO Regional Air Navigation Agreement and Plan with regard to Aeronautical Information Services.

24.273 General

- (a) The AIS holder shall develop, promulgate and maintain all aeronautical data and information, including the following publications and AIS elements in accordance with standards specifications mentioned in sub-paragraph (a) above :

- (1) Jamaica AIP
- (2) AIP Amendments
- (3) AIP Supplements
- (4) NOTAM
- (5) AIC
- (6) Pre-Flight and Post-Flight Information Data
- (7) Electronic Terrain and Obstacle Data
- (8) Aerodrome Mapping Data

24.275 Liaison with related services

- (a) The AIS provider shall establish and maintain systems and procedures to ensure, where applicable, effective two-way co-ordination and direct and continuous liaison between the AIS provider at least the following agencies:
- (1) the AIS in other States from which it is necessary to receive information to meet operational requirements within Jamaica for pre-flight information;
 - (2) technical services that are directly concerned with the provision and maintenance of the various air navigation facilities, services and procedures;
 - (3) military services, as necessary, to receive and distribute information concerning navigation warnings (military exercises, etc.) or any special military facilities or procedures available to or affecting civil aviation;
 - (4) air traffic services within Jamaica, to ensure immediate transmission of all required information to services for air traffic control and for in-flight information purposes;

- (5) all aircraft operating agencies conducting operations in or through Jamaica, to ensure that pre-flight information requirements are adequately met; and
 - (6) any other services that may either be a source of information of interest to civil aviation or have a legitimate reason for requiring information about civil aviation.
 - (7) 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 Aeronautical Information Service operations.

(Note: letters of agreement between the Air Traffic Service provider and the providers of Aeronautical Information Services and Aeronautical Meteorological Services shall, where applicable, conform to the guidance contained in ICAO Document 9377 "Manual on Coordination between Air Traffic Services, Aeronautical Information Services and Aeronautical Meteorological Services")

24.277 Provision of information in paper copy form

- (a) Information provided under the AIRAC system shall be published in paper copy form and shall be distributed by the AIS unit at least 42 days in advance of the effective date with the objective of reaching recipients at least 28 days in advance of the effective date.
- (b) Whenever major changes are planned and where advance notice is desirable and practicable, information published in paper copy form should be distributed by the AIS unit at least 56 days in advance of the effective date should be used.

Note. – Guidance on what constitutes a major change is included in Doc 8126.

24.279 Provision of information as electronic media

- (a) AIS Service that have established an aeronautical database shall, when updating its contents concerning the circumstances listed in the Manual of Standards – Aeronautical Information Services and ICAO Annex 15, Appendix 4, Part 1, ensure that the effective dates of data coincide with the established AIRAC effective dates.
- (b) Information provided as electronic media, concerning the circumstances listed in the Manual of Standards – Aeronautical Information Services and ICAO Annex 15, Appendix 4, Part 1, shall be distributed/made available by the AIS unit so as to reach recipients at least 28 days in advance of the AIRAC effective date.
- (c) Whenever major changes are planned and where advance notice is desirable and practicable, information provided as electronic media shall be distributed/made available at least 56 days in advance of the effective date.

Note. – Guidance on what constitutes a major change is included in Doc 8126.

24.281 Hours of Operation

- (a) An Aeronautical Information Service shall normally be provided on a 24-hour basis.
- (b) Where 24-hour service is not provided, service shall be available during the whole period an aircraft is in flight in the area of responsibility of an aeronautical information service, plus a period of at least two hours before and after such a period.
- (c) The service shall also be available at such other time as may be requested by an appropriate ground organization.

24.283 Aeronautical Information Management

- (a) The AIS provider shall ensure that Information management resources and processes ensure the timely collection, processing storage integration, exchange and delivery of quality-assured aeronautical data and aeronautical information within the Air Traffic Management system.
- (b) Material to be issued as part of the Integrated Aeronautical Information Package shall be thoroughly checked before it is submitted to the aeronautical information service, in order to make certain that all necessary information has been included and that it is correct in detail prior to distribution/
- (c) An AIS provider shall establish, validation and verification procedures which shall ensure that upon receipt of aeronautical data and aeronautical information, quality requirements (accuracy, resolution integrity) and traceability requirements are met.

Note (1) Guidance material on the aeronautical data quality requirements (accuracy, resolution, integrity and traceability) and protection requirements may be found in the World Geodetic System – 1984 (WGS-84) Manual (Doc 9674). Supporting data quality material in respect of data accuracy, publication resolution, and integrity of aeronautical data together with guidance material in respect to the rounding convention for aeronautical data is contained in RTCA Document DO-201A and European Organization for Civil Aviation Equipment (EUROCAE) Document ED-77 – Industry Requirements for Aeronautical Information (or equivalent)

(2) Guidance material on the management of aeronautical data quality is included in the Manual on the Quality Management System for Aeronautical Information Services (Doc 9839).

24.285 Resolution

- (a) The AIS provider shall ensure that the order of publication resolution of aeronautical data shall comply with the applicable sections of the Manual of Standards – Aeronautical Information Services and ICAO Annex 15, paragraph 3 and Appendices 1 and 7.
- (b) The resolution of the data features contained in any of the AIS provider's databases be commensurate with the data accuracy requirements

(Note: The resolution of the data features contained in the database may be finer than the publication resolution)

24.287 Integrity

- (a) The AIS provider shall ensure that the integrity of aeronautical data is maintained throughout the data process from survey/origin to distribution to the next intended user (the entity that receives the

aeronautical information from the AIS provider). Based on the applicable integrity classifications, the validation and verification procedures shall:

- (1) For routine data: avoid corruption throughout the processing of the data
- (2) For essential data: assure corruption does not occur at any stage of the entire process and may include additional processes as needed to address potential risks in the overall system architecture to further assure data integrity at this level; and
- (3) For critical data: assure corruption does not occur at any stage of the entire process and include additional integrity assurance procedures to fully mitigate the effects of faults identified throughout analysis of the overall system architecture as potential data integrity risks.

24.289 Metadata

- (a) The AIS provider shall collect metadata for aeronautical data processes and exchange points. This metadata collection shall be applied throughout the aeronautical information data chain, from survey/origin to distribution to the next intended user.

(Note: ISO Standard 19115 specifies requirements for geographic information metadata)

- (b) The metadata to be collected shall include, as a minimum:
 - (1) The name of the organizations or entities performing any action of originating, transmitting or manipulation of the data;
 - (2) The action performed; and
 - (3) The date and time the action was performed

24.291 Data protection

- (a) Aeronautical data shall be protected in accordance with data error detection, security and authentication techniques.

(Note: The Aeronautical Information Services Manual (Doc 8126) contains suitable guidance on data error detection ,security and authentication techniques)

- (b) Electronic aeronautical data sets shall be protected by the inclusion in the data sets of a 32-bit cyclic redundancy check (CRC) implemented by the application dealing with the data sets. This shall apply to the protection of all integrity levels of data sets as specified in sub-paragraph (b)

The AIS provider shall ensure the protection of electronic aeronautical data by totally monitoring such data while stored or in transit by the cyclic redundancy check (CRC) as follows:

- (1) To achieve protection of the integrity level of critical and essential aeronautical data as classified in 26.107(d) above, a 32- or 24-bit CRC algorithm shall apply respectively.
- (2) To achieve protection of the integrity level of routine aeronautical data as classified in 26.107 (d) above, a 16-bit CRC algorithm should apply

24.293 Automation

- (a) Automation in AIS shall be introduced with the objective of improving the timeliness, quality, efficiency and cost-effectiveness of aeronautical information services.
- (b) Where aeronautical data and aeronautical information are provided in multiple formats, processes shall be implemented to ensure data and information consistency between formats
- (c) In order to meet the data quality requirements automation shall:
 - (1) enable digital aeronautical data exchange between the parties involved in the data processing chain; and
 - (2) use aeronautical information and data exchange models designed to be globally interoperable.

Note.— Guidance on the aeronautical information and data exchange models may be found in the Aeronautical Information Services Manual (Doc 8126)

- (d) the aeronautical information model used should encompass the aeronautical data and aeronautical information to be exchanged.
- (e) The aeronautical information model used shall:
 - (1) use the Unified Modelling Language (UML) to describe the aeronautical information features and their properties, associations, and data types;
 - (2) include data value constraints and data verification rules;
 - (3) include provisions for metadata as specified in 24.289; and
 - (4) include a temporality model to enable capturing the evolution of the properties of an aeronautical information feature during its life cycle.
- (f) The aeronautical data exchange model used should:
 - (1) apply a commonly used data encoding format;
 - (2) cover all the classes, attributes, data types and associations of the UML information model mentioned in sub-paragraph (e) above; and
 - (3) provide an extension mechanism, by which groups of users can extend the properties of existing features and add new features which are not relevant for global standardization.

(Note.—The Extensible Markup Language (XML) and Geography Markup Language (GML) are commonly used data encoding formats.)

24.295 Copyright

Any product of Jamaica's AIS which has been granted copyright protection by Jamaica and provided to another State shall only be made available to a third party on the condition that the third party is made aware that the product is copyright protected and provided that it is appropriately annotated that the product is subject to copyright by the originating State.

Note.— In order to protect the investment in the products of a State's AIS as well as to ensure better control of their use, States may wish to apply copyright to those products in accordance with their national laws.

24.297 Drug and Alcohol Testing

The AIS provider shall comply with all of the appropriate Drug and Alcohol testing requirements prescribed in the First Schedule

24.299 Deviation from standards

- (a) An AIS provider may only deviate from the requirements of this Schedule or any of the operational standards prescribed in paragraph 24.271 if an emergency or other circumstance arises that makes the deviation necessary in the interest of aviation safety.
- (b) The AIS provider shall notify the Authority in writing and submit the details of such occurrence within 48 hours of the deviation.

Appendix 1 to 24.191: Description of Functional Areas

- (a) The general duties and responsibilities of each functional area of an Aeronautical Information Service are as follows:

(1) AIS Aerodrome Unit/ARO

- (i) Prepare and maintain briefing material;
- (ii) Prepare pre-flight information for aircrew and aircraft operators;
- (iii) Provide face to face briefing to aircrew and aircraft operators;
- (iv) Operate remote briefing equipment;
- (v) Maintain briefing office displays and wall charts; Clarify publications;
- (vi) Provide in-flight information to air traffic control;
- (vii) Receive post-flight information from aircrew and take appropriate action;
- (viii) Maintain AIS/MAP library of reference material; and
- (ix) Provide on the job training.

Where pre-flight and post-flight services are combined with the ATS Reporting Office (ARO) a number of additional functions are required.

(2) International NOTAM Office

- (i) Collect, collate and verify NOTAM information; Originate NOTAM/ASHTAM;
- (ii) Receive and re-distribute incoming NOTAM/ASHTAM; Maintain NOTAM database;
- (iii) Prepare and issue trigger NOTAM;
- (iv) Originate and maintain NOTAM checklists; and
- (v) Prepare and issue list of valid NOTAM.

(3) AIS/MAP Database Unit

- (i) Collect, compile and validate static (AIP) data; Prepare static (AIP) data for database;
- (ii) Collect, compile and validate dynamic data; Prepare dynamic data for database;
- (iii) Maintain applicable databases;
- (iv) Perform data quality and integrity checks.

(14) AIS/MAP Publication, Editing and Text producing Unit

- (i) Operate the desk-top publishing system;
- (ii) Prepare, edit and compile the Aeronautical Information Publication (AIP), AIP Amendments, AIP Supplements, Aeronautical Information Circulars (AIC) and Checklists;
- (iii) Print and distribute elements of the Integrated Aeronautical Information Package (IAIP)(except NOTAM);
- (iv) Maintain central AIS/MAP library of national and international IAIPs.;

(15) AIS/MAP Cartographic Unit

- (i) Collect and collate source data for preparation of aeronautical charts;
- (ii) Compile and prepare aeronautical charts, maps (and instrument procedures as required); Amend aeronautical charts, maps and instrument procedures;
- (iii) Pre-and post-press proofing;
- (iv) Prepare chart elements/material ready for printing.

Appendix 1 to 24.231: Minimum Facility Documentation Requirements

The following documents shall be available at AIS headquarters and at aerodrome/heliport AIS units for reference purposes in hard copy or as otherwise prescribed by the Authority:

(a) Standards and Recommended Practices

- (1) Annex 2 — *Rules of the Air*
- (2) Annex 3 — *Meteorological Service for International Air Navigation*
- (3) Annex 4 — *Aeronautical Charts*
- (4) Annex 5 — *Units of Measurement to be Used in Air and Ground Operations*
- (5) Annex 6 — *Operation of Aircraft*
 - Part I — *International Commercial Air Transport — Aeroplanes*
 - Part II — *International General Aviation — Aeroplanes*
 - Part III — *International Operations — Helicopters*
- (6) Annex 7 — *Aircraft Nationality and Registration Marks*
- (7) Annex 9 — *Facilitation*
- (8) Annex 10 — *Aeronautical Telecommunications* —
 - Volume I — *Radio Navigation Aids*
 - Volume II — *Communication Procedures including those with PANS status*
 - Volume III — *Part I – Digital Data Communication Systems*
- (9) Annex 11 — *Air Traffic Services*
- (10) Annex 12 — *Search and Rescue*
- (11) Annex 14 — *Aerodromes*
 - Volume I — *Aerodrome Design and Operations*
 - Volume II — *Heliports*
- (12) Annex 15 — *Aeronautical Information Services*
- (13) Annex 16 — *Environmental Protection*
 - Volume I — *Aircraft Noise*
 - Volume II — *Aircraft Engine Emissions*
- (14) Annex 17 — *Security*
- (15) Annex 18 — *The Safe Transport of Dangerous Goods by Air*

(a) Procedures for Air Navigation Services

- (1) Doc 4444 — *Air Traffic Management (PANS-ATM)*
- (2) Doc 7030 — *Regional Supplementary Procedures (SUPPS)*
- (3) Doc 8168 — *Aircraft Operations (PANS-OPS)*
 - Volume I — *Flight Procedures*
 - Volume II — *Construction of Visual and Instrument Flight Procedures*
- (4) Doc 8400 — *ICAO Abbreviations and Codes (PANSABC)*

(c) Designators and indicators

- (1) Doc 7910 — *Location Indicators*

- (2) Doc 8585 — *Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services*
- (3) Doc 8643 — *Aircraft Type Designators*

(d) Manuals

- (1) Doc 8126 — *Aeronautical Information Services Manual*
- (2) Doc 8697 — *Aeronautical Chart Manual*
- (3) Doc 8896 — *Manual of Aeronautical Meteorological Practice*
- (4) Doc 9674 — *World Geodetic System — 1984 (WGS-84) Manual*

(e) Facility and service documents

- (1) Doc 7100 — *Manual of Airport and Air Navigation Facility Tariffs*
- (2) Doc 7101 — *Aeronautical Chart Catalogue*
- (3) Doc 7383 — *Aeronautical Information Services Provided by States*

(f) Air Navigation Plan Publications

- (1) Doc 7474 — *Africa-Indian Ocean Region*
- (2) Doc 7754 — *European Region*
- (3) Doc 8733 — *Caribbean and South American Regions*
- (4) Doc 8755 — *North Atlantic, North American and Pacific Regions*
- (5) Doc 9634 — *North Atlantic Region*
- (6) Doc 9635 — *Facilities and Services Implementation Document (FASID) — North Atlantic Region*
- (7) Doc 9673 — *Asia and Pacific Regions*
- (8) Doc 9708 — *Middle East Region*

(g) Other publications

- (1) **International Air Transport Association (IATA)/International Aeradio Limited (IAL)**
IATA/IAL Air Distances Manual
- (2) **International Telecommunication Union (ITU)**
 - (i) *List of Broadcasting Stations Operating in Frequency Bands below 5950 kHz*
 - (ii) *List of Radiodetermination and Special Service Stations (ITU List VI)*
 - (iii) *Radio Regulations*
 - (iv) *Telegraph Regulations*
- (3) **World Meteorological Organization (WMO)**
 - (i) *Weather Reporting — WMO — No. 9. TP. 4*
Volume A — *Observing Stations*
Volume C — *Transmission*
 - (ii) *Manual on Codes*
Volume I.1 — *International Codes*
Part A — *Alphanumeric Codes — WMO No. 306*

Appendix 1 to 24.237: SMS Specific Requirements

Safety Policy and Objectives

The Safety Management System shall contain the following safety policies and objectives.

- (i) Management commitment and responsibility

The SMS shall have a clear definition of the philosophy and fundamental approach the service provider will adopt for the management of safety within its organization. This includes setting the safety policies and how they relate to the operation and maintenance processes of the service provider. The policies shall also clearly encapsulate the senior management's commitment to improve safety in the organization as a top priority, with the provision of the necessary human and financial resources for its implementation. The safety policy shall be periodically reviewed to ensure it remains relevant.

(ii) Safety accountabilities

The SMS shall have clear lines of safety accountabilities within the organization, including a direct accountability for safety on the part of senior management. Safety accountabilities shall be documented and communicated throughout the organization.

(iii) Appointment of key safety personnel

The AIS provider shall appoint a safety manager to serve as the focal point and driving force for the implementation and maintenance of SMS activities. However, the safety manager should not be held solely responsible for safety. Specific safety activities and the functional or operational safety performance and outcome are the responsibility of the relevant operational or functional managers and staff.

(iv) SMS implementation plan

The AIS provider shall develop and maintain an SMS implementation plan that defines the organization's approach to manage safety in a manner that meets the organization's safety needs. The SMS implementation plan shall be endorsed by senior management of the organization. A Safety Committee should be formed to set safety policies, direct and oversee SMS implementation and promotion and review safety performance. It should also serve as a forum to discuss any safety-related issues. The committee should be well represented to include key operational staff.

(v) Documentation

A SMS manual shall be produced as part of the MANOPs, as this is the key instrument for guiding and communicating the organization's SMS approach and methodology to the whole organization. Guidance on the production of an SMS manual can be found in ICAO Doc 9859. It should also consist of the components of SMS as described in this chapter. Operating an SMS generates large amount of data, document and records. A systematic record of these documents should be maintained and kept up to date. Such records would also be required as evidence of ongoing SMS processes including hazard identification and risk assessment.

Safety Risk Management

(i) Hazard identification

The AIS provider shall develop and maintain a formal process for effectively collecting, recording, acting on and generating feedback about hazards in operations, based on a combination of reactive, proactive and predictive methods of safety data collection.

(ii) Safety risk assessment and mitigation process

The AIS provider shall develop and maintain a formal risk management process that ensures analysis (in terms of probability and severity of occurrence), assessment (in terms of tolerability) and control (in terms of mitigation) of risks to an acceptable level.

Safety Assurance

(i) Safety performance monitoring and measurement

(1) The AIS provider shall develop and maintain the means to verify the safety performance of the organization compared to the safety policy and objectives, and to validate the effectiveness of safety risks controls.

(2) The AIS provider shall establish and submit the safety performance indicators and targets of its SMS to the Authority for agreement. Details on the establishment of the safety performance indicators and targets can be found in ICAO Doc 9859. The safety performance indicators and targets should be periodically reviewed by the Safety Committee to ensure they remain relevant.

(ii) Management of change

The AIS provider shall develop and maintain a formal process to identify changes within the organization which may affect established processes and services. A risk assessment should be carried out before the implementation of such changes.

(iii) Continuous improvement of the SMS

The AIS provider shall develop and maintain a formal process to identify the causes of sub-standard performance of the SMS, determine the implications of sub-standard performance in operations, and eliminate or mitigate such causes, in order to ensure the continual improvement of the SMS.

Safety audit

Regular internal safety audits should be conducted by the service provider to assure the effectiveness of its SMS. The safety audit should be conducted by a team of trained auditors who are familiar with the operation of the aeronautical information service, but also independent and not involved with the day to day operation of the service. Records of such safety audits and corrective follow up actions should be kept.

Safety Promotion

(i) Training and education

The AIS provider shall develop and maintain a safety training programme to ensure that personnel are trained and competent to perform the SMS duties. The scope of the safety training shall be appropriate to each individual's involvement in the SMS.

(ii) Safety communication

The AIS provider shall communicate and promote the organization's SMS processes and activities to its entire staff, to ensure that staff is fully aware of the SMS. The AIS provider shall develop and maintain formal means for safety communication to ensure that staff are fully aware why particular safety actions and procedures are introduced or changed.

Appendix 1 to 24.243: Aeronautical Information Services Officer Eligibility

(a) General Requirements

- (1) Any person employed as an Aeronautical Information Service Officer shall, as a minimum-

- (i) be not less than 18 years of age at the time that ab-initio training will commence;
- (ii) be able to read, write, understand, and speak the English language by meeting the level 6 proficiency requirements of Appendix 1 to ICAO Annex 1; and
- (iii) be assessed as medically fit by a Civil Aviation Medical Examiner approved by the Authority.

(b) Knowledge Requirements

- (1) The training record of any person engaged, employed or contracted to serve as an Aeronautical Information Service Officer shall demonstrate, to the satisfaction of the Authority, a level of knowledge in the following areas –
 - (i) Civil air law, rules and regulations;
 - (ii) Aviation safety oversight, regulation and enforcement
 - (iii) Flight Operation and Aircraft Components; principles of operation and functioning of aircraft
 - (iv) human performance and limitations relevant to Aeronautical Information Services;
 - (v) aeronautical meteorology; use and appreciation of meteorological documentation and information; origin and characteristics of weather phenomena affecting flight operations and safety; altimetry;
 - (vi) air navigation services, principles, facilities, limitations and accuracy of navigation systems and visual aids; and
 - (vii) air traffic management and communication, radiotelephony and phraseology procedures (routine, non-routine and emergency); use of the relevant aeronautical documentation; and safety practices associated with flight.
 - (viii) Aviation Search and Rescue
 - (ix) Aerodromes; operations, facilitation
 - (x) Aviation security (emergencies and abnormal situations)
 - (xi) The safe transport of dangerous goods by air

- (2) An Aeronautical Information Service Officer shall have demonstrated, to the satisfaction of the Authority, a level of knowledge in the following areas appropriate to the services that will be provided –
 - (1) Aeronautical Information Services and Manual of Operations;
 - (2) applicable rules, procedures and information sources;
 - (3) Aeronautical Charts;
 - (4) World Geodetic System - 1984 (WGS-84) Manual;
 - (5) ICAO Abbreviations and Codes;
 - (6) Location Indicators;
 - (7) ICAO Regional Supplementary Procedures (SUPPS);
 - (8) Quality Management System (ISO 9001:2000);
 - (9) Aeronautical Information Services provided by the service provider;
 - (10) Aeronautical Chart Catalogue;
 - (11) Flight Plans;
 - (12) Human Factors (Overview);
 - (13) Units of measurement to be used in air and ground operations;
 - (14) Aircraft Type designators;
 - (15) Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services; and
 - (16) Aeronautical English (written)

- (17) principles, use and limitations of automation equipment associated with the service provision;
- (18) procedures for the provision of Aeronautical Information Services as appropriate, including procedures to ensure data accuracy and integrity

(c) Skill Requirements

As a part of the AIS providers quality management and training programmes, all AIS officers shall demonstrated and maintain, at a level appropriate to the privileges being granted, the skill, judgement and performance required to provide a safe Aeronautical Information Service.

The holder of an Aeronautical Information Service Officer Licence shall not carry out instruction in an operational environment unless such holder has received authorization from the Authority.

An approval shall become invalid when an Aeronautical Information Service Officer has ceased to exercise the privileges of the rating for a period exceeding 90 days or more. An approval shall remain invalid until the controller's ability to exercise the privileges of the rating has been re-established.

Appendix 1 to 24.245: Duties and Responsibilities of Key Personnel

- (a) The AIS provider shall make arrangements to ensure continuity of supervision if operations are conducted in the absence of any required management personnel.
- (b) Required management personnel shall be contracted to work sufficient hours such that the management functions are fulfilled.
- (c) A person serving in a required management position for an AIS provider may not serve in a similar position for any other AIS provider, unless a deviation is issued by the Authority
- (d) Qualifications and Responsibilities of key personnel.

(1) Director of Operations

(i) Qualifications: The **Director of Operations** shall have or possess—

- (a) University degree, or equivalent qualifications and experience in the field of air navigation with demonstrated experience relating to safety management and/or civil aviation safety regulations.
- (b) Extensive experience (ten (10) years or more) in a modern, up-to-date environment, at increasing levels of responsibility, leading to supervisory level in Air Navigation Services (ANS) and Aeronautical Information Services (AIS) in large government, international organization or aviation industry.
- (c) Experience at senior or supervisory level in development of ATC procedure and aeronautical charts.
- (d) Senior level experience in organization and management of Aeronautical Information Service (AIS) in a civil authority, ATS provider, airport or an international organization.
- (e) Experience in participating in the work of ISO and AIS automation.
- (f) Thorough knowledge of Civil Aviation Legislation, ICAO Standards and Recommended Practices (SARPs) and Procedures for Air Navigation Services (PANS) relating to AIS, as well as Annexes 4, 14 and 15.
- (g) Ability and experience in participate in and oversee AIS training.
- (h) Demonstrated ability to recognize key issues and analyze relevant information before making recommendations.

- (i) Ability to write clearly and concisely detailed technical and specialized reports and to make verbal presentations.
 - (j) Develop clear goals that are consistent with agreed strategies. Identify priorities and adjust as required.
- (1) The duties and responsibilities of the **Director of Operations** shall include but are not limited to :
- (a) control of operations and operational standards of all services provided;
 - (b) The production and amendment of the Master Plan
 - (c) Maintain oversight of the following –
 - (i) Aeronautical Information Service operations
 - (ii) staff scheduling and rostering; and
 - (iii) training programmes;
 - (d) the contents of the Aeronautical Information Service Manual of Operations and associated manuals;
 - (e) the supervision of and the production and amendment of the Aeronautical Information Service Manual of Operations;
 - (f) liaison with the regulatory authority on all matters concerning Aeronautical Information Service operations, including any amendments to the AIS approval;
 - (g) liaison with any external agencies which may affect AIS operations;
 - (h) ensuring that operations are conducted in accordance with current regulations, directives or other requirements, and organizational policy;
 - (i) ensuring that AIS personnel scheduling complies with operational and duty time regulations and that all operations personnel are kept informed of any changes to the regulations;
 - (j) the receipt and implementation of action in response to any aeronautical information affecting the safety of AIS operations;
 - (k) the dissemination of AIS safety information, both internal and external;
 - (l) qualifications of AIS personnel; and
 - (m) maintenance of a current operations library.
 - (n) Follow up and assist in the AIS automation.
 - (o) Prepare the documentation related to AIS automation.
 - (p) Specify technical and administrative issues to implement the quality management system (ISO) in the AIS Department according to Civil Aviation Regulations and ICAO SARPs.
 - (q) Introduce and follow up the quality management system (ISO).
 - (r) Assist in the elaboration of AIS training documentation and AIS guidance material and conduct training to AIS staff, as necessary.
 - (s) Assist in the transition from AIS to Aeronautical Information Management (AIM) (strategy/roadmap/guidance material).
 - (t) Prepare job descriptions concerning all AIS sections.
 - (u) Prepare work plan for the development of AIS (AIS web, automation, etc.).
 - (v) Perform other related duties as may be required.

Appendix 1 to 24.247: Minimum Facility Equipment Requirements

- (b) The following minimum facilities and equipment, in addition to basic office furniture and stationery, shall be provided for the AIS headquarters and each NOF and aerodrome/heliport AIS unit:

(1) *AIS headquarters*

- (i) personal computers (PCs) for each post, printer and connection to the Internet
- (ii) photocopying equipment
- (iii) teletypewriter terminal (AFS/AFTN connection)
- (iv) telephones
- (v) telefax equipment
- (vi) clock.

(2) *NOF and aerodrome/heliport AIS unit*

- (i) adequate table/counter space for processing information
- (ii) adequate filing/card index systems
- (iii) full teletypewriter service (receive and transmit) linked to the AFS
- (iv) connections, through the aeronautical fixed service (AFS), to the following points within designated airspace for which it provides service:
 - area control centres and flight information centres;
 - aerodromes/heliports at which an AIS is established
- (v) PC/computer terminal, printer, connection to the Internet and typewriter (when specified by the Authority)
- (vi) photocopier for pre-flight bulletin production
- (vii) telephone
- (viii) telefax equipment
- (ix) a reliable clock and, for the NOF, a time-stamp clock, both showing UTC and, where appropriate, a second clock showing local time
- (x) reference charts and documents required for consultation and pre-flight briefing.

(Note: For exchange of messages over the tele-printer circuits, the signals of the appropriate international Telegraphic Alphabet permitted shall be subject to the approval of the Authority).