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SUBPART A – GENERAL

§ 175.1 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 General Authority of Civil Aviation Regulation (GACAR) Part 170; and

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

§ 175.3 Restrictions on AIS providers.

(a) No person may provide an aeronautical information service (AIS) for civil aviation in the Kingdom of Saudi Arabia, including the production of aeronautical charts, unless the person complies with the provisions of this part and they have been certificated by the President under GACAR Part 170 to provide such service.

(b) Except as provided in GACAR Part 170, each AIS service provider must comply with the limitations and provisions of their certificate, operations specifications and their manual prepared under Subpart C.

§ 175.5 Coordination Requirements.

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

(a) General Authority of Civil Aviation (GACA) Safety, Security & Air Transport (SS&AT) Sector;

(b) King Abdulaziz International Airport (KAIA);

(c) King Khalid International Airport (KKIA);

(d) King Fahd International Airport (KFIA);

(e) GACA Domestic Airports Sector;

(f) Reserved;

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

(h) Each aeronautical telecommunication service provider operating in accordance with General Authority of Civil Aviation Regulation (GACAR) Part 173;

(i) Each instrument flight procedure services (IFPS) provider operating in accordance with GACAR Part 172;

(j) Each meteorological service (MET) provider operating in accordance with GACAR Part 179;

(k) Each air traffic service (ATS) provider operating in accordance with GACAR Part 171;

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

(m) Aircraft operators;

(n) The Saudi Arabian Armed Forces; and

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

§ 175.7 Regional Air Navigation Agreements.

Each AIS provider must coordinate with the GACA SS&AT when interacting with foreign States or foreign AIS providers when there are implications for Regional Air Navigation Agreements for which the KSA is a party.

§ 175.9 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).

§ 175.11 Responsibilities and Functions of the AIS Provider.

(a) Each AIS provider must ensure that all aeronautical information published clearly indicates that it is published under the authority of the President of GACA.

(b) Each AIS provider must take all necessary measures to ensure that the aeronautical information and aeronautical data it provides is adequate, of required quality and timely. Where 24-hour service is not provided, service must 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. The service must also be available at such other time as may be requested by an appropriate ground organization.

(c) Each AIS provider must obtain 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 of other States;

(2) From other sources that may be available.

(d) Each AIS provider must ensure that aeronautical information and aeronautical data obtained under (c)(1) must, when distributed, be clearly identified as having the authority of the State of Origin.

(e) Each AIS provider must ensure that aeronautical information and aeronautical data obtained under (c)(2) must, if possible, be verified before distribution and if not verified must, when distributed, be clearly identified as such.

(f) Each AIS provider must promptly make available to the aeronautical information services of other States any information/data necessary for the safety, regularity or efficiency of air navigation required by them, to enable them to comply with (g) below.

(g) Each AIS provider must ensure that aeronautical information and aeronautical data 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 operators who requested them from the AIS provider; and

(2) The air traffic services unit responsible for flight information service and the services responsible for pre-flight information.

(h) Each AIS provider service must receive and/or originate, collate or assemble, edit, format, publish/store and distribute aeronautical information and aeronautical data concerning the entire KSA airspace in which the KSA is responsible for air traffic services. Aeronautical data and aeronautical information must be provided as an Integrated Aeronautical Information Package.

§ 175.13 Integrated Aeronautical Information Package Production and Distribution.

Each AIS provider must produce and distribute all elements of the Integrated Aeronautical Information Package (IAIP) for which they have been authorized by the President to produce under this part. The IAIP is the collective term for the aeronautical data that a State is required to provide under the Convention of International Civil Aviation and which consists of:

(a) The AIP, including amendment service;

(b) Supplements to the AIP;

(c) NOTAM;

(d) Pre-Flight Information Bulletins;

(e) AIC;

(f) Checklists and lists of valid NOTAM.

§ 175.15 IAIP General Specifications.

(a) Each element of the IAIP for international distribution must include English text for those parts expressed in plain language.

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

(c) Units of measurement used in the origination, processing and distribution of aeronautical data and aeronautical information must be in conformity with the units of measure prescribed in GACAR Part 2.

(d) ICAO abbreviations must be used in the aeronautical information services whenever they are appropriate and their use will facilitate distribution of aeronautical information and aeronautical data.

(e) The organization of the IAIS as well as the design, contents, processing and distribution of aeronautical information and aeronautical data must take into consideration Human Factors principles, which facilitate their optimum utilization. Due consideration must be given to the integrity of information where human interaction is required and mitigating steps taken where risks are identified.

§ 175.17 Aeronautical Chart Production and Distribution.

Each AIS provider must produce and distribute all the charts defined in ICAO Annex 4 unless the President has otherwise authorized a smaller set of charts. An AIS provider may produce other aeronautical charts deemed to be of value to the aviation community.

§175.18 Publication of Information on Aerodromes and Helicopter Landing Sites not Covered by GACAR 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 GACAR 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.

§ 175.19 Use of Automation.

(a) Each AIS provider must introduce automation to the maximum extent practicable with the objective of improving the speed, accuracy, efficiency and cost-effectiveness of aeronautical information services. Where aeronautical data and aeronautical information are provided in multiple formats, processes must be implemented to ensure data and information consistency between formats.

(b) In order to meet the data quality requirements, automation must:

(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.

§ 175.21 Exchange of Aeronautical Information/Data.

Each AIS provider must -

(a) Establish direct contact with other aeronautical information services in adjacent States in order to facilitate the international exchange of aeronautical information/ data.

(b) Make available, without charge and in a mutually agreeable form, one copy of each of the elements of the Integrated Aeronautical Information Package, in paper or electronic form or both, that have been requested by the aeronautical information service of an ICAO Contracting State.

(c) Ensure that any transfer of aeronautical information within the AIS organization, or to or from external entities, complies with the standards specified in the Aeronautical Information Transfer Model (AIXM-5).

§ 175.23 Telecommunication Requirements.

Each AIS provider's international NOTAM office must -

(a) Be connected to the aeronautical fixed service (AFS). The connections must provide for printed communications.

(b) Be connected, through the aeronautical fixed service (AFS), to the following points:

(1) Area control centers;

(2) Flight information centers; and

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

§ 175.25 Copyright.

(a) In order to protect the investment in the products of the AIS provider as well as to ensure better control of their use, each AIS provider may apply copyright to those products in accordance with the national legislation.

(b) The AIS provider must apply copyright if directed to by the President.

§ 175.27 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.

§ 175.29 Inspections.

Each AIS provider must allow the President to make any inspections, at any time, in order to allow the President to determine compliance with this part.

SUBPART B –PERSONNEL REQUIREMENTS

§ 175.41 Personnel Requirements.

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

(1) A senior person, acceptable to the President, 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.

§ 175.43 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 C – MANUAL REQUIREMENTS

§ 175.51 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 GACAR §175.41(a)(1) and (2);

(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 GACA SS&AT 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.

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

(b) The manual must be acceptable to the President

(c) 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 President 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 President may consider necessary in the interests of aviation safety.

SUBPART D – REFERENCE SYSTEMS

§ 175.61 Horizontal Reference System.

(a) Published aeronautical geographical coordinates (indicating latitude and longitude) must 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 GACAR Part 171 and GACAR Part 139, must be identified by an asterisk.

(c) The order of publication and chart resolution of geographical coordinates must be that specified in Appendix G and H to this part.

§ 175.63 Vertical Reference System.

(a) Mean Sea Level (MSL) datum, which gives the relationship of gravity-related height (elevation) to a surface known as the geoid, must be used as the vertical reference system.

Note 1.— The geoid globally most closely approximates MSL. It is defined as the equipotential surface in the gravity field of the Earth which coincides with the undisturbed MSL extended continuously through the continents.

Note 2.— Gravity-related heights (elevations) are also referred to as orthometric heights while distances of points above the ellipsoid are referred to as ellipsoidal heights.

(b) The Earth Gravitational Model EGM-96 containing long wavelength gravity field data to degree and order 360, must be used.

(c) At those geographical positions where the accuracy of EGM-96 does not meet the accuracy requirements for elevation and geoid undulation specified in GACAR Part 139, on the basis of EGM-96 data, regional, national or local geoid models containing high resolution (short wavelength) gravity field data must 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, must be provided in the KSA AIP.

(d) 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

Appendix A to this part must also be published.

(e) The order of publication and chart resolution of elevation and geoid undulation must be that specified in Appendix G and H to this part.

§ 175.65 Temporal Reference System.

(a) For the provision of services to the international civil aviation, the Gregorian calendar and Coordinated Universal Time (UTC) must be used as the temporal reference system.

(b) 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, must include either a description of that system or a citation for a document that describes that temporal reference system.

§ 175.67 Metadata.

(a) Metadata must be collected for aeronautical data processes and exchange points. This metadata collection must be applied throughout the aeronautical information data chain, from survey/origin to distribution to the next intended user.

(b) The metadata to be collected must include, as a minimum:

(1) The name of the organization or entities performing any action of originating, transmitting or manipulating the data;

(2) The action performed; and

(3) The date and time of the action performed.

SUBPART E – AERONAUTICAL INFORMATION PUBLICATION (AIP)

§ 175.71 General.

(a) The publication of the KSA AIP is done on behalf of the President.

(b) This subpart prescribes the regulations pertaining to the KSA AIP.

Note 1.— The KSA AIP is intended primarily to satisfy international requirements for the exchange of aeronautical information of a lasting character essential to air navigation. When practicable, the form of presentation is designed to facilitate its use in flight.

Note 2.— The KSA AIP constitute the basic information source for permanent information and long duration temporary changes.

§ 175.73 Contents.

(a) The KSA AIP must contain, in three parts, sections and subsections uniformly referenced to allow for standardized electronic data storage and retrieval, current information relating to, and arranged under, those subjects enumerated in Appendix A that appear in Roman type.

(b) The KSA AIP must, in addition to (c) and (d), contain current information relating to those subjects enumerated in Appendix A that appear in italic type.

(c) The KSA AIP must include in Part 1 — General (GEN):

(1) A statement of air navigation services or procedures covered by the AIP;

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

(3) A list of significant differences, as provided by GACA SS&AT to the AIS provider, between GACA regulations and practices 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 GACA and the related ICAO provisions;

(4) The choice made by GACA, as provided by GACA SS&AT to the AIS provider, in each significant case where an alternative course of action is provided for in ICAO Standards,

Recommended Practices and Procedures.

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

Note.— A page pocket may be used in the KSA AIP to include the Aerodrome Terrain and Obstacle Chart — ICAO (Electronic) on appropriate electronic media.

(e) Charts, maps or diagrams must be used, when appropriate, to complement or as a substitute for the tabulations or text of Aeronautical Information Publications.

§ 175.75 General Specifications.

(a) Each KSA AIP must be self-contained and must include a table of contents. The KSA AIP must

be published in two volumes; each of them must indicate that the remainder of the information is to be found in the other volume.

(b) Each KSA AIP volume must not duplicate information within itself or from other sources.

(c) The KSA AIP must be published in loose-leaf form.

(d) Each KSA AIP must be dated. In the case of Aeronautical Information Publications issued in loose-leaf form, each page must be dated. The date, consisting of the day, month (by name) and year, must be the publication date or the effective date of the information.

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

(f) Each KSA AIP issued as a bound volume and each page of the KSA AIP issued in loose-leaf form must be so annotated as to indicate clearly:

(1) The identity of the Aeronautical Information Publication;

(2) The area covered and subdivisions when necessary;

(3) General Authority of Civil Aviation

(4) Page numbers/chart titles;

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

(g) The sheet size must be no larger than 210 × 297 mm, except that larger sheets may be used provided they are folded to the same size.

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

(i) Operationally significant changes to the KSA AIP must be published in accordance with AIRAC procedures and must be clearly identified by the acronym — AIRAC.

(j) The KSA AIP must be amended or reissued at such regular intervals as may be necessary to keep

them up to date. Recourse to hand amendments or annotations must be kept to the minimum. The normal method of amendment must be by means of replacement sheets.

(k) The regular interval referred to in (j) must be specified in the AIP, Part 1 — General (GEN).

§ 175.77 Specifications for AIP Amendments.

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

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

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

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

(e) When an AIP Amendment is issued, it must 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 must 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 must be originated and distributed by the monthly printed plain-language list of valid NOTAM required by GACAR § 175.95(d).

§ 175.79 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 must be published as AIP Supplements.

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

(c) AIP Supplement pages must be kept in the KSA 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 must be published as a replacement.

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

(f) A checklist of valid AIP Supplements must be issued at intervals of not more than one month. This information must be issued through the medium of the monthly printed plain- language list of valid NOTAM required by GACAR § 175.195(d).

(g) AIP Supplement pages must be colored in yellow in order to be conspicuous.

(h) AIP Supplement pages must be kept as the first item in the KSA AIP parts.

(i) When advised by the President, changes in the GACAR requiring immediate promulgation must be published as KSA AIP Supplements.

§ 175.81 Distribution.

Each AIS provider must ensure that KSA AIP, AIP Amendments and AIP Supplements are made available by the most expeditious means.

§ 175.83 Electronic AIP (eAIP).

When provided, the information content of the eAIP and the structure of chapters, sections and sub-sections must follow the content and structure of the paper AIP. The eAIP must include files that allow for printing a paper AIP.

SUBPART F – NOTAM

§ 175.91 Origination.

(a) A NOTAM must be originated and issued promptly whenever the information to be distributed is of a temporary nature and of short duration or when operationally significant permanent changes or temporary changes of long duration are made at short notice, except for extensive text and/or graphics.

Note 1.— Operationally significant changes concerning circumstances listed in Appendix 4, Part 1 of ICAO Annex 15 are issued under the Aeronautical Information Regulation and Control (AIRAC) system specified in Subpart G.

Note 2.— Information of short duration containing extensive text and/or graphics is published as an AIP Supplement (see Subpart E).

(b) A NOTAM must 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, COM, 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 percent 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 maneuvering 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 regulation 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 for rescue and firefighting purposes. NOTAM must be originated only when a change of category is involved and such change of category must be clearly stated ;

(18) Presence or removal of, or significant changes in, hazardous conditions due to snow, slush, ice 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 United Nations, together with procedures and/or limitations which affect air navigation; and

(24) Implementation of short-term contingency measures in cases of disruption, or partial disruption, of air traffic services and related supporting services.

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

(d) The following information must 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 marshaling services and road traffic control;

(7) The unserviceability 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.

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

(f) Notice of any subsequent cancellation of the activities or any reduction of the hours of activity or the dimensions of the airspace must be given as soon as possible.

Note.— Whenever possible, at least 24 hours' advance notice is desirable, to permit timely completion of the notification process and to facilitate airspace utilization planning.

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

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

Note.— Guidance material for the origination of NOTAM announcing the existence of AIRAC AIP Amendments or AIP Supplements ("Trigger NOTAM") is contained in the ICAO Aeronautical Information Services Manual (ICAO Doc. 8126).

§ 175.93 General Specifications.

(a) Except as otherwise provided in (b) and (d), each NOTAM must contain the information in the order shown in the NOTAM format in Appendix D to this part.

(b) Text of NOTAM must 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 must be included for those parts expressed in plain language.

Note.— The ICAO NOTAM Code together with significations/ uniform abbreviated phraseology, and ICAO Abbreviations must be those contained in the PANS-ABC (ICAO Doc. 8400).

(d) Information concerning snow, slush, ice and standing water on aerodrome/heliport pavements must, when reported by means of a SNOWTAM, contain the information in the order shown in the SNOWTAM format in Appendix E to this part.

(e) Information concerning an operationally significant change in volcanic activity, a volcanic eruption and/or volcanic ash cloud must, when reported by means of an ASHTAM, contain the information in the order shown in the ASHTAM format in Appendix F to this part.

(f) The NOTAM originator must 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 must 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 must be issued.

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

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

Note.— Guidance concerning the combination of a subject and a condition of the subject in accordance with the NOTAM Selection Criteria is contained in the ICAO Aeronautical Information Services Manual (ICAO Doc. 8126).

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

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

(l) A NOTAM containing permanent or temporary information of long duration must refer to the KSA AIP or AIP Supplement.

(m) Location indicators included in the text of a NOTAM must be those contained in Location Indicators (ICAO Doc. 7910). In no case may a curtailed form of such indicators be used.

(n) Where no ICAO location indicator is assigned to the location, its place name spelt in accordance with GACAR § 173.15(b) must be entered in plain language.

§ 175.95 Checklist of Valid NOTAM.

(a) A checklist of valid NOTAM must be issued as a NOTAM over the Aeronautical Fixed Service (AFS) at intervals of not more than one month using the NOTAM format specified in Appendix E to this part. One NOTAM must be issued for each series.

(b) A checklist of NOTAM must refer to the latest AIP Amendments, AIP Supplements and at least the internationally distributed AIC.

(c) A checklist of NOTAM must have the same distribution as the actual message series to which they refer and must be clearly identified as checklist.

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

§ 175.97 Distribution.

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

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

(c) The AFS must, whenever practicable, be employed for NOTAM distribution.

(d) When a NOTAM exchanged as specified in (f) 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 must be used, preceding the text.

(e) Each AIS provider must select the NOTAM that are to be given international distribution. Selective distribution lists must be used when practicable.

Note.— These lists are intended to obviate superfluous distribution of information. Guidance material relating to this is contained in the ICAO Aeronautical Information Services Manual (ICAO Doc. 8126).

(f) International exchange of NOTAM must 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, must include volcanic ash advisory centers and the centers 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 must take account of the requirements of long-range operations.

(g) These exchanges of NOTAM between international NOTAM offices must, 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.

(h) A predetermined distribution system for NOTAM transmitted on the AFS in accordance with Appendix C to this part must be used whenever possible, subject to the requirements of (f).

SUBPART G – AERONAUTICAL INFORMATION REGULATION AND CONTROL (AIRAC)

§ 175.111 General Specifications.

(a) Information concerning the circumstances listed in Appendix 4, Part 1 to ICAO Annex 15, must 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. The information notified therein must 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 ICAO Aeronautical Information Services Manual (ICAO Doc. 8126).

(b) The regulated system (AIRAC) must also be used for the provision of information relating to the establishment and withdrawal of, and premeditated significant changes in, the circumstances listed in Appendix 4, Part 1 to ICAO Annex 15.

(c) When information has not been submitted by the AIRAC date, a NIL notification must 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 must 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 must be avoided as an effective date for the introduction of significant changes under the AIRAC system.

§ 175.113 Provision of Information in Paper Copy Form.

(a) In all instances, information provided under the AIRAC system must be published in paper copy form and must be distributed by the AIS provider 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 must be distributed by the AIS provider at least 56 days

before the effective date.

§ 175.115 Provision of Information in Electronic Form.

(a) Each AIS provider must ensure that aeronautical database (electronic form) must, when updating its contents concerning the circumstances listed in Appendix 4, Part 1 of ICAO Annex 15, ensure that the effective dates of data coincide with the established AIRAC effective dates used for the provision of information in paper copy form.

(b) Information provided in electronic media, concerning the circumstances listed in Appendix 4, Part 1 of ICAO Annex 15, must be distributed/made available by the AIS provider 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 in electronic media must be distributed/made available at least 56 days in advance of the effective date.

SUBPART H – AERONAUTICAL INFORMATION CIRCULARS (AIC)

§ 175.121 Origination.

(a) An AIC must be originated whenever it is necessary to promulgate aeronautical information which does not qualify:

(1) Under the specifications in GACAR § 175.73 for inclusion in an KSA AIP; or

(2) Under the specifications in GACAR § 175.91 for the origination of a NOTAM.

(b) An AIC must 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 must 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 certification 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 KSA AIP or major changes in their contents, coverage or format;

(xx) Reserved; and

(xxi) Other information of a similar nature.

Note.— The publication of an AIC does not remove the requirements and obligations set forth in Subparts E and F.

§ 175.123 General Specifications.

(a) The AIC must be issued in printed form.

(b) The AIS provider must select the AIC that are to be given international distribution.

(c) Each AIC must be allocated a serial number which must be consecutive and based on the

calendar year.

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

(e) Differentiation and identification of AIC topics according to subjects using color coding must be practiced where the numbers of AIC in force are sufficient to make identification in this form necessary.

Note.— Guidance on color coding of AIC by subject can be found in the Aeronautical Information Services Manual (ICAO Doc. 8126).

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

§ 175.125 Distribution.

Each AIS provider must give AIC selected for international distribution the same distribution as for the KSA AIP.

SUBPART I - PRE-FLIGHT AND POST-FLIGHT INFORMATION/DATA

§ 175.141 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 must 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 (a) must include relevant:

(1) Elements of the Integrated Aeronautical Information Package;

(2) Maps and charts.

Note.— The documentation listed in (1) and (2) may be limited to GACA publications and when practicable, those of immediately adjacent States, provided a complete library of aeronautical information is available at a central location and means of direct communications are available between the aerodrome AIS unit and that library.

(c) Additional current information relating to the aerodrome of departure must be provided concerning the following:

(1) Construction or maintenance work on or immediately adjacent to the maneuvering area;

(2) Rough portions of any part of the maneuvering area, whether marked or not, e.g. broken parts of the surface of runways and taxiways;

(3) Presence and depth of snow, sand, ice or water on runways and taxiways, including their effect on surface friction;

(4) Snow or sand drifted or piled on or adjacent to runways or taxiways;

(5) Parked aircraft or other objects on or immediately adjacent to taxiways;

(6) Presence of other temporary hazards;

(7) Presence of birds constituting a potential hazard to aircraft operations;

(8) Failure or irregular operation of part or all of the aerodrome lighting system including approach, threshold, runway, taxiway, obstruction and maneuvering area, serviceability lights and aerodrome power supply; operational status of radio navigation services, VHF aeromobile channels, RVR observing system, and secondary power supply; and

(9) 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.

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

Note.— Guidance on the preparation of PIB is contained in the ICAO Aeronautical Information Services Manual (ICAO Doc. 8126).

§ 175.143 Automated Pre-Flight Information Systems.

(a) Each AIS provider must use automated pre-flight information systems to make aeronautical information and aeronautical data available to operations personnel including flight crew members for self-briefing, flight planning and flight information service purposes. The aeronautical information and aeronautical data made available must comply with the provisions of GACAR § 175.141.

(b) Self-briefing facilities of an automated pre-flight information system must 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 must ensure easy access in a guided manner to all relevant aeronautical information and aeronautical data.

(c) Automated pre-flight information systems providing a harmonized, common point of access by operations personnel, including flight crew members and other aeronautical personnel concerned, to aeronautical information in accordance with GACAR § 175.141 and meteorological information in accordance with GACAR § 179.139, must be established. The AIS provider must remain responsible for the quality and timeliness of the aeronautical information and aeronautical data provided by means of such a system.

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

(1) Provide for continuous and timely updating of the system database and monitoring of the validity and quality of the aeronautical information 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 information and aeronautical data 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 by the President; and

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

Note.— ICAO abbreviations and codes and location indicators are given respectively in the ICAO Procedures for Air Navigation Services — ICAO Abbreviations and Codes (PANS-ABC, ICAO Doc. 8400) and ICAO Location Indicators (ICAO Doc. 7910).

§ 175.145 Post-Flight Information.

Each AIS provider must –

(a) Ensure that arrangements are made to receive at aerodromes/heliports information concerning the state and operation of air navigation facilities or services noted by air-crews;

(b) Ensure that such information is made available to the aeronautical information service for such distribution as the circumstances necessitate; and

(c) Ensure that arrangements are made to receive at aerodromes/heliports information concerning the presence of birds observed by aircrews and must ensure that such information is made available to the aeronautical information service for such distribution as the circumstances necessitate.

SUBPART J - ELECTRONIC TERRAIN, OBSTACLE AND AERODROME MAPPING DATA

§ 175.161 Function.

Sets of electronic terrain and obstacle data used in combination with aeronautical data, as appropriate, must satisfy user requirements necessary to support the following air navigation applications:

(a) Ground proximity warning system with forward looking terrain avoidance function and minimum safe altitude warning (MSAW) system;

(b) Determination of contingency procedures for use in the event of an emergency during a missed approach or take-off;

(c) Aircraft operating limitations analysis;

(d) Instrument flight procedure design (including circling procedure);

(e) Determination of en-route “drift-down” procedure and en-route emergency landing location;

(f) Advanced surface movement guidance and control system (A-SMGCS);

(g) Aeronautical chart production and on-board databases;

(h) Flight simulator;

(i) Synthetic vision; and

(j) Aerodrome/heliport obstacle restriction and removal.

§ 175.163 Coverage and Terrain and Obstacle Data Numerical Requirements.

(a) To satisfy requirements necessary to accommodate air navigation systems or functions specified in GACAR § 175.161, sets of electronic terrain and obstacle data must be collected and recorded in databases in accordance with the following coverage areas:

(1) Area 1: Entire territory of the Kingdom of Saudi Arabia;

(2) Area 2: Within the vicinity of an aerodrome, subdivided as follows:

(i) Area 2a: A rectangular area around a runway that comprises the runway strip plus any clearway that exists;

(ii) Area 2b: An area extending from the ends of Area 2a in the direction of departure, with a length of 10 km and a splay of 15 per cent to each side;

(iii) Area 2c: An area extending outside Area 2a and Area 2b at a distance of not more than 10 km from the boundary of Area 2a; and

(iv) Area 2d: An area outside the Areas 2a, 2b and 2c up to a distance of 45 km from the aerodrome reference point, or to an existing terminal control area boundary, whichever is nearest.

(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 center line and 50 m from the edge of all other parts of the aerodrome movement area; and

(4) Area 4: The area extending 900 m prior to the runway threshold and 60 m each side of the extended runway center line in the direction of the approach on a precision approach runway, Category II or III. Where the terrain at a distance greater than 900 m (3 000 ft) from the runway threshold is mountainous or otherwise significant, the length of Area 4 must be extended to a distance not exceeding 2000 m (6 500 ft) from the runway threshold.

Note.— See Appendix 8 to ICAO Annex 15 for graphical illustrations of the defined coverage areas.

(b) Electronic terrain data must be provided for Area 1. The obstacle data must 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 must 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 must be provided for:

(1) Area 2a;

(2) The takeoff flight path area; and

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

Electronic obstacle data must be provided for Area 2a , for those obstacles that penetrate the relevant obstacle data collection surface specified in Appendix H to this part; objects in the takeoff flight path area which project above a plane surface having a 1.2 per cent slope and having a common origin with the takeoff flight path area and penetrations of the take-off flight path area obstacle identification surfaces; and penetrations of the aerodrome obstacle limitation surfaces.

(e) At aerodromes regularly used by international civil aviation, electronic terrain and obstacle data must be provided for Areas 2b, 2c and 2d for obstacles and terrain that penetrate the relevant terrain and obstacle data collection surface specified in Appendix 8, except that data need not be collected for obstacles less than a height of 3 m above ground in Area 2b and less than a height of 15 m above ground in Area 2c.

(f) At aerodromes regularly used by international civil aviation, electronic terrain and obstacle data must be provided for Area 3 for terrain and obstacles that penetrate the relevant obstacle data collection surface specified in Appendix H to this part.

(g) 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 Appendix 8, 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.

(h) Where additional electronic obstacle or terrain data is collected to meet other aeronautical requirements, the obstacle and terrain data sets must be expanded to include these additional data.

(i) Arrangements must be made for the coordination of providing Area 2 electronic terrain and obstacle data for adjacent aerodromes where their respective coverage Areas overlap to assure that the data for the same obstacle or terrain is correct.

(j) At those aerodromes located near territorial boundaries, arrangements should be made among

States concerned to share Area 2 electronic terrain and obstacle data.

§ 175.165 Terrain Database — Content and Structure.

(a) A terrain database must 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 must be angular or linear and must be of regular or irregular shape.

(b) Sets of electronic terrain data must 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 must 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, must be provided. Feature attributes describing terrain must be those listed in Table A8-3 of Appendix 8 to ICAO Annex 15. The terrain feature attributes listed in Table A8-3 of Appendix 8 to ICAO Annex 15 represent the minimum set of terrain attributes, and those annotated as mandatory must be recorded in the terrain data set.

(d) Electronic terrain data for each area must conform to the applicable numerical requirements in Table A8-1 of Appendix 8 to ICAO Annex 15.

§ 175.167 Obstacle Database — Content and Structure.

(a) The obstacle database must contain a digital set of obstacle data and must include those features having vertical significance in relation to adjacent and surrounding features that are considered hazardous to air navigation. Obstacle data must comprise the digital representation of the vertical and horizontal extent of man-made objects. Obstacles must not be included in terrain databases. Obstacle data elements are features that must be represented in the database 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 Appendix 8, Table A8-4 of ICAO Annex 15.

(c) Electronic obstacle data for each area shall conform to the applicable numerical requirements in Appendix 8, Table A8-2 of ICAO Annex 15.

§ 175.169 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 must be used as a general data modeling framework.

(b) A comprehensive statement of available electronic terrain and obstacle data sets must 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 fulfill the requirements for their intended use (application).

Note.— ISO Standard 19131 specifies the requirements and outline of data product specifications for geographic information.

(c) Each terrain data product specification must 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 must provide an informal description of the product and must 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 must be identified. Identification information concerning both terrain and obstacle data products must 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 must each be described in terms of an application schema and a feature catalogue. Application schema must provide a formal description of the data structure and content of data sets while the feature catalogue must 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 must identify clearly the coverage and/or imagery they include and must provide a narrative description of each of them.

Note 1. — ISO Standard 19109 contains rules for application schema while ISO Standard 19110 describes feature cataloguing methodology for geographic information.

Note 2.— ISO Standard 19123 contains schema for coverage geometry and functions.

(f) Both terrain data product specifications and obstacle data product specifications must include information that identifies the reference system used in the data product. This must include the spatial reference system and temporal reference system. Additionally, both data product specifications must identify the data quality requirements for each data product. This must include a statement on acceptable conformance quality levels and corresponding data quality measures. This statement must 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.

Note.— ISO Standard 19113 contains quality principles for geographic information while ISO Standard 19114 covers quality evaluation procedures.

(g) Terrain data product specifications must include a data capture statement which must 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 must also be provided with the data specifications, including the frequency with which data products are updated. Of particular importance must 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 must 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 must also contain data product delivery information which must include delivery formats and delivery medium information.

Note.— ISO Standard 19117 contains a definition of the schema describing the portrayal of geographic information including the methodology for describing symbols and mapping of the schema to an application schema.

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

Note.— ISO Standard 19115 specifies requirements for geographic information metadata.

(j) The obstacle data product specification, supported by geographical coordinates for each aerodrome included within the dataset, must describe the following areas:

(1) Areas 2a, 2b, 2c, 2d;

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

(3) The obstacle limitation surfaces.

§ 175.171 Aerodrome Mapping Data.

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

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

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

(d) Aerodrome mapping data sets must contain aerodrome mapping data consisting of aerodrome features.

(e) Aerodrome mapping metadata must comply with ISO 19115.

SUBPART K – AERONAUTICAL CHARTS

§ 175.201 Chart Production Standards.

(a) Except as provided in (b), each AIS provider must produce aeronautical charts that comply with the requirements prescribed in this subpart and the Standards and Recommended Practices prescribed in Chapters 3 through 21 of Annex 4 to the Convention of International Civil Aviation along with the applicable appendices to the Annex.

(b) Reserved.

§ 175.203 Coordination with Other States.

(a) *Information.* Each AIS provider must, on request by another State, provide all information relating to its own territory that is necessary to enable the ICAO standards to be met.

(b) *Charts.* For any chart or single sheet of a chart series which includes the territory of the KSA and one or more other States, the AIS provider and other States having jurisdiction over the territory so included must determine the manner in which the chart or sheet will be made available. This determination must be made with due regard being given to Regional Air Navigation Agreements and to any program of allocation established by the Council of ICAO. GACA SS&AT must be consulted during all of these negotiations.

(c) To improve worldwide dissemination of information on new charting techniques and production methods, appropriate charts produced by AIS provider must be made available without charge to other ICAO Contracting States on request on a reciprocal basis.

§ 175.205 Operational Requirements for Charts.

(a) Each type of chart must provide information relevant to the function of the chart and its design must observe Human Factors principles which facilitate its optimum use.

(b) Each type of chart must provide information appropriate to the phase of flight to ensure the safe and expeditious operation of the aircraft.

(c) The presentation of information must be accurate, free from distortion and clutter, unambiguous, and be readable under all normal operating conditions.

(d) Colors or tints and type size used must be such that the chart can be easily read and interpreted

by the pilot in varying conditions of natural and artificial light.

(e) The information must be in a form which enables the pilot to acquire it in a reasonable time consistent with workload and operating conditions.

(f) The presentation of information provided on each type of chart must permit smooth transition from chart to chart as appropriate to the phase of flight.

§ 175.207 Titles.

The title of a chart or chart series prepared in accordance with the specifications contained in Annex 4 and intended to satisfy the function of the chart must be that of the relevant chapter heading as modified by application of any ICAO standard, except that such title must not include "ICAO" unless the chart conforms with all standards specified in Chapter 2 of Annex 4 and any specified standard for the particular chart.

§ 175.209 Miscellaneous Information.

(a) The marginal note layout must be as given in GACAR §175.201 except as otherwise specified for a particular chart.

(b) The following information must be shown on the face of each chart unless otherwise stated in the specification of the chart concerned:

(1) Designation or title of the chart series;

(2) Name and reference of the sheet;

(3) On each margin an indication of the adjoining sheet (when applicable).

(c) A legend to the symbols and abbreviations used must be provided. The legend must be on the face or reverse of each chart except that, where it is impracticable for reasons of space, a legend may be published separately.

(d) The name and adequate address of the producing agency must be shown in the margin of the chart except that, where the chart is published as part of an aeronautical document, this information may be placed in the front of that document.

§ 175.211 Symbols.

(a) Symbols used must conform to those prescribed in GACAR §175.201 except that where it is desired to show on an aeronautical chart special features or items of importance to civil aviation for which no ICAO symbol is at present provided, any appropriate symbol may be chosen for this purpose, provided that it does not cause confusion with any existing ICAO chart symbol or impair the legibility of the chart.

(b) To represent ground-based navigation aids, intersections and waypoints, the same basic symbol must be used on all charts on which they appear, regardless of chart purpose.

(c) The symbol used for significant points must be based on a hierarchy of symbols and selected in the following order: ground-based navigation aid, intersection, waypoint symbol. A waypoint symbol must be used only when a particular significant point does not already exist as either a ground-based navigation aid or intersection.

§ 175.213 Units of Measurement.

(a) All units of measurement must comply with GACAR Part 2.

(b) Distances must be derived as geodesic distances.

(c) Distances must be expressed in either kilometers or nautical miles or both, provided the units are clearly differentiated.

(d) Altitudes, elevations and heights must be expressed in either meters or feet or both, provided the units are clearly differentiated.

(e) Linear dimensions on aerodromes and short distances must be expressed in meters.

(f) The order of resolution of distances, dimensions, elevations and heights must be that as specified for a particular chart.

(g) The units of measurement used to express distances, altitudes, elevations and heights must be conspicuously stated on the face of each chart.

(h) Conversion scales (kilometers/nautical miles, meters/feet) must be provided on each chart on which distances, elevations or altitudes are shown. The conversion scales must be placed on the face of each chart.

§ 175.215 Scale and Projection.

(a) For charts of large areas, the name and basic parameters and scale of the projection must be indicated.

(b) For charts of small areas, a linear scale only must be indicated.

§ 175.217 Date of Validity of Aeronautical Information.

The date of validity of aeronautical information must be clearly indicated on the face of each chart.

§ 175.219 Spelling of Geographical Names.

(a) The symbols of the Roman alphabet must be used for all writing.

(b) The names of places and of geographical features in countries which officially use varieties of the Roman alphabet must be accepted in their official spelling, including the accents and diacritical marks used in the respective alphabets.

(c) Where a geographical term such as “cape”, “point”, “gulf”, “river” is abbreviated on any particular chart, that word must be spelt out in full in the language used by the publishing agency, in respect of the most important example of each type. Punctuation marks must not be used in abbreviations within the body of a chart.

§ 175.221 Abbreviations.

(a) Abbreviations must be used on aeronautical charts whenever they are appropriate.

(b) Abbreviations must be selected from the Procedures for Air Navigation Services — ICAO Abbreviations and Codes (ICAO Doc. 8400).

§ 175.223 Political Boundaries.

(a) International boundaries must be shown, but may be interrupted if data more important to the use of the chart would be obscured.

(b) Where the territory of more than one State appears on a chart, the names identifying the countries must be indicated.

§ 175.225 Relief.

(a) Relief, where shown, must be portrayed in a manner that will satisfy the chart users’ need for:

(1) Orientation and identification;

(2) Safe terrain clearance;

(3) Clarity of aeronautical information when shown;

(4) Planning.

(b) Where spot elevations are used, they must be shown for selected critical points. The value of spot elevations of doubtful accuracy must be followed by the sign ±.

§ 175.227 Prohibited, Restricted and Danger Areas.

When prohibited, restricted or danger areas are shown, the reference or other identification must be included, except that the nationality letters may be omitted.

§ 175.229 Air Traffic Services Airspaces.

When ATS airspace is shown on a chart, the class of airspace, the type, name or call sign, the vertical limits and the radio frequency(s) to be used must be indicated and the horizontal limits depicted in accordance with GACAR §175.201.

§ 175.231 Magnetic Variation.

True North and magnetic variation must be indicated. The order of resolution of magnetic variation must be that as specified for a particular chart.

SUBPART L – QUALITY ASSURANCE

§ 175.300 Aeronautical Information Management: General.

(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.

§ 175.301 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 GACAR §175.11(h).

(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 President.

(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 GACAR Part 171 and GACAR 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 Appendices G and H.

(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 Appendix G. 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.

§ 175.303 Customer Forum.

Each AIS provider must hold an annual forum, consultation or survey with its customers in order to determine the quality of the service provided and to ascertain whether or not it meets their requirements. The GACA SS&AT must be informed, in advance, and may attend any meetings as an observer.

§ 175.305 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 President on issues when an issue raised remains open or not resolved.

SUBPART M – RECORDS AND REPORTS

§ 175.311 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 President is notified of a promulgated information incident as prescribed under § 175.312.

§ 175.312 Promulgated Information Incident Reports.

(a) Each AIS provider must submit a promulgated information incident report to the President 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.

§ 175.313 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 GACAR § 175.311;

(4) There is a record of each internal quality assurance review of the applicant's organization carried out under the procedures required by GACAR § 175.301; 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.

APPENDIX A TO GACAR PART 175 - CONTENTS OF AERONAUTICAL INFORMATION PUBLICATION (AIP)

I. Required Contents of the KSA AIP.

(a) Except as provided in (b), the required contents of the KSA AIP are those prescribed in Appendix 1 of Annex 15 to the Convention on International Civil Aviation.

(b) Reserved.

APPENDIX B TO GACAR PART 175 - RESERVED

APPENDIX C TO GACAR PART 175 - PREDETERMINED DISTRIBUTION SYSTEM FOR NOTAM

I. Requirements for the Predetermined Distribution for NOTAMS.

(a) Except as provided in (b), the requirements for predetermined distribution of NOTAMS are those prescribed in Appendix 5 of Annex 15 to the Convention on International Civil Aviation.

(b) Reserved.

APPENDIX D TO GACAR PART 175 - NOTAM FORMAT

I. Required Format for NOTAMs.

(a) Except as provided in (b), the required NOTAM format is that prescribed in Appendix 6 of Annex 15 to the Convention on International Civil Aviation.

(b) Reserved.

APPENDIX E TO GACAR PART 175 - SNOWTAM FORMAT

I. Required Format for SNOWTAMs.

(a) Except as provided in (b), the required SNOWTAM format is that prescribed in Appendix 2 of Annex 15 to the Convention on International Civil Aviation.

(b) Reserved.

APPENDIX F TO GACAR PART 175 - ASHTAM FORMAT

I. Required Format for ASHTAMs.

(a) Except as provided in (b), the required ASHTAM format is that prescribed in Appendix 3 of Annex 15 to the Convention on International Civil Aviation.

(b) Reserved.

APPENDIX G TO GACAR PART 175 - AERONAUTICAL DATA REQUIREMENTS

I. Aeronautical Data Requirements.

(a) Except as provided in (b), the aeronautical data requirements including publication and charting resolutions are those prescribed in Appendix 7 of Annex 15 to the Convention on International Civil Aviation and Appendix 6 of Annex 4 to the Convention on International Civil Aviation.

(b) Reserved.

APPENDIX H TO GACAR PART 175 - TERRAIN AND OBSTACLE DATA REQUIREMENTS

I. Requirements for Terrain and Obstacle Data.

(a) Except as provided in (b), the terrain and obstacle requirements are those prescribed in Appendix 8 of Annex 15 to the Convention on International Civil Aviation.

(b) Reserved.