STATE OF LIBYA
MINISTRY OF TRANSPORT
CIVIL AVIATION AUTHORITY

دولة ليبيا
وزارة المواصلات
مصلحة الطيران المدني

Libyan Civil Aviation Regulation

Part Aeronautical Information Services

(LYCAR Part-AIS)

Amendment 1 - November 2017

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Libyan Civil Aviation Regulations
- Aeronautical Information Services

Foreword

1) The regulations contained herein are adopted under the provision of Article No.(5) of Libyan Civil Aviation Law No.(6) of 2005, and issued and signed up by the Director General of Civil Aviation by virtue of powers vested from the Minister of Transport under the resolution No.(154) issued on 13/05/2015.
2) The Libyan Civil Aviation Regulations - Part Aeronautical Information Services (LYCAR – Part AIS) describes the requirement of Aeronautical Information Services.
3) LYCAR.Part-AIS is one of the series parts related to the requirements applied for by an applicant for ANSP certificate.
4) LYCAA in development of these regulations has adopted ICAO standards and other international principles and the best practices.
5) This is Amendment 1 of Part AIS, with the changes listed in the changes highlight page.
6) The information contained herein is subject to constant review in the light of changing regulations and requirements. No subscriber or other reader should act on the basis of any such information without also referring to the applicable laws and regulations and/or without taking appropriate professional advice when/as indicated/required. Although, every effort has been made to ensure accuracy, the Libyan Civil Aviation Authority, shall not be held responsible for loss or damage caused by errors, omissions, misprints or misinterpretation of the contents hereof.
7) Copies of this publication can be downloaded from: www.caa.gov.ly

Issued on 7th November 2017 , and signed by

Capt. Nasereddin Shaebelain
Director General

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Libyan Civil Aviation Regulation – Aeronautical Information Services

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Amendments Records

No/Year	Publication Date	Inserted Date	Entered by
01/2017	Nov 2017	LYCAA	LYCAA

Amendment Changes Highlights

1. (AIS.PER.015 Application Requirements) Deleted.
2. Minor typing mistakes corrected.

Subpart - A – General (GEN)

AIS.GEN.005 Definitions

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.

Aeronautical Information Management (AIM): The dynamic, integrated management of aeronautical information through the provision and exchange of quality-assured digital aeronautical data in collaboration with all parties.

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

Aeronautical Information Service (AIS): A service established within the defined area of coverage responsible for the provision of aeronautical data and aeronautical information necessary for the safety, regularity and efficiency of air navigation.

AIP Amendment: Permanent changes to the information contained in the AIP.

AIP Supplement*:* Temporary changes to the information contained in the AIP which are published by means of special pages.

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.

AIS product: Aeronautical data and 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.

Application: Manipulation and processing of data in support of user requirements (ISO 19104*).

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.

Assemble: A process of merging data from multiple sources into a database and establishing a baseline for subsequent processing.

Authority: Means Libyan Civil Aviation Authority (LYCAA)

Integrated Aeronautical Information Package: A package in paper, or electronic media which consists of the following elements:

- AIP, including amendment service;
- Supplements to the AIP;
- NOTAM and PIB;
- AIC; and
- Check lists and lists of valid NOTAM.

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

SNOWTAM: A special series NOTAM notifying the presence or removal of hazardous conditions due to snow, ice, slush or standing water associated with snow, slush and ice on the movement area, by means of a specific format.

AIS.GEN.010 Applicability.

This part prescribes –

(a) Rules governing the operation of aeronautical information services (AIS) by an air navigation service provider that holds or is required to hold an Air Navigation Service Certificate (ANSC) under LYCAR Part ANSP; and

(b) The requirements for the Aeronautical Information Publication (AIP), Aeronautical Information Circulars (AIC), NOTAMs and Aeronautical Charts.

AIS.GEN.015 Restrictions on AIS providers.

(a) No person may provide an aeronautical information service (AIS) for civil aviation in the State of Libya, including the production of aeronautical charts, unless the person complies with the provisions of this part and they have been certificated by the LYCAA under LYCAR Part ANSP to provide such service.

(b) Except as provided in LYCAR Part ANSP, each AIS service provider must comply with the limitations and provisions of their certificate, operations specifications and their manual prepared under Subpart E.

AIS.GEN.020 Coordination Requirements.

Each AIS provider must establish systems and procedures for ensuring coordination between each of the following agencies—

(a) LYCAA Safety, Security, Aerodrome Certification and Air Transport departments.

(b) Any other AIS provider authorized under this part;

(c) Each CNS service provider operating in accordance with LYCAA authorisation;

(d) Each instrument flight procedure Design services (IFPDS) provider operating in accordance with LYCAA authorisation;

(e) Each meteorological service (MET) provider operating in accordance with LYCAA authorisation;

(f) Each air traffic service (ATS) provider operating in accordance with LYCAR Part ATS;

(g) Each search and rescue (SAR) authority;

(h) Aircraft operators;

(i) The Libyan Armed Forces; and

(j) Each aerodrome operator and apron management service, if the service is not provided by the aerodrome operator.

AIS.GEN.025 Applicability of the Standards of the International Civil Aviation Organization.

(a) Except as otherwise prescribed in this part, each AIS provider must provide services in full compliance with the applicable standards of this part and of the International Civil Aviation Organization (ICAO). Specifically, the standards as prescribed in ICAO Annex 4 and Annex 15 and the Procedures for Air Navigation Services — ICAO Abbreviations and Codes (PANS-ABC, ICAO Doc. 8400). Only items that include the prescriptive term “shall” and that are applicable to “AIS Authorities” apply to each AIS provider authorized under this part unless otherwise specified in this part. In cases where the ICAO standards are incompatible with the standards prescribed in this part, this part must prevail.

(b) Relevant guidance material on the organization and operation of aeronautical information services is contained in the Aeronautical Information Services Manual (ICAO Doc 8126).

(c) Relevant guidance material on the production of aeronautical charts is contained in the Aeronautical Chart Manual (ICAO Doc. 8697).

AIS.GEN.030 Common reference systems for air navigation

(a) The World Geodetic System — 1984 (WGS-84) Manual (Doc 9674) shall be used as the horizontal (geodetic) reference system for international air navigation. Published aeronautical geographical coordinates (indicating latitude and longitude) shall be expressed in terms of the WGS-84 geodetic reference datum.

(b) Geographical coordinates which have been transformed into WGS-84 coordinates but whose accuracy of original field work does not meet the requirements in Manual of Operations.

(c) The order of publication resolution of geographical coordinates and the order of chart resolution of geographical coordinates shall be that specified in Manual of Operations.

(d) Mean sea level (MSL) datum, which gives the relationship of gravity-related height (elevation) to a surface known as the geoid, shall be used as the vertical reference system for international air navigation.

(e) The Earth Gravitational Model — 1996 (EGM-96), containing long wavelength gravity field data to degree and order 360, shall be used by LYCAA as the global gravity model.

(f) At those geographical positions where the accuracy of EGM-96 does not meet the accuracy requirements for elevation and geoid undulation specified in Manual of Operations, on the basis of EGM-96 data, regional, national or local geoid models containing high resolution (short wavelength) gravity field data shall be developed and used. When a geoid model other than the EGM-96 model is used, a description of the model used, including the parameters required for height transformation between the model and EGM-96, shall be provided in AIP.

(g) In addition to elevation referenced to the MSL (geoid), for the specific surveyed ground positions, geoid undulation (referenced to the WGS-84 ellipsoid) for those positions specified in Manual of Operations shall also be published.

(h) The order of publication resolution of elevation and geoid undulation and the order of chart resolution of elevation and geoid undulation shall be that specified in Manual of Operations.

(i) For international civil aviation, the Gregorian calendar and Coordinated Universal Time (UTC) shall be used as the temporal reference system.

(j) When a different temporal reference system is used for some applications, the feature catalogue, or the metadata associated with an application schema or a data set, as appropriate, shall include either a description of that system or a citation for a document that describes that temporal reference system.

AIS.GEN.035 Miscellaneous specifications

(a) Each element of the Integrated Aeronautical Information Package for international distribution shall include English text for those parts expressed in plain language.

(b) Place names shall be spelt in conformity with local usage, transliterated, when necessary, into the Latin alphabet.

(c) ICAO abbreviations shall be used in the AIS whenever they are appropriate and their use will facilitate distribution of aeronautical data and aeronautical information.

Subpart - B - Responsibilities and Functions (FUN)

AIS.FUN.005 AIS Provider Responsibilities and Functions

(a) The ANSP shall arrange for the provisions of AIS over the territory of Libya and if applicable those areas over the high seas for Libya is responsible for the provision of AIS.

(b) The LYCAA shall designate ANSP as the AIS provider for providing such services in accordance with these regulations.

(c) Aeronautical data and aeronautical information provided by the AIS provider on behalf of Libya shall clearly indicate that it is published under the authority of LYCAA.

(d) The AIS provider shall establish formal arrangements with originators of aeronautical data and aeronautical information in relation to the timely and complete provision of aeronautical data and aeronautical information.

(e) An AIS provider shall ensure that aeronautical data and aeronautical information necessary for the safety, regularity or efficiency of air navigation is made available in a form suitable for the operational requirements of the ATM community, including:

(1) those involved in flight operations, including flight crews, flight planning and flight simulators.

(2) the ATS reporting office (ARO) units responsible for flight information service and the services responsible for pre-flight information.

(f) An aeronautical information service shall receive, collate or assemble, edit, format, publish/store and distribute aeronautical data and aeronautical information/data concerning the entire territory of Libya and for the airspace over the Mediterranean sea encompassed by Tripoli FIR. Libya is responsible for the provision of ATS outside its territory. Aeronautical data and aeronautical information shall be provided as an Integrated Aeronautical Information Package.

(g) Where 24 hours of service is not provided by the AIS provider, service shall be provided during the whole period an aircraft is in flight in the area of responsibility of the aeronautical information service, plus a period of at least two hours before and after such a period. The service shall also be available at such other time as may be requested by an appropriate ground organization.

(h) An AIS provider shall, in addition, obtain aeronautical data and aeronautical information to enable it to provide pre-flight information service and to meet the need for in flight information.

(1) from the aeronautical information services AIS of other States;

(2) from other sources that may be available.

(i) Aeronautical data and aeronautical information obtained under Paragraph 8) a. shall, when distributed, be clearly identified as having the authority of the State of Origin.

(j) Aeronautical data and aeronautical information obtained under Paragraph (h) (2) shall, if possible, be verified before distribution and if not verified shall, when distributed, be clearly identified as such.

(k) The AIS provider shall promptly make available to the AIS of other States any aeronautical data and aeronautical information necessary for the safety, regularity or efficiency of air navigation required by them, to enable them to comply with this regulation.

AIS.FUN.010 Exchange of aeronautical data and aeronautical information

(a) The AIS provider shall designate 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 by the Authority, the extent of responsibility and the territory covered by each office shall be defined.

(c) The AIS provider shall arrange, as necessary, to satisfy operational requirements for the issuance and receipt of NOTAM distributed by telecommunication.

(d) Wherever practicable, the AIS provider shall establish direct contact with other AIS in order to facilitate the international exchange of aeronautical data and aeronautical information.

(e) One copy of each of the elements of the Integrated Aeronautical Information Package that have been requested by the aeronautical information service of an ICAO Contracting State shall be made available by the AIS provider in the mutually agreed form(s), without charge.

AIS.FUN.015 Publication of Information on Aerodromes and Helicopter Landing Sites not covered by LYCAR Part 139.

An AIS provider may publish aeronautical information and data in the AIP concerning an aerodrome or helicopter landing site not eligible for certification under LYCAR Part 139 provided the aeronautical data originator responsible for the aerodrome or helicopter landing site information has nominated a responsible person who is responsible for complying with the applicable requirements contained in this part.

AIS.FUN.020 Telecommunication Requirements.

Refer to Subpart M

AIS.FUN.025 Cost Recovery.

(a) The overhead cost of collecting and compiling aeronautical information and aeronautical data may be included in the cost basis for aerodrome and air navigation services charges, as appropriate, in accordance with the principles contained in ICAO's Policies on Charges for Airports and Air Navigation Services (ICAO Doc. 9082).

(b) When costs of collection and compilation of aeronautical information and aeronautical data are recovered through aerodromes and air navigation services charges, the charge to an individual customer for the supply of a particular AIS product, in either paper or electronic form, must not exceed that which may reasonably be attributed to the costs of printing paper copies or production of electronic media, and costs of distribution.

AIS.FUN.030 Copyright

Any product received by the AIS provider in accordance with AIS FUN.015 from another State's AIS which has been granted copyright protection by that 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.

AIS.FUN.035 Inspections.

Each AIS provider must allow the Authority Inspector(s) to make any inspections, at any time, in order to allow the Authority to determine compliance with this part.

SUBPART C –PERSONNEL REQUIREMENTS

AIS.PER.005 Personnel Requirements.

(a) Each AIS provider must engage, employ or contract:

(1) A senior person, acceptable to the LYCAA, identified for the purposes of this part as the Director of aeronautical information services, who has the authority within the AIS provider's organization to ensure that each aeronautical information service listed in their manual —

(i) Can be resourced to meet operational requirements; and

(ii) Is provided in accordance with the requirements prescribed by this Part:

(2) A senior person or group of senior persons who are responsible for ensuring that the AIS provider's organization complies with the requirements of this Part. Such nominated person or persons must be ultimately responsible to the Director of aeronautical information services:

(3) Sufficient personnel to collect, collate, check, coordinate, edit, and publish aeronautical information for the aeronautical information services listed in their manual.

(b) The senior person or persons designated in (a)(2) must:

(1) Establish a procedure to initially assess the competence of those personnel authorized by the AIS provider to check, edit, and publish aeronautical information for the aeronautical information services listed in their manual; 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 authorization.

AIS.PER.010 Staff Operational Competence.

Each AIS provider must -

(a) Develop job description for all AIS technical staff involved in aeronautical information management and cartographic services and aeronautical charts production.

(b) Develop training program for AIS and cartographic technical staff, which covers initial, On-the-Job (OJT), recurrent and advanced/specialized training.

(c) Develop an annual training plan detailing and prioritizing what type of training will be provided. This plan must cover at least the recurrent training and include all AIS and cartographic technical and aeronautical charts production.

(d) Prior to being assigned tasks and responsibilities, each new AIS and cartographic technical staff must be required to satisfactory complete initial and OJT in accordance with the training program.

(e) Develop a system for the maintenance of training records for all AIS and cartographic technical staff.

SUBPART D – MANUAL REQUIREMENTS

AIS.MAN.005 Manual Contents.

(a) Each AIS provider must prepare and maintain a manual containing —

(1) A statement signed by the Director of aeronautical information services on behalf of the AIS provider confirming that —

(i) The manual and any included documents define the organization and demonstrate its means and methods for ensuring ongoing compliance with this Part; and

(ii) The manual and any included documents will be complied with at all times.

(2) The titles and names of the senior person or persons required by AIS.PER.005;

(3) The duties and responsibilities of the senior persons specified in paragraph (a)(2) including matters for which they have responsibility to deal directly with the LYCAA concerned departments on behalf of the organization;

(4) An organization chart showing lines of responsibility of the senior persons specified in paragraph (a)(2);

(5) A summary of the applicant's staffing structure for each aeronautical information service listed under paragraph (a)(6);

(6) A list of the aeronautical information services to be provided;

(7) Details of the applicant's procedures—

(i) Regarding the competence of personnel;

(ii) Regarding the control of documentation;

(iii) Regarding the collection of information;

(iv) Regarding the publication of aeronautical information;

(v) Regarding the correction of errors in published information;

(vi) Regarding the identification, collection, indexing, storage, maintenance, and disposal of records; and

(vii) Regarding quality assurance.

(b) Procedures to control, amend and distribute the manual.

(c) The manual must be acceptable to the LYCAA

(d) Each AIS provider must—

(1) Ensure that its manual is amended, as required, to remain a current description of the AIS provider's organization, and services;

(2) Ensure that any amendments made to its manual meet the applicable requirements of this Part;

(3) Comply with the manual amendment procedure contained in its manual;

(4) Provide the LYCAA with a copy of each amendment to its manual, immediately after the amendment is incorporated into the manual; and

(5) Make such amendments to its manual as the LYCAA may consider necessary in the interests of aviation safety.

SUBPART E – RECORDS AND REPORTS

AIS.REC.005 Error Correction in Published Information.

(a) Each AIS provider must establish procedures to record, investigate, correct, and report any errors that are detected in the aeronautical information published under this part.

(b) The procedures must ensure that -

(1) The error is corrected by the most appropriate means relative to the operational significance of the error;

(2) The correction is clearly identified in the republished information;

(3) The source of the error is identified and, where possible, eliminated; and

(4) The LYCAA is notified of a promulgated information incident as prescribed under AIS.REC.010.

AIS.REC.010 Promulgated Information Incident Reports.

(a) Each AIS provider must submit a promulgated information incident report to the LYCAA within 24 hours of the promulgated information incident.

(b) The report must include the following information:

(1) Date and time of the incident;

(2) Brief description of events;

(3) Details to identify the publication, map, chart, or other means by which the information or aeronautical data was promulgated;

(4) Details relating to the information or aeronautical data that gave rise to the incident;

(5) Name, organization, and contact details of the person notifying the incident.

AIS.REC.015 Records.

(a) Each AIS provider must establish procedures to identify, collect, index, store, maintain and dispose of the records that are necessary for the aeronautical information services listed in their manual.

(b) The procedures must 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;

(2) There is a record of each person who is authorized by the AIS provider to check, edit, and publish aeronautical information;

(3) There is a record of each occurrence of error correction under the procedures required by AIS.REC.005;

(4) There is a record of each internal quality assurance review of the applicant's organization carried out under the procedures required by AIS.QLY.010; 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 30 days after cancellation.

SUBPART F – QUALITY ASSURANCE

AIS.QLY.005 Aeronautical Information Management

(a) The information management resources and processes established by each AIS provider must be adequate to ensure the timely collection, processing, storing, integration, exchange and delivery of quality-assured aeronautical data and aeronautical information within the ATM system.

(b) Each AIS provider must establish verification and validation procedures which ensure that upon receipt of aeronautical data and aeronautical information, quality requirements (accuracy, resolution, integrity, and traceability) are met.

AIS.QLY.010 Quality System.

(a) Each AIS provider must establish and maintain a properly organized quality assurance system containing procedures, processes and resources necessary to implement quality management at each function stage as outlined in Subpart B.

(b) The quality system must be in conformity with the International Organization for Standardization (ISO) 9000 series of quality assurance standards, and accredited by an organization acceptable to the LYCAA.

(c) Within the context of the AIS quality system, the competencies and associated knowledge, skills and abilities required for each function must be identified and personnel assigned to perform those functions must be appropriately trained.

(d) Each AIS provider must ensure that process are put in place to ensure personnel possess the competencies required to perform specific assigned functions, and appropriate records must be maintained so that the qualifications of personnel can be confirmed. Initial and periodic assessments must be established that require personnel to demonstrate the required competencies. Periodic assessments of personnel must be used as a means to detect and correct shortfalls.

(e) Each AIS provider must ensure that established procedures exist in order that aeronautical data at any moment is traceable to its origin so as to allow any data anomalies or errors, detected during the production/maintenance phases or in operational use, to be corrected.

(f) The quality system must provide users with the necessary assurance and confidence that distributed aeronautical information and aeronautical data satisfy stated requirements for data quality (accuracy, resolution and integrity) and for data traceability by the use of appropriate procedures in every stage of data production or data modification process. Each AIS provider must also provide assurance of the applicability period of intended use of aeronautical data as well as that the agreed distribution dates will be met.

(g) The order of accuracy for aeronautical data, based upon a 95 per cent confidence level, must be as specified in LYCAR Part ATS and LYCAR Part 139. In that respect, three types of positional data must be identified: surveyed points (runway thresholds, navigation aid positions, etc.), calculated points (mathematical calculations from the known surveyed points of points in space/fixes) and declared points (flight information region boundary points).

(h) Each AIS provider must ensure that the order of publication resolution of aeronautical data must be that as specified in Subpart J and K.

(i) Each AIS provider must ensure that the integrity of aeronautical data is maintained throughout the data process from survey/origin to distribution to the next intended user. Aeronautical data integrity requirements must be based upon the potential risk resulting from the corruption of data and upon the use to which the data item is put. Consequently, the following aeronautical data integrity classifications must apply:

(1) Critical data: there is a high probability when using corrupted critical data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe;

(2) Essential data: there is a low probability when using corrupted essential data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe; and

(3) Routine data: there is a very low probability when using corrupted routine data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe.

(j) Each AIS provider must ensure that aeronautical data quality requirements related to classification and data integrity is as provided in Subpart J. The validation and verification procedures must:

(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 processes to fully mitigate the effects of faults identified thorough analysis of the overall system architecture as potential data integrity risks.

(k) Each AIS provider must ensure aeronautical data and data sets are protected in accordance with data error detection, security, and authentication techniques. The protection of electronic aeronautical data sets while stored or in transit is totally monitored by the cyclic redundancy check (CRC). To achieve protection a 32--bit CRC algorithm must apply respectively.

(l) Reserved.

(m) Each AIS provider must ensure that that 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. Validation and verification procedures must be established which ensure that quality requirements (accuracy, resolution, and integrity) and traceability of aeronautical data are met.

(n) Each AIS provider must take all reasonable measures to ensure that the information it provides and the aeronautical charts made available are adequate and accurate and that they are maintained up to date by an adequate revision service.

(o) Within the quality assurance system, if nonconformity is identified, initiating action to correct its cause must be determined and taken as follows -

(1) The procedure required for corrective action must specify how:

(i) To correct an existing quality problem;

(ii) To follow up a corrective action to ensure the action is effective;

(iii) To amend any procedure required under this Part as a result of a corrective action; and

(iv) Management will measure the effectiveness of any corrective action taken.

(2) The procedure required for preventive action must specify how:

(i) To correct a potential quality problem;

(ii) To follow-up a preventive action to ensure the action is effective;

(iii) To amend any procedure required under this Part as a result of a preventive action; and

(iv) Management will measure the effectiveness of any preventive action taken.

AIS.QLY.015 Users and Customer Feedback.

Each AIS provider must address and respond to all customer feedback. Customers will have the right to address feedback to the LYCAA on issues when an issue raised remains open or not resolved.

Subpart - G - Aeronautical Information Management (AIM)

AIS.AIM.005 Information Management requirements

The information management resources and processes established by the AIS provider shall be adequate to ensure the timely collection, processing, storing, integration, exchange and delivery of quality-assured aeronautical data and aeronautical information within the ATM system.

AIS.AIM.010 Aeronautical data and aeronautical information validation and verification

(a) The AIS provider shall ensure that material to be issued as part of the Integrated Aeronautical Information Package is thoroughly checked before it will be accepted AIS provider, in order to make certain that all necessary information has been included and that it is correct in detail prior to distribution.

(b) The AIS provider shall establish verification and validation procedures which ensure that upon receipt of aeronautical data and aeronautical information, quality requirements (accuracy, resolution, integrity, and traceability) are met.

AIS.AIM.015 Data Quality Specification

(a) The order of accuracy for aeronautical data, shall be as specified in Manual of Operations surveyed points (*runway thresholds, navigation aid positions, etc*.), calculated points (mathematical calculations from the known surveyed points of points in space/fixes) and declared points (e.g. *flight information region boundary points*).

(b) The order of publication resolution of aeronautical data shall be that as specified in Manual of Operations.

(c) The integrity classification and data integrity related to aeronautical data shall be as provided in Manual of Operations.

(d) The integrity of aeronautical data shall be maintained by the AIS provider to the next intended user. 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 processes to fully mitigate the effects of faults identified by thorough analysis of the overall system architecture as potential data integrity risks.

AIS.AIM.020 Metadata

(a) Metadata shall be collected 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.

(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 manipulating the data;

(2) the action performed; and

(3) the date and time the action was performed.

AIS.AIM.025 Data protection

(a) Aeronautical data and data sets shall be protected in accordance with 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 the integrity classification of data sets as specified in AIS.AIM.015 (d) (3).

AIS.AIM.030 Use of automation

(a) Automation shall be introduced with the objective of improving the timeliness, quality, efficiency and cost-effectiveness of AIS.

(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 exchange models and data exchange models designed to be globally interoperable.

AIS.AIM.035 Human factors considerations

(a) The organization of the AIS as well as the design, contents, processing and distribution of aeronautical data and aeronautical information shall take into consideration Human Factors principles which facilitate their optimum utilization.

(b) Due consideration shall be given to the integrity of information where human interaction is required and mitigating steps taken where risks are identified.

Subpart - H - Aeronautical Information Publication (AIP)

AIS.AIP.005 AIP Contents

(a) The AIS provider shall publish AIP containing current information, data and aeronautical charts relating to the airspace in which Libya has responsibility for ATS. The contents of the AIP shall be in accordance with the AIS provider Manual of Operations, providing that an adequate table of contents is included.

(b) The AIP to be published shall include in Part 1 – General (GEN):

(1) a statement of the competent Authority responsible for the air navigation facilities, services or procedures covered by the AIP;

(2) the general condition under which the services or facilities are available for international use;

(3) a list of significant differences between the national regulations and practices of Libya and the related ICAO Standards, Recommended Practices and Procedures, given in a form that would enable a user to differentiate readily between the requirements of the Libya and the related ICAO provisions; and

(4) the choice made by Libya in each significant case where an alternative course of action is provided for in ICAO Standards, Recommended Practices and Procedures.

(c) The aeronautical charts listed alphabetically below shall, when available for designated international aerodromes/heliports, form part of the AIP, or be distributed separately to recipients of the AIP:

(1) Aerodrome/Heliport Chart - ICAO;

(2) Aerodrome Ground Movement Chart - ICAO;

(3) Aerodrome Obstacle Chart - ICAO Type A;

(4) Aerodrome Terrain and Obstacle Chart - ICAO (Electronic);

(5) Aircraft Parking/Docking Chart - ICAO;

(6) Area Chart - ICAO;

(7) ATC Surveillance Minimum Altitude Chart - ICAO;

(8) Instrument Approach Chart - ICAO;

(9) Precision Approach Terrain Chart - ICAO;

(10) Standard Arrival Chart - Instrument (STAR) - ICAO;

(11) Standard Departure Chart - Instrument (SID) - ICAO; and

(12) Visual Approach Chart - ICAO.

(d) Charts, maps or diagrams shall be used, when appropriate, to complement or as a substitute for the tabulations or text of AIP.

AIS.AIP.010 General Specifications

(a) Each AIP shall be self-contained and shall include a table of contents.

(1) Each AIP shall not duplicate information within itself or from other sources.

(2) When two or more States/AIS providers combine to issue a joint AIP, this shall be made clear both on the cover and in the table of contents.

(b) Each AIP shall be dated. In the case of AIPs issued in loose-leaf form, each page shall be dated. The date, consisting of the day, month (by name) and year, shall be the publication date or the effective date of the information.

(c) A checklist giving the current date of each page in the AIP series shall be reissued frequently to assist the user in maintaining a current publication. The page number/chart title and date of the checklist shall appear on the checklist itself.

(d) Each AIP issued as a bound volume and each page of an AIP issued in loose-leaf form shall be so annotated as to indicate clearly:

(1) the identity of the AIP;

(2) the territory covered and subdivisions when necessary;

(3) the identification of the issuing State and producing organization (Authority);

(4) page numbers/chart titles; and

(5) the degree of reliability if the information is doubtful.

(e) All changes to the AIP, or new information on a republished page, shall be identified by a distinctive symbol or annotation.

(f) Operationally significant changes to the AIP shall be published in accordance with AIRAC procedures and shall be clearly identified by the acronym - AIRAC.

(g) AIP shall be amended or reissued at such regular intervals as may be necessary to keep them up to date. Recourse to hand amendments or annotations shall be kept to the minimum. The normal method of amendment shall be by means of replacement sheets.

(h) The regular interval referred to in paragraph (g) shall be specified in the AIP, Part 1-General (GEN).

AIS.AIP.015 Specification for AIP Amendments

(a) Permanent changes to the AIP shall be published as AIP Amendments.

(b) Each AIP Amendment shall be allocated a serial number, which shall be consecutive.

(c) Each AIP Amendment page, including the cover sheet, shall display a publication date.

(d) Each AIRAC AIP Amendment page, including the cover sheet, shall display an effective date. When an effective time other than 0000 UTC is used, the effective time shall also be displayed on the cover sheet.

(e) When an AIP Amendment is issued, it shall include references to the serial number of those elements, if any, of the Integrated Aeronautical Information Package which have been incorporated into the amendment.

(f) A brief indication of the subjects affected by the amendment shall be given on the AIP Amendment cover sheet.

(g) When an AIP Amendment will not be published at the established interval or publication date, a NIL notification shall be originated and distributed by the monthly plain-language list of valid NOTAM required by paragraphAIS.NOTAM.010.(n) (3).

AIS.AIP.020 Specifications for AIP Supplements

(a) Temporary changes of long duration (three months or longer) and information of short duration which contains extensive text and/or graphics shall be published as AIP Supplement.

(b) Each AIP Supplement shall be allocated a serial number which shall be consecutive and based on the calendar year.

(c) AIP Supplement pages shall be kept in the AIP as long as all or some of their contents remain valid.

(d) When an error occurs in an AIP Supplement or when the period of validity of an AIP Supplement is changed, a new AIP Supplement shall be published as a replacement.

(e) When an AIP Supplement is sent in replacement of a NOTAM, it shall include a reference to the serial number of the NOTAM.

(f) A checklist of valid AIP Supplements shall be issued at intervals of not more than one month. This information shall be issued through the medium of the monthly plain-language list of valid NOTAM required by AIS.NOTAM.010 (n) (3).

AIS.AIP.025 Distribution

AIP, AIP Amendments and AIP Supplements shall be made available by the most expeditious means.

AIS.AIP.030 Electronic AIP (e-AIP)

(a) The AIS provider may publish the AIP, AIP Amendment, AIP Supplement and AIC in a format that allows for displaying on a computer screen and printing on paper.

***Note**: This composite electronic document is named "Electronic AIP" (e-AIP) and may be based on a format that allows for digital data exchange.*

(b) When provided, the information content of the e-AIP and the structure of chapters, sections and sub-sections shall follow the content and structure of the paper AIP. The e-AIP shall include files that allow for printing a paper AIP.

Subpart - I - Notice To Airmen (NOTAM)

AIS.NOTAM.005 Origination

(a) 1) The AIS provider shall promptly originate and issue a NOTAM whenever the information to be distributed is of a temporary nature and of short duration or when operationally significant permanent changes concerning circumstances as listed in Manual of operations, or temporary changes of long duration are made at short notice, except for extensive text and/or graphics.

(b) A NOTAM shall be originated and issued concerning the following information:

(1) establishment, closure or significant changes in operation of aerodrome(s)/heliport(s) or runways;

(2) establishment, withdrawal and significant changes in operation of aeronautical services (AGA, AIS, ATS, CNS, MET, SAR, etc.);

(3) establishment, withdrawal and significant changes in operational capability of radio navigation and air-ground communication services. This includes: interruption or return to operation, change of frequencies, change in notified hours of service, change of identification, change of orientation (directional aids), change of location, power increase or decrease amounting to 50 per cent or more, change in broadcast schedules or contents, or irregularity or unreliability of operation of any radio navigation and air ground communication services;

(4) establishment, withdrawal or significant changes made to visual aids;

(5) interruption of or return to operation of major components of aerodrome lighting systems;

(6) establishment, withdrawal or significant changes made to procedures for air navigation services;

(7) occurrence or correction of major defects or impediments in the manoeuvring area;

(8) changes to and limitations on availability of fuel, oil and oxygen;

(9) major changes to search and rescue facilities and services available;

(10) establishment, withdrawal or return to operation of hazard beacons marking obstacles to air navigation;

(11) changes in regulations requiring immediate action, e.g. prohibited areas for SAR action;

(12) presence of hazards which affect air navigation (including obstacles, military exercises, displays, races and major parachuting events outside promulgated sites);

(13) erecting or removal of, or changes to, obstacles to air navigation in the take-off/climb, missed approach, approach areas and runway strip;

(14) establishment or discontinuance (including activation or deactivation) as applicable, or changes in the status of prohibited, restricted or danger areas;

(15) establishment or discontinuance of areas or routes or portions thereof where the possibility of interception exists and where the maintenance of guard on the VHF emergency frequency 121.5 MHz is required;

(16) allocation, cancellation or change of location indicators;

(17) significant changes in the level of protection normally available at an aerodrome/heliport for rescue and firefighting purposes. NOTAM shall be originated only when a change of category is involved and such change of category shall be clearly stated;

(18) presence or removal of, or significant changes in, hazardous conditions due to snow, slush, ice, radioactive material, toxic chemicals, volcanic ash deposition or water on the movement area;

(19) outbreaks of epidemics necessitating changes in notified requirements for inoculations and quarantine measures;

(20) forecasts of solar cosmic radiation, where provided;

(21) an operationally significant change in volcanic activity, the location, date and time of volcanic eruptions and/or horizontal and vertical extent of volcanic ash cloud, including direction of movement, flight levels and routes or portions of routes which could be affected;

(22) release into the atmosphere of radioactive materials or toxic chemicals following a nuclear or chemical incident, the location, date and time of the incident, the flight levels and routes or portions thereof which could be affected and the direction of movement;

(23) establishment of operations of humanitarian relief missions, such as those undertaken under the auspices of the United Nations, together with procedures and/or limitations which affect air navigation;

(24) implementation of short-term contingency measures in cases of disruption, or partial disruption, of ATS and related supporting services;

(25) the need for origination of a NOTAM shall be considered in any other circumstance which may affect the operations of aircraft.

(c) The following information shall not be notified by NOTAM:

(1) routine maintenance work on aprons and taxiways which does not affect the safe movement of aircraft;

(2) runway marking work, when aircraft operations can safely be conducted on other available runways, or the equipment used can be removed when necessary;

(3) temporary obstructions in the vicinity of aerodromes/heliports that do not affect the safe operation of aircraft;

(4) partial failure of aerodrome/heliport lighting facilities where such failure does not directly affect aircraft operations;

(5) partial temporary failure of air-ground communications when suitable alternative frequencies are known to be available and are operative;

(6) the lack of apron marshalling services and road traffic control;

(7) g) the un-serviceability of location, destination or other instruction signs on the aerodrome movement area;

(8) parachuting when in uncontrolled airspace under VFR , when controlled, at promulgated sites or within danger or prohibited areas;

(9) other information of a similar temporary nature

(d) At least seven days' advance notice shall be given of the activation of established danger, restricted or prohibited areas and of activities requiring temporary airspace restrictions other than for emergency operations.

(e) NOTAM notifying unserviceability of aids to air navigation, facilities or communication services shall give an estimate of the period of unserviceability or the time at which restoration of service is expected.

(f) When an AIP Amendment or an AIP Supplement is published in accordance with AIRAC procedures, a NOTAM shall be originated giving a brief description of the contents, the effective date and time, and the reference number of the amendment or supplement. This NOTAM shall come into force on the same effective date and time as the amendment or supplement and shall remain valid in the pre-flight information bulletin for a period of fourteen days.

AIS.NOTAM.010 General Specification

(a) Except as otherwise provided in Paragraphs (d).and (e), each NOTAM shall contain the information in the order shown in the NOTAM Format in Manual of operations.

(b) Text of NOTAM shall be composed of the significations/uniform abbreviated phraseology assigned to the ICAO NOTAM Code complemented by ICAO abbreviations, indicators, identifiers, designators, call signs, frequencies, figures and plain language.

(c) When NOTAM is selected for international distribution, English text shall be included for those parts expressed in plain language.

(d) Information concerning snow, slush, ice and standing water on aerodrome/heliport pavements shall, when reported by means of a SNOWTAM, contain the information in the order shown in the SNOWTAM Format in Manual of operations.

(e) Information concerning an operationally significant change in volcanic activity, a volcanic eruption and/or volcanic ash cloud shall, when reported by means of an ASHTAM, contain the information in the order shown in Manual of operations.

(f) The NOTAM originator shall allocate to each NOTAM a series identified by a letter and a four-digit number followed by a stroke and a two-digit number for the year. The four-digit number shall be consecutive and based on the calendar year.

Note: letters A to Z, with the exception of S and T, may be used to identify a NOTAM series.

(g) When errors occur in a NOTAM, a NOTAM with a new number to replace the erroneous NOTAM shall be issued or the erroneous NOTAM shall be cancelled and a new NOTAM issued.

(h) When a NOTAM is issued which cancels or replaces a previous NOTAM, the series and number of the previous NOTAM shall be indicated. The series, location indicator and subject of both NOTAM shall be the same. Only one NOTAM shall be cancelled or replaced by a NOTAM.

(i) Each NOTAM shall deal with only one subject and one condition of the subject.

(j) Each NOTAM shall be as brief as possible and so compiled that its meaning is clear without the need to refer to another document.

(k) Each NOTAM shall be transmitted as a single telecommunication message.'

(l) A NOTAM containing permanent or temporary information of long duration shall carry appropriate AIP or AIP Supplement references.

(m) Location indicators included in the text of a NOTAM shall be those contained in ICAO Location Indicators (Doc 7910):

(1) In no case shall a curtailed form of such indicators be used; and

(2) where no ICAO location indicator is assigned to the location, its place name spelt in accordance with paragraph AIS.GEN.015 (b), shall be entered in plain language.

(n) A checklist of valid NOTAM shall be issued as a NOTAM over the Aeronautical Fixed Service (AFS) at intervals of not more than one month using the NOTAM Format. One NOTAM shall be issued for each series:

(1) a checklist of NOTAM shall refer to the latest AIP Amendments, AIP Supplements and at least the internationally distributed AIC;

(2) a checklist of NOTAM shall have the same distribution as the actual message series to which they refer and shall be clearly identified as checklist; and

(3) a monthly plain-language list of valid NOTAM, including indications of the latest AIP Amendments, AIC issued and a checklist of AIP Supplements, shall be prepared with a minimum of delay and forwarded by the most expeditious means to recipients of the Integrated Aeronautical Information Package.

AIS.NOTAM.015 Distribution

(a) NOTAM shall be distributed on the basis of a request.

(b) NOTAM shall be prepared in conformity with the relevant provisions of the ICAO communication procedures:

(1) The AFS shall, whenever practicable, be employed for NOTAM distribution; and

(2) when a NOTAM exchanged as specified in Paragraph (d) is sent by means other than the AFS, a six-digit date-time group indicating the date and time of NOTAM origination, and the identification of the originator shall be used, preceding the text.

(c) The originating AIS provider shall select the NOTAM that are to be given international distribution.

(d) International exchange of NOTAM shall take place only as mutually agreed between the international NOTAM offices concerned. The international exchange of ASHTAM and NOTAM where States continue to use NOTAM for distribution of information on volcanic activity, shall include volcanic ash advisory centres and the centres designated by regional air navigation agreement for the operation of AFS satellite distribution systems (Satellite Distribution System for information relating to air navigation (SADIS) and International Satellite Communications System (ISCS)), and shall take account of the requirements of long-range operations:

(1) These exchanges of NOTAM between international NOTAM offices shall, as far as practicable, be limited to the requirements of the receiving States concerned by means of separate series providing for at least international and domestic flights; and

(2) A predetermined distribution system for NOTAM transmitted on the AFS shall be used whenever possible.

Subpart - J- Aeronautical Information Regulation and Control (AIRAC)

AIS.AIRAC.005 General specifications

(a) Information concerning the circumstances listed in Manual of operations, 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, according to schedule of AIRAC effective dates (AIP). 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.

(b) 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.

(c) 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.

AIS.AIRAC.010 Provisions of information in paper copy form

Information provided under the AIRAC system in paper copy form 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.

AIS.AIRAC.015 Provision of information as electronic media

(a) If the AIS provider has established an aeronautical database, it shall, when updating its contents concerning the circumstances listed in Manual of operation, 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 Manual of operations , 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.

Subpart - K - Aeronautical Information Circulars (AIC)

AIS.AIC.005 Origination

(a) The AIS provider shall originate an AIC whenever it is necessary to promulgate aeronautical information which does not qualify for inclusion in the AIP or origination of a NOTAM. An AIC shall be originated whenever it is desirable to promulgate:

(1) a long-term forecast of any major change in legislation, regulations, procedures or facilities;

(2) information of a purely explanatory or advisory nature liable to affect flight safety;

(3) information or notification of an explanatory or advisory nature concerning technical, legislative or purely administrative matters. This shall include:

(i) forecasts of important changes in the air navigation procedures, services and facilities provided;

(ii) forecasts of implementation of new navigational systems;

(iii) significant information arising from aircraft accident/incident investigation which has a bearing on flight safety;

(iv) information on regulations relating to the safeguarding of international civil aviation against acts of unlawful interference;

(v) advice on medical matters of special interest to pilots;

(vi) warnings to pilots concerning the avoidance of physical hazards;

(vii) effect of certain weather phenomena on aircraft operations;

(viii) information on new hazards affecting aircraft handling techniques;

(ix) regulations relating to the carriage of restricted articles by air;

(x) reference to the requirements of, and publication of changes in, national legislation;

(xi) aircrew licensing arrangements;

(xii) training of aviation personnel;

(xiii) application of, or exemption from, requirements in national legislation;

(xiv) advice on the use and maintenance of specific types of equipment;

(xv) actual or planned availability of new or revised editions of aeronautical charts;

(xvi) carriage of communication equipment;

(xvii) explanatory information relating to noise abatement;

(xviii) selected airworthiness directives;

(xix) changes in NOTAM series or distribution, new editions of AIP or major changes in their contents, coverage or format;

(xx) advance information on the snow plan; and

(xxi) other information of a similar nature.

AIS.AIC.010 General specifications

(a) The AIS provider shall select the AIC originated by them that are to be given international distribution and CAA shall give AIC selected for international distribution the same distribution as for the AIP.

(b) Each AIC shall be allocated a serial number which shall be consecutive and based on the calendar year.

(c) When AIC are distributed in more than one series, each series shall be separately identified by a letter.

(d) A checklist of AIC currently in force shall be issued at least once a year, with distribution as for the AIC.

AIS.AIC.015 Distribution

AIS provider shall give AIC selected for international distribution the same distribution as for the AIP.

Subpart - L - Pre-Flight and Post-Flight Information (PFI)

AIS.PFI.005 Pre-Flight Information

(a) At any aerodrome/heliport normally used for international air operations, aeronautical information essential for the safety, regularity and efficiency of air navigation and relative to the route stages originating at the aerodrome/heliport shall be made available to flight operations personnel, including flight crews and services responsible for pre-flight information.

(b) Aeronautical information provided for pre-flight planning purposes at the aerodromes/heliports referred to in Paragraph (a) shall include relevant:

(1) elements of the Integrated Aeronautical Information Package;

(2) maps and charts. This information, or any part of it, may be included in the AIP, if so desired.

(3) additional current information relating to the aerodrome of departure shall be provided concerning the following:

(i) construction or maintenance work on or immediately adjacent to the manoeuvring area;

(ii) rough portions of any part of the manoeuvring area, whether marked or not, e.g. broken parts of the surface of runways and taxiways;

(iii) presence and depth of snow, ice or water on runways and taxiways, including their effect on surface friction;

(iv) snow drifted or piled on or adjacent to runways or taxiways;

(v) parked aircraft or other objects on or immediately adjacent to taxiways;

(vi) presence of other temporary hazards;

(vii) presence of birds constituting a potential hazard to aircraft operations;

(viii) failure or irregular operation of part or all of the aerodrome lighting system including approach, threshold, runway, taxiway, obstruction and manoeuvring area unserviceability lights and aerodrome power supply;

(ix) failure, irregular operation and changes in the operational status of SSR, ADS-B, ADS-C, CPDLC, D-ATIS, D-VOLMET, radio navigation services, VHF aero mobile channels, RVR observing system, and secondary power supply; and

(x) presence and operation of humanitarian relief missions, such as those undertaken under the auspices of the United Nations, together with any associated procedures and/or limitations applied thereof.

(c) A recapitulation of valid NOTAM of operational significance and other information of urgent character shall be made available to flight crews in the form of plain-language pre-flight information bulletins (PIB).

AIS.PFI.010 Automated Pre-flight Information System

(a) Automated pre-flight information systems shall be used to make aeronautical data and aeronautical information available to operations personnel including flight crew members for self-briefing, flight planning and flight information service purposes. The aeronautical data and aeronautical information made available shall comply with the provisions of Regulation AIS.PFI.005 in Paragraphs (b) and (c).

(b) Self-briefing facilities of an automated pre-flight information system shall provide access to operations personnel, including flight crew members and other aeronautical personnel concerned, for consultation as necessary with the aeronautical information service by telephone or other suitable telecommunications means. The human/machine interface of such facilities shall ensure easy access in a guided manner to all relevant information/data.

(c) Automated pre-flight information systems for the supply of aeronautical data and aeronautical information for self-briefing, flight planning and flight information service shall:

(1) provide for continuous and timely updating of the system database and monitoring of the validity and quality of the aeronautical data stored;

(2) permit access to the system by operations personnel including flight crew members, aeronautical personnel concerned and other aeronautical users through suitable telecommunications means;

(3) ensure provision, in paper copy form, of the aeronautical data and aeronautical information accessed, as required;

(4) use access and interrogation procedures based on abbreviated plain language and ICAO location indicators, as appropriate, or based on a menu-driven user interface or other appropriate mechanism as agreed between the civil aviation authority and operator concerned; and

(5) provide for rapid response to a user request for information.

(d) Where automated pre-flight information systems are used to provide the harmonized, common point of access by operations personnel, including flight crew members and other aeronautical personnel concerned, to aeronautical data and aeronautical information and meteorological information, the AIS provider shall remain responsible for the quality and timeliness of the aeronautical data and aeronautical information provided by means of such a system.

AIS.PFI.015 Post-flight information

(a) The AIS provider shall ensure that arrangements are made to receive at aerodromes/heliports information concerning the state and operation of air navigation facilities or services noted by aircrews and shall ensure that such information is distribution as the circumstances necessitate.

(b) The AIS provider shall ensure that arrangements are made to receive at aerodromes/heliports information concerning the presence of birds observed by aircrews and shall ensure that such information is distribution as the circumstances necessitate.

Subpart - M - Telecommunications Requirements (TCR)

AIS.TCR.005 Telecommunications Requirements

(a) International NOTAM offices shall be connected to the Aeronautical Fixed Service (AFS) and the connections shall provide for printed communications.

(b) Each international NOTAM office shall be connected, through the Aeronautical Fixed Service (AFS), to the following points within the territory for which it provides service:

(1) Area Control Centres and Flight Information Centres; and

(2) Aerodromes/heliports at which an information service is established in accordance with Subpart L.

Subpart - N - Electronic Terrain and Obstacle Data (ETOD)

AIS.ETOD.005 Coverage areas and requirements for data provision

(a) The coverage areas for sets of electronic terrain and obstacle data shall be specified as:

(1) Area 1- the entire territory of Libya ;

(2) Area 2 – 2a -2b-2c and 2d are not implemented .

(3) Area 3 - the area bordering an aerodrome movement area that extends horizontally from the edge of a runway to 90 m from the runway centre line and 50 m from the edge of all other parts of the aerodrome movement area.(*available within HLLB Benina HLLM Mitiga HLLQ Labraq HLLS Sebha HLLT Tripoli and HLMS Misrata*)

(4) Area 4 - The area extending 900 m prior to the runway threshold and 60 m each side of the extended runway centre line in the direction of the approach on a precision approach runway, Category II or III. (*available within HLLB Benina HLLM Mitiga HLLQ Labraq HLLS Sebha HLLT Tripoli and HLMS Misrata*)

(b) Electronic terrain data shall be provided for Area 1. The obstacle data shall be provided for obstacles in Area 1 higher than 100 m above ground.

(c) From 12 November 2015, at aerodromes regularly used by international civil aviation, electronic obstacle data shall be provided for all obstacles within Area 2 that are assessed as being a hazard to air navigation.

(d) From 12 November 2015, at aerodromes regularly used by international civil aviation, electronic terrain data shall be provided for:

(1) Area 2a;

(2) the take-off flight path area; and

(3) an area bounded by the lateral extents of the aerodrome obstacle limitation surfaces.

(e) From 12 November 2015, at aerodromes regularly used by international civil aviation, electronic obstacle data shall be provided for:

(1) Area 2a, for those obstacles that penetrate the relevant obstacle data collection surface specified in manual of operation.

(2) objects in the take-off flight path area which project above a plane surface having a 1.2 per cent slope and having a common origin with the take-off flight path area; and

(3) penetrations of the aerodrome obstacle limitation surfaces.

(f) At aerodromes regularly used by international civil aviation, electronic terrain and obstacle data shall be provided for Area 4 for terrain and obstacles that penetrate the relevant obstacle data collection surface specified in manual of operation. for all runways where precision approach Category II or III operations have been established and where detailed terrain information is required by operators to enable them to assess the effect of terrain on decision height determination by use of radio altimeters.

AIS.ETOD.010 Terrain data set — content, numerical specification and structure

(a) A terrain data set shall contain digital sets of data representing terrain surface in the form of continuous elevation values at all intersections (points) of a defined grid, referenced to common datum. A terrain grid shall be angular or linear and shall be of regular or irregular shape.

(b) Sets of electronic terrain data shall include spatial (position and elevation), thematic and temporal aspects for 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. In practical terms, depending on the acquisition method used, this shall represent the continuous surface that exists at the bare earth, the top of the canopy or something in-between, also known as first reflective surface.

(c) In terrain data sets, only one feature type, i.e. terrain, shall be provided. Feature attributes describing terrain shall be those listed in in manual of operation. The terrain feature attributes listed in manual of operation represent the minimum set of terrain attributes, and those annotated as mandatory shall be recorded in the terrain data set.

(d) Electronic terrain data for each area shall conform to the applicable numerical requirements in manual of operation.

AIS.ETOD.015 Obstacle data set — content, numerical specification and structure

(a) Obstacle data shall comprise the digital representation of the vertical and horizontal extent of the obstacle. Obstacles shall not be included in terrain data sets. Obstacle data elements are features that shall be represented in the data sets by points, lines or polygons.

(b) In an obstacle data set, all defined obstacle feature types shall be provided and each of them shall be described according to the list of mandatory attributes provided in manual of operation.

(c) Electronic obstacle data for each area shall conform to the applicable numerical requirements in manual of operation.

AIS.ETOD.020 Terrain and obstacle data product specifications

(a) To allow and support the interchange and use of sets of electronic terrain and obstacle data among different data providers and data users, the ISO 19100 series of standards for geographic information shall be used as a general data modelling framework.

(b) A comprehensive statement of available electronic terrain and obstacle data sets shall be provided in the form of terrain data product specifications as well as obstacle data product specifications on which basis air navigation users will be able to evaluate the products and determine whether they fulfil the requirements for their intended use (application).

(c) Each terrain data product specification shall include an overview, a specification scope, data product identification, data content and structure, reference system, data quality, data capture, data maintenance, data portrayal, data product delivery, additional information, and metadata.

(d) The overview of terrain data product specification or obstacle data product specification shall provide an informal description of the product and shall contain general information about the data product. Specification of terrain data may not be homogenous across the whole data product but may vary for different parts of the data sets. For each such subset of data, a specification scope shall be identified. Identification information concerning both terrain and obstacle data products shall include the title of the product; a brief narrative summary of the content, purpose, and spatial resolution if appropriate (a general statement about the density of spatial data); the geographic area covered by the data product; and supplemental information.

(e) Content information of feature-based terrain data sets or of feature-based obstacle data sets shall each be described in terms of an application schema and a feature catalogue. Application schema shall provide a formal description of the data structure and content of data sets while the feature catalogue shall provide the semantics of all feature types together with their attributes and attribute value domains, association types between feature types and feature operations, inheritance relations and constraints. Coverage is considered a subtype of a feature and can be derived from a collection of features that have common attributes. Both terrain and obstacle data product specifications shall identify clearly the coverage and/or imagery they include and shall provide a narrative description of each of them.

(f) Both terrain data product specifications and obstacle data product specifications shall include information that identifies the reference system used in the data product. This shall include the spatial reference system and temporal reference system. Additionally, both data product specifications shall identify the data quality requirements for each data product. This shall include a statement on acceptable conformance quality levels and corresponding data quality measures. This statement shall cover all the data quality elements and data quality sub-elements, even if only to state that a specific data quality element or sub-element is not applicable.

(g) Terrain data product specifications shall include a data capture statement which shall be a general description of the sources and of processes applied for the capture of terrain data. The principles and criteria applied in the maintenance of terrain data sets and obstacle data sets shall also be provided with the data specifications, including the frequency with which data products are updated. Of particular importance shall be the maintenance information of obstacle data sets and an indication of the principles, methods and criteria applied for obstacle data maintenance.

(h) Terrain data product specifications shall contain information on how data held with data sets is presented, i.e. as a graphic output, as a plot or as an image. The product specifications for both terrain and obstacles shall also contain data product delivery information which shall include delivery format sand delivery medium information.

(i) The core terrain and obstacle metadata elements shall be included in the data product specifications. Any additional metadata items required to be supplied shall be stated in each product specification together with the format and encoding of the metadata.

(j) The obstacle data product specification, supported by geographical coordinates for each aerodrome included within the dataset, shall describe Areas 2a, 2b, 2c, 2d; the take-off flight path area and the obstacle limitation surfaces.

Subpart - O - Aerodrome Mapping Data (AMD)

AIS.AMD.005 Aerodrome Mapping Data Product Specification

(a) The ISO 19100 series of standards for geographic information shall be used as a reference framework.

(b) Aerodrome mapping data products shall be described following the ISO 19131 data product specification standard.

AIS.AMD.010 Aerodrome Mapping Database — Data Set Content and Structure

(a) The content and structure of aerodrome mapping data sets shall be defined in terms of an application schema and a feature catalogue.

(b) Aerodrome mapping data sets shall contain aerodrome mapping data consisting of aerodrome features.

(c) Aerodrome mapping metadata shall comply with ISO 19115.