
GACAR PART 175 – AERONAUTICAL INFORMATION SERVICES

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GACAR 175 -
REQUIREMENTS FOR PROVIDERS OF AERONAUTICAL INFORMATION SERVICES
SUBPART A – GENERAL

§175.001 Scope

(a) This Part of General Authority of Civil Aviation Regulation (GACAR) establishes the requirements to be met by Aeronautical Information Service (AIS) Providers that hold or are required to hold an Air Navigation Service Certificate (ANSC) under GACAR Part 170.

(b) The requirements of this regulation are aligned with the requirements:

- (1) ICAO Annex 15 - Aeronautical Information Services
- (2) ICAO Annex 4 - Aeronautical Charts
- (3) ICAO Doc 10066 - PANS on Aeronautical Information Management
- (4) ICAO Doc 8697 - Aeronautical Chart Manual, and
- (5) ICAO Doc 8126 - Guidance material on the organization and operation of aeronautical information services.

(c) For the avoidance of doubt, however, unless specifically authorised by the president, AIS Providers must ensure that the delivery of all services is in accordance with the relevant ICAO standards and recommended practices.

(d) The aeronautical data and aeronautical information to be received by the AIS must include at least the following sub-domains

- (1) Civil Aviation Law, GACARs and procedures;
- (2) aerodromes and heliports;
- (3) airspace;
- (4) air traffic services (ATS) routes;

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- (5) instrument flight procedures;
- (6) radio navigation aids/systems;
- (7) obstacles;
- (8) terrain; and
- (9) geographic information

§175.003 Service provider restrictions

- (a) No person may provide an AIS for civil aviation in the Kingdom of Saudi Arabia, including the production of aeronautical charts and digital data sets, 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 in accordance with §175.043.

§175.005 Means of compliance

- (a) A service provider must seek the approval of the president prior to utilising a means of compliance with any part of this regulation that has not previously been approved. Any alternative means of compliance (AltMOC) to this Regulation which has been authorised by the President may be used by the service provider to establish compliance with the requirements of this Regulation.
- (b) When the service provider wishes to use an AltMOC, it must, prior to implementing it, provide the President with a full description of the AltMOC. The description must include any revisions to manuals or procedures that may be relevant, as well as an assessment demonstrating compliance with the requirements of this Regulation. A service provider may implement these alternative means of compliance subject to prior approval by the President.

§175.007 Demonstration of compliance

An AIS service provider must provide all the relevant evidence to demonstrate compliance with the applicable requirements of this Regulation at the request of the President.

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§175.009 Responsibilities of AIS providers

Authorized service providers must ensure that the Standards and Recommended Practices of Annex 15 are adequately met. It must be a condition of any authorization, that the aeronautical data and aeronautical information provided are of required quality in accordance with Annex 15 paragraph 3.2

The following responsibilities apply to service providers:

- (a) An AIS provider must ensure the provision of aeronautical data and aeronautical information necessary for the safety, regularity and efficiency of air navigation in a form suitable for the operational requirements of the air traffic management (ATM) community.
- (b) An AIS provider must receive and/or originate, collate or assemble, edit, format, publish, store and distribute aeronautical data and aeronautical information concerning the entire territory of the Kingdom of Saudi Arabia as well as those areas over the high seas in which Saudi Arabia is responsible for the provision of air traffic services. Aeronautical data and aeronautical information must be provided as an Aeronautical Information Product.
- (c) 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 the AIS, plus a period of at least two hours before and after such a period. Service must also be available at such other time as may be requested by an appropriate ground organization.
- (d) An AIS must, 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 from the AIS of other States and from other sources that may be available. Where aeronautical data and aeronautical information is obtained from the AIS of other states, it must, when distributed, be clearly identified as having the authority of the originating state. Aeronautical data and information obtained from other sources that may be available, it must, if possible, be verified before distribution and if not verified when distributed, be clearly identified as such.
- (e) An AIS must 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.
- (f) An AIS provider must ensure that aeronautical data and aeronautical information are available for:
 - (1) personnel involved in flight operations, including flight crews, flight planning, and flight simulators;
 - (2) ATS providers responsible for flight information service, and
 - (3) the services responsible for pre-flight information.
- (g) An AIS provider must provide 24-hour services for NOTAM origination and issuance in its area of responsibility and for pre-flight information needed in relation to route stages originating at the aerodrome/heliport in its area of responsibility.
- (h) An AIS provider must make available to other AIS providers aeronautical data and aeronautical information required by them.
- (i) An AIS provider must ensure that procedures are in place to assess and mitigate safety risks to aviation arising from data and information errors.

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- (j) An AIS provider must clearly indicate that aeronautical data and aeronautical information provided for and on behalf of the Kingdom of Saudi Arabia are provided under the authority of the President of GACA, irrespective of the format in which it is provided.

§175.011 Facilitation and cooperation

An AIS provider must facilitate inspections and audits by the President of GACA or by a qualified entity acting on its behalf and it must cooperate as necessary for the efficient and effective exercise of the powers of GACA President.

§175.013 Findings and corrective actions

After receipt of notification of findings from the President of GACA, the AIS provider must:

- (a) identify the root cause of the non-compliance;
- (b) define a corrective action plan that meets the approval by the President of GACA
- (c) demonstrate corrective action implementation to the satisfaction of the President of GACA within the time period proposed by the service provider and agreed with the President.

§175.015 Immediate reaction to a safety problem

An AIS provider must implement any safety measures, including safety directives, mandated by the President of GACA.

§175.017 Occurrence reporting

An occurrence is an incident associated with the operation of an aircraft which affects or could affect the safety of operation.

- (a) An AIS provider must report to the President, and to any other organisation required by the President, any serious occurrence.
- (b) Without prejudice to point (a), the AIS provider must report to the President and to the organisation responsible for the design of any system and its constituents, if different from the AIS provider, any malfunction, technical defect, exceeding of technical limitations, occurrence, or other irregular circumstance that has or may have endangered the safety of services and that has not resulted in a serious incident.
- (c) The reports referred to in points (a) and (b) must be made in a form and manner required by the President and contain all the pertinent information about the event known to the AIS provider.

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(d) Reports must be made as soon as possible and in any case within 72 hours of the AIS provider identifying the details of the event to which the report relates, unless exceptional circumstances prevent this.

(e) Where relevant, the AIS provider must produce a follow-up report to provide details of actions it intends to take to prevent similar occurrences in the future, as soon as these actions have been identified. This report must be produced in a form and manner established by the President.

§175.019 Contingency plans

An AIS provider must have in place contingency plans for all the services it provides in the case of events which result in significant degradation or interruption of its operations.

§175.021 Open and transparent provision of services

(a) An AIS provider must provide its services in an open and transparent manner. It must publish the conditions of access to its services and changes thereto and establish a consultation process with the users of its services

on a regular basis or as needed for specific changes in service provision, either individually or collectively. This must include an annual forum, consultation or survey with customers in order to determine the quality of the service provided and to ascertain whether or not it meets their requirements. The President of GACA must be informed in advance of any such meetings and may attend any as an observer.

(b) 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.

(c) An AIS provider must not discriminate on grounds of nationality or other characteristic of the user or the class of users of its services.

§175.023 Common reference systems for air navigation

For the purpose of air navigation, service providers must use the:

(a) World Geodetic System — 1984 (WGS-84) as the horizontal reference system;

(b) mean sea level (MSL) datum as the vertical reference system;

(c) The Earth Gravitational Model — 1996 (EGM-96) as the global gravity model for international air navigation.

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. Specifications concerning determination and reporting (accuracy of field work and data integrity) of elevation and geoid undulation at specific positions at aerodromes/heliports are given in the PANS-AIM

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(Doc 10066), Appendix 1.

(d) Gregorian calendar and coordinated universal time (UTC) as the temporal reference systems.

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

§175.025 Management system

- (a) An AIS provider must establish information management resources and processes that are 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 and maintain a properly organized and documented quality assurance system with periodic internal audits to ensure that the AIS provider is in compliance with the approved system. The quality system must be in conformity with the International Organization for Standardization (ISO) 9000 series of quality assurance standards. Each quality management system must include the necessary policies, processes and procedures, including those for the use of metadata, to ensure and verify that aeronautical data is traceable throughout the aeronautical information data chain so as to allow any data anomalies or errors detected in use to be identified by root cause, corrected and communicated to affected users.
- (c) An AIS provider must implement and maintain a management system that includes:
- (1) clearly defined lines of responsibility and accountability throughout its organisation, including a direct accountability of the accountable manager;
 - (2) a description of the overall philosophies and principles of the AIS provider with regard to safety, quality, and security of its services, collectively constituting a policy, signed by the accountable manager;
 - (3) the means to verify the performance of the AIS provider's organisation in light of the performance indicators and performance targets of the management system;
 - (4) a process to identify changes within the AIS provider's organisation and the context in which it operates, which may affect established processes, procedures and services and, where necessary, change the management system and/or the functional system to accommodate those changes;
 - (5) a process to review the management system, identify the causes of substandard performance of the management system, determine the implications of such substandard performance, and eliminate or mitigate such causes;
 - (6) a process to ensure that the personnel of the AIS provider are trained and competent to perform their duties in a safe, efficient, continuous and sustainable manner. In this context, the AIS provider must establish policies for the recruitments and training of its personnel;

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- (7) a formal means for communication that ensures that all personnel of the AIS provider are fully aware of the management system that allows critical information to be conveyed and that makes it possible to explain why particular actions are taken and why procedures are introduced or changed.
- (d) An AIS provider must document all management system key processes, including a process for making personnel aware of their responsibilities, and the procedure for the amendment of those processes.
- (e) An AIS provider must establish a function to monitor compliance of its organisation with the applicable requirements and the adequacy of the procedures. Compliance monitoring must include a feedback system of findings to the accountable manager to ensure effective implementation of corrective actions as necessary.
- (f) An AIS provider must monitor the behaviour of its functional system and, where underperformance is identified, it must establish its causes and eliminate them or, after having determined the implication of the underperformance, mitigate its effects.
- (g) The management system must be proportionate to the size of the AIS provider and the complexity of its activities, taking into account the hazards and associated risks inherent in those activities.
- (h) Within its management system, the AIS provider must establish formal interfaces with the relevant service providers and aviation undertakings in order to:
- (1) ensure that the aviation safety hazards entailed by its activities are identified and evaluated, and the associated risks are managed and mitigated as appropriate;
 - (2) ensure that it provides its services in accordance with the requirements of this Regulation
- (i) All necessary measures must be taken to monitor compliance with the quality management system in place.
- (j) Demonstration of compliance of the quality management system applied must be by audit. If nonconformity is identified, initiating action to correct its cause must be determined and taken without undue delay. All audit observations and remedial actions must be evidenced and properly documented.

§175.027 Change management procedures

- (a) An AIS provider must use procedures to manage, assess and, if necessary, mitigate the impact of changes to its functional systems.
- (b) The procedures referred to in point (a) or any material modifications to those procedures must:
- (1) be submitted, for approval, by the AIS provider to the president of GACA;
 - (2) not be used until approved by the President.
- (c) When the approved procedures referred to in point (b) are not suitable for a particular change, the AIS provider must:
- (1) make a request to the President for an exemption to deviate from the approved procedures;
 - (2) provide the details of the deviation and the justification with equivalent safety measures for its use to

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the President in the prescribed format as stipulated in the GACAR Part 11;

(3) not use the deviation before being approved by the President.

§175.029 Changes to a functional system

(a) An AIS provider planning a change to its functional system must:

(1) notify the President of the change;

(2) provide the President, if requested, with any additional information that allows the President to decide whether or not to review the argument for the change;

(3) inform other service providers and, where feasible, aviation undertakings affected by the planned change.

(b) Having notified a change, the AIS provider must inform the President whenever the information provided in accordance with points (a)(1) and (2) is materially modified, and the relevant service providers and aviation undertakings whenever the information provided in accordance with point (a)(3) is materially modified.

(c) An AIS provider must only allow the parts of the change, for which the activities required by the procedures referred to in §175.031 have been completed, to enter into operational service.

(d) If the change is subject to the President review, the service provider must only allow the parts of the change for which the President has approved the argument to enter into operational service.

(e) When a change affects other service providers and/or aviation undertakings, as identified in point (a)(3), the service provider and these other service providers, in coordination, must determine

(1) the dependencies with each other and, where feasible, with the affected aviation undertakings;

(2) the assumptions and risk mitigations that relate to more than one service provider or aviation undertaking.

(f) Those service providers affected by the assumptions and risk mitigations referred to in point (e)(2) must only use, in their argument for the change, agreed and aligned assumptions and risk mitigations with each other and, where feasible, with aviation undertakings.

§175.031 Safety support assessment and assurance of changes to the functional system

(a) For any change notified in accordance with §175.029 (a)(1), the AIS provider must:

(1) ensure that a safety support assessment is carried out covering the scope of the change which is:

(i) the equipment, procedural and human elements being changed;

(ii) interfaces and interactions between the elements being changed and the remainder of the functional system;

(iii) interfaces and interactions between the elements being changed and the context in which it is intended to operate;

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- (iv) the life cycle of the change from definition to operations including transition into service;
 - (v) planned degraded modes;
 - (2) provide assurance, with sufficient confidence, via a complete, documented and valid argument that the service will behave and will continue to behave only as specified in the specified context.
- (b) An AIS provider must ensure that the safety support assessment referred to in point (a) comprises:
- (1) verification that:
 - (i) the assessment corresponds to the scope of the change as defined in point (a)(1);
 - (ii) the service behaves only as specified in the specified context;
 - (iii) the way the service behaves complies with and does not contradict any applicable requirements of this Regulation placed on the services provided by the changed functional system; and
 - (2) specification of the monitoring criteria necessary to demonstrate that the service delivered by the changed functional system will continue to behave only as specified in the specified context.

§175.033 Contracted activities

- (a) Contracted activities include all the activities within the scope of the AIS provider's operations, in accordance with the terms of the certificate, that are performed by other organisations either themselves certified to carry out such activity or if not certified, working under the service provider's oversight. An AIS provider must ensure that when contracting or purchasing any part of its activities to external organisations, the contracted or purchased activity, system or constituent conforms to the applicable requirements.
- (b) When an AIS provider contracts any part of its activities to an organisation that is not itself certified in accordance with GACA Regulation to carry out such activity, it must ensure that the contracted organisation works under its oversight to ensure conformance to the applicable requirements. The AIS provider must ensure that the President of GACA is given access to the contracted organisation to determine continued compliance with the applicable requirements under this Regulation.

§175.035 Personnel requirements

- (a) Each AIS provider must engage, employ or contract:
- (1) An accountable manager, 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:

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- (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

§ 175.037 Staff Operational Competence.

Each AIS provider must -

- (a) Develop job description with the identification of the knowledge and skills required for each function 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 satisfactorily 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. The records for competency assessment for all AIS technical staff must be maintained.

§175.039 Facilities requirements

An AIS provider must ensure that there are adequate and appropriate facilities to perform and manage all tasks and activities in accordance with the applicable requirements.

§175.041 Record-keeping

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- (a) An AIS provider must establish a system of record-keeping that allows adequate storage of the records and reliable traceability of all its activities, covering in particular all the elements indicated in §175.025.
- (b) The format and the retention period of the records referred to in point (a) must be specified in the service provider's management system procedures.
- (c) Records must be stored in a manner that ensures protection against damage, alteration and theft.
- (d) All records are legible and of a permanent nature; and
- (e) 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.

§175.043 Operations manuals

- (a) An AIS provider must provide and keep up to date its operations manuals relating to the provision of its services for the use and guidance of operations personnel. The operations manual and any changes thereto must be accepted by the President
- (b) An AIS Provider must ensure that:
 - (1) operations manuals contain the instructions and information required by the operations personnel to perform their duties;
 - (2) relevant parts of the operations manuals are accessible to the personnel concerned;
 - (3) the operations personnel are informed of amendments to the operations manual applying to their duties in a manner that enables their application as of their entry into force.
- (c) 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 §175.035;
 - (3) The duties and responsibilities of the senior persons specified in §175.035 including matters for which they have responsibility to deal directly with the President of GACA on behalf of the organization;
 - (4) An organization chart showing lines of responsibility of the senior persons specified in §175.035;
 - (5) A summary of the applicant's staffing structure for each AIS listed under paragraph (c)(6) here below;
 - (6) A list of the AIS to be provided;
 - (7) Details of the applicant's procedures regarding:

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- (i) the competence of personnel;
 - (ii) the control of documentation;
 - (iii) the collection of information;
 - (iv) the publication of aeronautical information;
 - (v) the correction of errors in published information;
 - (vi) the identification, collection, indexing, storage, maintenance, and disposal of records; and
 - (vii) quality assurance.
- (8) Procedures to control, amend and distribute the manual.
- (9) The manual must be acceptable to the President
- (10) Each AIS provider must—
- (i) Ensure that its manual is amended, as required, to remain a current description of the AIS provider's organization, and services;
 - (ii) Ensure that any amendments made to its manual meet the applicable requirements of this Part;
 - (iii) Comply with the manual amendment procedure contained in its manual;
 - (iv) Provide the President with a copy of each amendment to its manual, immediately after the amendment is incorporated into the manual; and
 - (v) Make such amendments to its manual as the President may consider necessary in the interests of aviation safety.

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SUBPART B — Data quality management

§175.045 General

When originating, processing or transmitting data the AIS provider must:

- (a) ensure that aeronautical data conform to the specifications of Appendix 1 to ICAO DOC10066 PANS AIM and referred to as the “aeronautical data catalogue”;
- (b) meet the following data quality requirements:
 - (1) the order of accuracy of aeronautical data must be in accordance with its intended use and as specified in the aeronautical data catalogue;
 - (2) the integrity of aeronautical data must be maintained throughout the data process from origination to distribution to the next intended user; and
 - (3) based on the integrity classification specified in the aeronautical data catalogue, procedures must be put in place so that:
 - (i) for routine data, corruption is avoided throughout the processing of the data;
 - (ii) for essential data, corruption does not occur at any stage of the entire process and additional processes are included, as needed, to address potential risks in the overall system architecture to further assure data integrity at this level; and
 - (iii) for critical data, corruption does not occur at any stage of the entire process and additional integrity assurance processes are included to fully mitigate the effects of faults identified as potential data integrity risks by thorough analysis of the overall system architecture;
 - (4) the resolution of aeronautical data must be commensurate with the actual data accuracy; The resolution of the data contained in the database may be the same or finer than the publication resolution
 - (5) ensure that data resolution conform to the specifications in the PANS-AIM (Doc 10066), Appendix 1
 - (6) the traceability of aeronautical data must be ensured and retained as long as the data is in use;
 - (7) the timeliness of the aeronautical data must be ensured, including any limits on the effective period of the data elements; These limits may be associated with individual data elements or data sets. If the effective period is defined for a data set, it will account for the effective dates of all of the individual data elements
 - (8) the completeness of the aeronautical data must be ensured; and
 - (9) the delivered data must be adequate to ensure that data is interpreted in a manner that is consistent with its intended use and meet the format requirements as specified in the aeronautical data catalogue;
- (c) ensure that tools and software used to support or automate aeronautical data and aeronautical information processes perform their functions without adversely impacting the quality of aeronautical data and aeronautical information;

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- (d) with regard to data origination, establish specific formal arrangements that contain instructions for data creation, modification or deletion, which include as a minimum:
- (1) an unambiguous description of the aeronautical data to be created, modified or deleted;
 - (2) the entity to which the aeronautical data is to be provided;
 - (3) the date and time by which the aeronautical data is to be provided;
 - (4) the format of the data origination report to be used;
 - (5) the format of the aeronautical data to be transmitted; and
 - (6) the requirement to identify any limitation on the use of the data;
- (e) ensure that digital data error detection techniques are used during the transmission and/or storage of aeronautical data in order to support the applicable data integrity levels;
- (f) ensure that errors identified during data origination and after data delivery are addressed, corrected or resolved and that priority is given to managing errors in critical and essential aeronautical data.

§175.047 Coordination Requirements

Each AIS Provider must ensure that formal arrangements are established between originator of aeronautical data and aeronautical information and the AIS in relation to the timely and complete provision of aeronautical data and information.

§175.049 Arrangements with foreign states

An AIS provider must coordinate with the President of GACA 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.

§175.051 Exchange of aeronautical data and aeronautical information

- (a) An AIS provider must ensure that:
- (1) the format of aeronautical data is based on an aeronautical information exchange model designed to be globally interoperable; and
 - (2) aeronautical data is exchanged through electronic means.
- (b) Except for terrain data, the exchange format of aeronautical data must:
- (1) enable the exchange of data for both individual features and feature collections;
 - (2) enable the exchange of baseline information as a result of permanent changes; and

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- (3) be structured in accordance with the subjects and properties of the aeronautical data catalogue and be documented through a mapping between the exchange format and the aeronautical data catalogue.
- (c) Wherever practical, direct contact with other aeronautical information services in adjacent States must be established in order to facilitate the international exchange of aeronautical data and aeronautical information
- (d) Except as otherwise approved by the President, one copy of each of the following aeronautical information products that have been requested by the AIS of an ICAO Contracting State must be made available by the originating State and provided in a mutually agreed form(s), without charge, even where authority for publication/storage and distribution has been delegated to a non-governmental agency:
- (1) Aeronautical Information Publication (AIP), including Amendments and Supplements;
 - (2) Aeronautical Information Circulars (AIC);
 - (3) aeronautical charts;
 - (4) NOTAM; and
 - (5) Digital data sets
- (e) When aeronautical data and aeronautical information are provided in the form of digital data sets they must be provided on the basis of agreement with the concerned AIS of an ICAO Contracting State. These digital data sets must not be provided to a third party without the consent of the providing State
- (f) An AIS Provider must ensure that any transfer of aeronautical data within the AIS organization, or to or from external entities, complies with the standards specified in the Aeronautical Information Transfer Model (AIXM)

§175.053 Validation and verification

- (a) An AIS provider must ensure that verification and validation techniques are employed so that the aeronautical data meets the associated data quality requirements specified in §175.045.
- (b) The verification must ensure that:
- (1) the aeronautical data was received without corruption;
 - (2) the aeronautical data process does not introduce corruption.
- (c) Aeronautical data and aeronautical information entered manually must be subject to independent verification to identify any errors that may have been introduced.

§175.055 Use of automation

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- (a) Automation must be applied in order to ensure the quality, efficiency and cost-effectiveness of aeronautical information services. Guidance material on the development of databases and the establishment of data exchange services is contained in Doc 8126
- (b) Due consideration to the integrity of data and information must be given when automated processes are implemented, and mitigating steps taken where risks are identified. Risks of altering the integrity of data and information may be introduced by automated processes in cases of unexpected systems behaviour
- (c) An AIS provider must ensure that tools and software used to support or automate aeronautical data and aeronautical information processes perform their functions without adversely impacting on the quality of aeronautical data and aeronautical information.
- (d) 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.

§175.057 Data error detection and authentication

An AIS provider must ensure that the transfer of aeronautical data is subject to a suitable authentication process such that recipients are able to confirm that the data or information has been transmitted by an authorised source.

§175.059 Error reporting, measurement, and corrective actions

- (a) An AIS provider must ensure that error reporting, measurement and corrective action mechanisms are established and maintained.
- (b) The error reporting, error measurement and corrective mechanisms must ensure that:
 - (1) problems identified during origination, production, storage, handling and processing, or those reported by users after publication, are recorded;
 - (2) all problems reported in relation to the aeronautical data and aeronautical information are analysed by the AIS provider and the necessary corrective actions are performed;
 - (3) priority is given to resolution of all errors, inconsistencies and anomalies detected in critical and essential aeronautical data;
 - (4) affected users are warned of errors by the most effective means, taking into account the integrity level of the aeronautical data and aeronautical information; and
 - (5) The President is notified of a promulgated information incident as prescribed in (c) here below.
- (c) Each AIS provider must submit a promulgated information incident report to the President within 48 hours of the promulgated information incident. The report must include the following information:
 - (1) Date and time of the incident;

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- (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.

§175.061 Data quality limitations

An AIS provider must identify, in the aeronautical information products, except NOTAM, the aeronautical data and aeronautical information that do not meet the data quality requirements.

§175.063 Consistency requirement

Where aeronautical data or aeronautical information is duplicated in the AIP of more than one Contracting State, the AIS providers responsible for those AIPs must establish mechanisms to ensure consistency between the duplicated information.

§175.065 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.
- (c) Any Aeronautical Information Product which has been granted copyright protection by the originating State and provided to another State in accordance with § 175.049 must 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.
- (d) When aeronautical information and aeronautical data is provided to a State in accordance with § 175.049, the receiving State must not provide digital data sets of the providing State to any third party without the consent of the providing State.

§175.067 Cost Recovery

- (a) The overhead cost of collecting and compiling aeronautical data and aeronautical information 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 data and aeronautical information 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

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attributed to the costs of printing paper copies or production of electronic media, and costs of distribution.

§175.069 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 Section 3.
- (c) Where more than one international NOTAM office is designated within Saudi Arabia, the extent of responsibility and the territory covered by each office must be defined by the offices concerned and approved by the President.

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SUBPART C — Aeronautical information products and services

§175.071 General — Aeronautical information products

- (a) Each AIS provider must produce and distribute all elements of the Aeronautical Information Product for which they have been authorized by the President to produce under this part. The Aeronautical Information Product is the collective term for the aeronautical data and aeronautical information provided either as digital data sets or as a standardized presentation in paper or electronic media that a State is required to provide under the Convention of International Civil Aviation and which consists of:
- (1) Aeronautical Information Publication (AIP), including Amendments and Supplements;
 - (2) Aeronautical Information Circulars (AIC;)
 - (3) Aeronautical charts;
 - (4) NOTAM;
 - (5) pre-flight information bulletins (PIB); and
 - (6) checklists and lists of valid NOTAM and
 - (7) Digital data sets.
- (b) When providing aeronautical data and aeronautical information in multiple formats, an AIS provider must ensure that processes are implemented for data and information consistency between those formats.
- (1) Aeronautical information products intended for distribution must include English text for those parts expressed in plain language.
 - (2) Place names must be spelt in conformity with local usage and transliterated, when necessary, into the International Organization for Standardization (ISO) basic Latin alphabet.
 - (3) 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.
 - (4) International Civil Aviation Organization (ICAO) abbreviations must be used in the aeronautical information products whenever they are appropriate.
 - (5) The organization of the AIS as well as the design, contents, processing and distribution of aeronautical data and aeronautical information must take into consideration Human Factor 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.

§175.073 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.

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§175.075 Publication of Information on Aerodromes and Helicopter Landing Sites not covered by GACAR Part 139

An AIS provider may publish aeronautical data and aeronautical information 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.

§175.077 Aeronautical Information Publication (AIP)

- (a) An AIS provider must issue an AIP.
- (b) The KSA AIP is published on behalf of the President.
- (c) The AIP, AIP amendments and AIP supplements must be provided as an ‘electronic AIP’ (eAIP) and/or on paper.
- (d) The AIP must include:
 - (1) a statement of the authority responsible for the air navigation facilities, services or procedures covered by the AIP;
 - (2) the general conditions under which the services or facilities are available for use;
 - (3) a list of significant differences between the regulations and practices of the Kingdom of Saudi Arabia (KSA) and the related ICAO Standards and Recommended Practices (SARPs) and Procedures; and
 - (4) the choice made in each significant case where an alternative course of action is provided for in the ICAO SARPs and procedures.
- (e) The AIP must contain information related to, and arranged under, the subject headings listed in Appendix 2 to ICAO Doc 10066 PANS AIM.
- (f) The issuing state and AIS provider must be clearly indicated.
- (g) The AIP must be self-contained and include a table of contents.
- (h) An AIP must be organised in three parts (GEN, ENR and AD), sections and subsections, except when the AIP, or a part of the AIP, is designed to facilitate operational use in-flight, in which case the precise format and arrangement may be left to the discretion of the AIS provider and must be approved by the President provided that an adequate table of contents is included.
- (i) Each AIP must be dated.
- (j) The date, consisting of the day, month (by name), and year, must be the publication date or the effective date (AIRAC) of the information.
- (k) When describing periods of activity, availability or operation, the applicable days and times must be specified.
- (l) Charts, maps or diagrams must be used, when appropriate, to complement or act as a substitute for the tabulations or text of Aeronautical Information Publications.

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§175.079 Electronic AIP (eAIP)

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

§175.081 Printed Products

(a) Printed AIP

- (1) When the AIP is issued as a printed volume, it should be published in loose-leaf form unless the complete publication is reissued at frequent intervals.
- (2) Each AIP issued as a printed volume and each page of an AIP issued in loose-leaf form must be so annotated as to indicate clearly:
 - (i) the identity of the AIP;
 - (ii) the territory covered and subdivisions when necessary;
 - (iii) the identification of the issuing State and producing organization (authority); and
 - (iv) page numbers/chart titles.
- (3) The issuing State or the joint issuing States must be clearly indicated on the cover and in the table of contents.
- (4) The normal method of amendment of the printed volume AIP must be by means of replacement sheets.
- (5) New or revised information must be identified by an annotation against it in the margin. A thick black vertical line or, where the change incorporated covers one line only or a part of a line, a thick black horizontal arrow, is sufficient to identify the change.
- (6) Each AIP Amendment page, including the cover sheet, must contain a publication date and, when applicable, an effective date.
- (7) When the AIP is provided in more than one volume, each volume must include a:
 - (i) preface;
 - (ii) record of AIP Amendments;
 - (iii) record of AIP Supplements;
 - (iv) checklist of AIP pages; and
 - (v) list of current hand amendments.
- (8) When the AIP is published as one volume, the above-mentioned subsections appear only in Part 1 — GEN and the annotation “not applicable” must be entered against each of these subsections in Parts 2 and 3.
- (9) A system of page numbering adaptable to the addition or deletion of sheets should be adopted. The page number should include:

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- (i) an identification of the part of the AIP;
 - (ii) the section; and
 - (iii) the subsection, as applicable; thus, creating a separate set of numbers for each subject (e.g. GEN 2.1-3, ENR 4.1-1 or AD 2.2-3).
- (10) A checklist giving the current date of each page in the AIP must be reissued frequently to assist the user in maintaining a current publication.
- (11) The sheet size should be no larger than 210 × 297 mm, except that larger sheets may be used provided they are folded to the same size.
- (12) When a small number of charts are to be included and chart size is not larger than 210 mm × 297 mm or allows for folding to these dimensions, they should be contained in the AIP. If, on the other hand, there are many charts and they are frequently amended, it may be convenient to place them in a separate volume with a separate subscription service.
- (13) Maps and charts included in the AIP should be paginated in the same manner as other material.
- (14) AIP Supplement pages should be coloured in order to be conspicuous, preferably in yellow.
- (15) AIP Supplement pages should be kept as the first item in the AIP parts. To eliminate the need to continuously refer to the front of the AIP for the required information, the Supplements may be divided into specific parts (e.g. GEN, ENR, AD) for insertion in each AIP part, as necessary.
- (16) AIP Supplement pages must be kept in the AIP as long as all or some of their contents remain valid.
- (b) Printed AIC
- (1) Differentiation and identification of AIC topics according to subjects using colour coding should be practised where the numbers of AIC in force are sufficient to make identification in this form necessary.
 - (2) AIC should be colour coded by subject where there are sufficient circulars in force to warrant such identification, e.g.:
 - (i) white — administrative;
 - (ii) yellow — air traffic control (ATC);
 - (iii) pink — safety;
 - (iv) mauve — danger area map; and
 - (v) green — maps/charts.

§175.083 AIP amendments

An AIS provider must issue permanent changes to the AIP as AIP amendments; and ensure that the AIP is amended or reissued at such regular intervals as necessary to ensure that the information is complete and up to date.

- (a) Any operationally significant changes to the AIP, in accordance with §175.153, must be accepted by the President

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before publication, issued under AIRAC and clearly identified as such.

- (b) Each AIP amendment must be allocated a serial number, which must be consecutive.
- (c) When an AIP amendment is issued, it must include references to the serial number of the AIP Supplement or the series and number of the NOTAM which have been incorporated into the amendment.
- (d) The most current update cycles applicable to AIP amendments must be made publicly available.
- (e) Recourse to hand amendments/annotations must be kept to a minimum; the normal method of amendment must be by reissuing or by replacement of pages.
- (f) Each AIP amendment must:
 - (1) include a checklist with the current dates and numbers of each loose-leaf page in the AIP; and
 - (2) provide a recapitulation of any outstanding hand amendments.
- (g) New or revised information must be identified by an annotation against it in the margin.
- (h) Each AIP Amendment must contain a publication date and Each AIRAC AIP Amendment must contain an effective date
- (i) The regular intervals between the AIP amendments must be specified in Part 1 — General (GEN) of the AIP.
- (j) New or revised information contained in the AIP must be identified
- (k) A brief indication of the subjects affected by the amendment must be given on the AIP Amendment cover sheet

§175.085 AIP supplements

- (a) An AIS provider must:
 - (1) issue, as AIP supplements, temporary changes of long duration — three months or longer — and information of short duration which contains extensive text and/or graphics;
 - (2) regularly provide a checklist of the valid AIP supplements; and
 - (3) publish a new AIP supplement as a replacement when an error occurs in an AIP supplement or when the period of validity of an AIP supplement is changed. The requirements for NOTAM apply when time constraints do not allow sufficient time for the distribution of an AIP Supplement.
- (b) The most current update cycles applicable to AIP supplements must be made publicly available.
- (c) Each AIP supplement must be allocated a serial number which must be consecutive and based on the calendar year.
- (d) Whenever an AIP supplement is issued as a replacement of a NOTAM, a reference to the series and number of the NOTAM must be included.
- (e) A checklist of valid AIP supplements must be issued at intervals of not more than one month, as part of the checklist of NOTAM and also with distribution as for the AIP supplements.
- (f) Each AIP supplement page must have a publication date. Each AIRAC AIP supplement page must have both a

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publication and an effective date.

- (g) All AIP supplements relating to airport construction or other non-operational matters must be accepted by the President before publication.

§175.087 Aeronautical information circular (AIC)

- (a) An AIS provider must issue as an AIC the following:

- (1) a long-term forecast of any major change in legislation, regulations, procedures or facilities; or
- (2) information of a purely explanatory or advisory nature which affects flight safety; or
- (3) information or notification of an explanatory or advisory nature, concerning technical, legislative or purely administrative matters.

- (b) An AIS provider must review at least once a year the validity of an AIC in force and review report submitted to the President.

- (c) The AIC must be provided as an electronic document and/or on paper.

- (d) The AIC must be provided whenever it is desirable to promulgate:

- (1) forecasts of important changes in the air navigation procedures, services and facilities provided;
- (2) forecasts of implementation of new navigational systems;
- (3) significant information derived from aircraft accident/incident investigation which has a bearing on flight safety;
- (4) information on regulations related to the safeguarding of civil aviation against acts of unlawful interference;
- (5) advice on medical matters of special interest to pilots;
- (6) warnings to pilots concerning the avoidance of physical hazards;
- (7) information on the effect of certain weather phenomena on aircraft operations;
- (8) information on new hazards affecting aircraft handling techniques;
- (9) information on regulations related to the carriage of restricted articles by air;
- (10) references to the requirements of national legislation and to the publication of changes therein;
- (11) information on aircrew licensing arrangements;
- (12) information on training of aviation personnel;
- (13) information on the implementation of, or exemption from, requirements in national legislation;
- (14) advice on the use and maintenance of specific types of equipment;
- (15) the actual or planned availability of new or revised editions of aeronautical charts;
- (16) information on the carriage of communication equipment;

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- (17) explanatory information related to noise abatement;
 - (18) selected airworthiness directives;
 - (19) information on changes in NOTAM series or distribution, new editions of AIP or major changes in their content, coverage or format; and
 - (20) other information of a similar nature.
- (e) The AIC must not be used for information that qualifies for inclusion in AIP or NOTAM.
 - (f) When the AIC is selected for international distribution, it must have the same distribution as the AIP.
 - (g) Each AIC must be allocated a serial number which must be consecutive and based on the calendar year.
 - (h) In the event that an AIC is provided in more than one series, each series must be separately identified by a letter.
 - (i) A checklist of AIC currently in force must be issued at least once a year, with distribution as for the AIC.
 - (j) A checklist of AIC provided internationally must be included in the NOTAM checklist.
 - (k) All AIC must be accepted by the President before publication.

§175.089 Aeronautical charts - General

- (a) Each AIS provider must produce aeronautical charts that comply with the requirements prescribed in the Standards and Recommended Practices of ICAO Annex 4 to the Convention of International Civil Aviation along with the applicable appendices to the Annex.
- (b) An AIS Provider must, on request by an AIS Provider from another State, provide all information relating to KSA that is necessary to enable the Standards of ICAO Annex 4 to be met.
- (c) An AIS Provider must ensure the availability of charts (including specified electronic charts) in whichever of the following ways is appropriate for a particular chart or single sheet of a chart series:
 - (1) For any chart or single sheet of a chart series entirely contained within the territory of a Contracting State, the State having jurisdiction over the territory must either:
 - (i) produce the chart or sheet itself; or
 - (ii) arrange for its production by another Contracting State or by an agency; or
 - (iii) provide another Contracting State prepared to accept an obligation to produce the chart or sheet with the data necessary for its production
 - (2) for any chart or single sheet of a chart series which includes the territory of KSA and another State, the State 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.
- (d) An 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

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revision service.

(e) An AIS Provider must make appropriate charts available, without charge, to another State on request on a reciprocal basis. Guidance material on the preparation of aeronautical charts, including sample formats, is contained in the ICAO Doc 8697.

(f) An AIS provider must ensure that the following aeronautical charts, where made available for designated international aerodromes/heliports:

(1) form part of the AIP or are provided separately to recipients of the AIP:

- (i) aerodrome/heliport chart – ICAO
- (ii) aerodrome ground movement chart – ICAO
- (iii) aerodrome obstacle chart – ICAO Type A
- (iv) aerodrome obstacle chart – ICAO Type B (when available)
- (v) aerodrome terrain and obstacle chart – ICAO (Electronic)
- (vi) aircraft parking/docking chart – ICAO
- (vii) area chart – ICAO
- (viii) ATC surveillance minimum altitude chart – ICAO
- (ix) instrument approach chart – ICAO
- (x) precision approach terrain chart – ICAO
- (xi) standard arrival chart – instrument (STAR) – ICAO
- (xii) standard departure chart – instrument (SID) – ICAO
- (xiii) visual approach chart – ICAO; and

(2) are provided, when available, as part of the aeronautical information products:

- (i) world aeronautical chart – ICAO 1:1 000 000;
- (ii) aeronautical chart – ICAO 1:500 000;
- (iii) aeronautical-navigation chart – ICAO small scale; and
- (iv) plotting chart- ICAO

(g) The Enroute Chart — ICAO must, when available, form part of the AIP, or be provided separately to recipients of the AIP

(h) Electronic aeronautical charts should be provided based on digital databases and the use of geographic information systems

§175.091 Charts – Operational requirements

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- (a) For the purposes of this regulation the total flight of an aircraft is divided into the following phases:
- (1) Phase 1 — Taxi from aircraft stand to take-off point
 - (2) Phase 2 — Take-off and climb to en-route ATS route structure
 - (3) Phase 3 — En-route ATS route structure
 - (4) Phase 4 — Descent to approach
 - (5) Phase 5 — Approach to land and missed approach
 - (6) Phase 6 — Landing and taxi to aircraft stand.
- (b) AIS Providers must ensure that each type of chart provides information relevant to the function of the chart and its design must observe Human Factors principles which facilitate its optimum use.
- (c) AIS Providers must ensure that each type of chart provides information appropriate to the phase of flight to ensure the safe and expeditious operation of the aircraft.
- (d) The presentation of information must be accurate, free from distortion and clutter, unambiguous, and be readable under all normal operating conditions.
- (e) Colours 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.
- (f) The information must be in a form which enables the pilot to acquire it in a reasonable time consistent with workload and operating conditions.
- (g) 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.
- (h) Charts should be True North orientated.

§175.093 Charts – Titles

The title of a chart or chart series prepared in accordance with the specifications contained in this regulation and intended to satisfy the function of the chart must be that of the relevant part of GACAR 175. Such title must not include “ICAO” unless the chart conforms with all Standards specified in ICAO Annex 4 Chapter 2 and any specified for the particular chart.

§175.095 Charts – Miscellaneous information

- (a) The marginal note layout to a chart must be as given in ICAO Annex 4 Appendix 1, 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; the title may be abbreviated.

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- (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

§175.097 Charts – Symbols

- (a) Symbols used must conform to those shown in ICAO Annex 4 Appendix 2, 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. The size and prominence of symbols and the thickness and spacing of lines may be varied according to the scale and functions of the chart, with due regard to the importance of the information they convey.
- (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:
 - (1) ground-based navigation aid,
 - (2) intersection,
 - (3) 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.
- (d) AIS Providers must ensure that symbols are shown in the manner specified in (b) and (c) above, and in ICAO Annex 4 Appendix 2 — ICAO Chart Symbols.

§175.099 Charts – 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 kilometres or nautical miles or both, provided the units are clearly differentiated.
- (d) Altitudes, elevations and heights must be expressed in either metres or feet or both, provided the units are clearly differentiated.

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- (e) Linear dimensions on aerodromes and short distances must be expressed in metres.
- (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 (kilometres/nautical miles, metres/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

§175.101 Charts – 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

§175.103 Charts – Date of validity of aeronautical information

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

§175.105 Charts – 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.
- (d) In areas where romanised names have not been officially produced or adopted, and outside the territory of KSA, names should be transliterated from the non-Roman alphabet form by the system generally used by the producing agency.

§175.107 Charts – Abbreviations

- (a) Abbreviations must be used on aeronautical charts whenever they are appropriate.
- (b) Where applicable, abbreviations should be selected from ICAO Doc 8400 Procedures for Air Navigation Services — ICAO Abbreviations and Codes.

§175.109 Charts – Political boundaries

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- (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 a state other than KSA appears on a chart, the names identifying the countries must be indicated. In the case of a dependent territory, the name of the sovereign State may be added in brackets.

§175.111 Charts – Colours

Colours used on charts should conform to ICAO Annex 4 Appendix 3 — Colour Guide

§175.113 Charts – 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) Relief should be portrayed by combinations of contours, hypsometric tints, spot elevations and hill shading, the choice of method being affected by the nature and scale of the chart and its intended use.
- (c) Where relief is shown by hypsometric tints, the tints used should be based on those shown in the Hypsometric Tint Guide in ICAO Annex 4 Appendix 4.
- (d) Where spot elevations are used, they must be shown for selected critical points.
- (e) The value of spot elevations of doubtful accuracy must be followed by the sign \pm .

§175.115 Charts – 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. Nationality letters are those contained in ICAO Doc 7910 — Location Indicators.

§175.117 Charts – Air traffic services airspaces

- (a) 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(ies) to be used must be indicated and the horizontal limits depicted in accordance with ICAO Annex 4, Appendix 2 — ICAO Chart Symbols.
- (b) On charts used for visual flight, those parts of the ATS Airspace Classes table shown in ICAO Annex 11, Appendix 4 applicable to the airspace depicted on the chart should be on the face or reverse of each chart.

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§175.119 Charts – Magnetic variation

- (a) True North and magnetic variation must be indicated. The order of resolution of magnetic variation must be that as specified for a particular chart.
- (b) When magnetic variation is shown on a chart, the values shown should be those for the year nearest to the date of publication that is divisible by 5, i.e. 2020, 2025, etc. In exceptional cases where the current value would be more than one degree different, after applying the calculation for annual change, an interim date and value should be quoted. The date and the annual change may be shown.
- (c) For instrument procedure charts, the publication of a magnetic variation change should be completed within a maximum of six AIRAC cycles.
- (d) In large terminal areas with multiple aerodromes, a single rounded value of magnetic variation should be applied so that the procedures that service multiple aerodromes use a single, common variation value.

§175.121 Charts – Typography

Unless otherwise approved by the President of GACA, AIS Providers must use type included in ICAO Doc 8697 the Aeronautical Chart Manual.

§175.123 Charts – Aeronautical data

- (a) AIS Providers must take all necessary measures to introduce a properly organized quality system containing procedures, processes and resources necessary to implement quality management at each function stage as outlined in ICAO Annex 15, Paragraph 3.6. The execution of such quality management must be made demonstrable for each function stage, when required. In addition, Providers must ensure that established procedures exist in order that aeronautical data at any moment is traceable to its origin so to allow any data anomalies or errors, detected during the production/maintenance phases or in the operational use, to be corrected. Specifications governing the quality system are given in ICAO Annex 15, Chapter 3.
- (b) AIS Providers must ensure that the chart resolution of aeronautical data must be that as specified for a particular chart. Specifications concerning the chart resolution for aeronautical data are contained in ICAO Doc 10066 PANS-AIM, Appendix 1.
- (c) AIS Providers must ensure that integrity of aeronautical data is maintained throughout the data process from origination to distribution to the next intended user. Specifications concerning the integrity classification related to aeronautical data are provided in ICAO Doc 10066 PANS-AIM, Appendix 1.
- (d) Digital data error detection techniques must be used during the transmission and/or storage of aeronautical data and digital data sets. Detailed specifications concerning digital data error detection techniques are contained in ICAO Doc 10066 PANS-AIM.

§175.125 Origination and issue of NOTAM

- (a) An AIS provider must:

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- (1) promptly issue a NOTAM 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; and
 - (2) issue, as a NOTAM, information on the establishment, condition, or change of any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel involved with flight operations;
- (b) Compliance with §175.045 must not inhibit the urgent distribution of aeronautical information necessary to ensure the safety of flight.
- (c) A NOTAM must be originated and issued when it is necessary to provide the following information:
- (1) establishment of, closure of, or significant changes in the operation of aerodromes or heliports or runways;

Note – all NOTAM regarding airport construction and other non-operational matters must be accepted by the President before publication.
 - (2) establishment of, withdrawal of, and significant changes in, the operation of aeronautical services (aerodromes, AIS, ATS, communications, navigation and surveillance (CNS), meteorology (MET), search and rescue (SAR) etc);
 - (3) establishment of, withdrawal of, and significant changes in, the 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 or limitations of relay stations including operational impact, affected service, frequency and area;
 - (4) unavailability of backup and secondary systems, having a direct operational impact;
 - (5) establishment of, withdrawal of, or significant changes to, visual aids;
 - (6) interruption of, or return to operation of, major components of aerodrome lighting systems;
 - (7) establishment of, withdrawal of, or significant changes to, procedures for air navigation services;
 - (8) occurrence or correction of major defects or impediments in the manoeuvring area;
 - (9) changes to, and limitations on, the availability of fuel, oil and oxygen;
 - (10) major changes to search and rescue (SAR) facilities and services available;
 - (11) establishment of, withdrawal of, or return to, operation of hazard beacons marking obstacles to air navigation;
 - (12) changes in regulations applicable in the Kingdom of Saudi Arabia requiring immediate action;
 - (13) Operational directives requiring immediate action thereto;

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- (14) presence of hazards that affect air navigation (including obstacles, military exercises, displays, fireworks, sky lanterns, rocket debris, races and major parachuting events outside promulgated sites);
 - (15) planned laser emissions, laser displays and search lights if pilots' night vision is likely to be impaired;
 - (16) erecting or removal of, or changes to, obstacles to air navigation in the take-off/climb, missed approach, approach areas as well as on the runway strip;
 - (17) establishment or discontinuance of, including activation or deactivation, as applicable, or changes in, the status of prohibited, restricted or danger areas;
 - (18) establishment or discontinuance of areas or routes, or portions thereof, where the possibility of interception exists and where the maintenance of guard on the very high frequency (VHF) emergency frequency 121.5 MHz is required;
 - (19) allocation, cancellation or change of location indicators;
 - (20) changes in aerodrome/heliport rescue and firefighting (RFF) category provided;
 - (21) presence of, 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;
 - (22) outbreaks of epidemics necessitating changes in notified requirements for inoculations and quarantine measures;
 - (23) forecasts of solar cosmic radiation, where provided;
 - (24) observations or forecasts of space weather phenomena, the date and time of their occurrence, the flight levels where provided and portions of the airspace which may be affected by the phenomena
 - (25) an operationally significant change in volcanic activity, the location, date and time of volcanic eruptions and/or the horizontal and vertical extent of a volcanic ash cloud, including direction of movement, flight levels and routes or portions of routes that could be affected;
 - (26) 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, that could be affected, as well as the direction of movement;
 - (27) establishment of operations of humanitarian relief missions, together with procedures and/or limitations that affect air navigation;
 - (28) implementation of short-term contingency measures in cases of disruption, or partial disruption, of ATS and related supporting services; and
 - (29) specific loss of integrity of satellite-based navigation systems.
- (d) A NOTAM must not be issued to provide the following information:
- (1) routine maintenance work on aprons and taxiways that does not affect the safe movement of aircraft;
 - (2) runway marking work when aircraft operations can safely be conducted on other available runways or

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when 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 available and are operative;
- (6) lack of apron marshalling services, road traffic closures, limitations and control;
- (7) the unserviceability of location, destination or other instruction signs on the aerodrome movement area;
- (8) parachuting when in uncontrolled airspace under visual flight rules (VFR), nor when in controlled airspace at promulgated sites or within danger or prohibited areas;
- (9) training activities performed by ground units;
- (10) unavailability of backup and secondary systems if these do not have an operational impact;
- (11) limitations to airport facilities or general services, with no operational impact;
- (12) national regulations not affecting general aviation;
- (13) announcements or warnings about possible/potential limitations, with no operational impact;
- (14) general reminders on already published information;
- (15) availability of equipment for ground units, without information on the operational impact on airspace and facility users;
- (16) information about laser emissions with no operational impact and about fireworks below the minimum flying heights;
- (17) closure of parts of the movement area in connection with locally coordinated, planned work of duration of less than one hour;
- (18) closure, changes, unavailability in the operation of aerodrome(s)/heliport(s) other than in the aerodrome(s)/heliport(s) operation hours; and
- (19) other non-operational information of a similar temporary nature.

(e) Except as provided for in (h) below, each NOTAM must contain the information in the order shown in the NOTAM format of Appendix 3 to ICAO Doc 10066 PANS AIM.

(f) The required SNOWTAM format is that prescribed in Appendix 4 of ICAO Doc 10066 PANS-AIM

(g) NOTAM text 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.

(h) All NOTAM must be issued in English language.

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- (i) Information concerning an operationally significant change to volcanic activity, 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 of Appendix 5 to ICAO Doc 10066 PANS AIS
- (j) When errors occur in a NOTAM, a NOTAM with a new number must be issued to replace the erroneous NOTAM or the erroneous NOTAM must be cancelled, and a new NOTAM must be issued.
- (k) When a NOTAM is issued that cancels or replaces a previous NOTAM:
 - (1) the series and number/year of the previous NOTAM must be indicated; and
 - (2) the series, location indicator and subject of both NOTAM must be the same.
- (l) Only one NOTAM must be cancelled or replaced by a NOTAM.
- (m) Each NOTAM must deal with only one subject and one condition of the subject.
- (n) Each NOTAM must be as brief as possible and compiled so that its meaning is clear without the need to refer to another document.
- (o) Each NOTAM must be transmitted as a single telecommunication message
- (p) A NOTAM containing permanent or temporary information of long duration must include appropriate references to the AIP or AIP supplement.
- (q) Location indicators included in the text of a NOTAM must be those contained in ICAO Doc 7910 'Location Indicators'. A curtailed form of such indicators must not be used. Where no ICAO location indicator is assigned to the location, its place name must be entered in plain language.
- (r) A series identified by a letter and a four-digit number followed by a stroke and a two-digit number for the year must be allocated to each NOTAM. The four-digit number must be consecutive and based on the calendar year. Letters S and T ~~shall~~ must not be used to identify NOTAM
- (s) All NOTAM must be divided in series based on subject, traffic or location or a combination thereof, depending on end-user needs. NOTAM for aerodromes allowing international air traffic must be issued in international NOTAM series.
- (t) The content and geographical coverage of each NOTAM series must be stated in detail in the AIP, GEN 3.
- (u) A checklist of valid NOTAM must be regularly provided.
- (v) One checklist NOTAM must be issued for each series.
- (w) A checklist NOTAM must also refer to the latest AIP amendments, AIP supplements, data sets and, at least, to distributed AIC.
- (x) A checklist NOTAM must have the same distribution as the actual message series to which it refers and must be clearly identified as a checklist.

Series allocation must be monitored and, if required, appropriate measures must be taken to assure that no series reaches the maximum possible number of issued NOTAM before the end of a calendar year.

Information which relates to an aerodrome and its vicinity and does not affect its operational status may be distributed

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locally during pre-flight or in-flight briefing or other local contact with flight crews.

§175.127 Digital data sets - general

(a) If available, an AIS provider must ensure that digital data is in the form of the following data sets:

- (1) AIP data set;
- (2) terrain data set;
- (3) obstacle data sets;
- (4) aerodrome mapping data sets; and
- (5) instrument flight procedure data sets.

(b) When made available, terrain data must be provided in the form of terrain data sets.

(c) A checklist of valid data sets must be regularly provided.

(d) A standard for geographic information must be used as a reference framework.

(e) A description of each available data set must be provided in the form of a data product specification.

(f) A checklist of the available data sets, including their effective and publication dates, must be made available to users to ensure that current data is being used.

(g) The checklist of data sets must be made available through the same distribution mechanism as the one used for the data sets.

§175.129 Metadata requirements

(a) An AIS Provider must collect and preserve metadata

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

- (1) the identification/name of the organisations or entities performing any action of originating, transmitting or manipulating the aeronautical data;
- (2) the action performed; and
- (3) the date and time the action was performed
- (4) the validity of the data set, and
- (5) any limitations on the use of the data set

(c) Each data set must include a minimum set of metadata to be provided to the next user.

§175.131 Identification of data quality limitations

The identification of data not meeting the data quality requirements must be made with an annotation or by explicitly

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providing the quality value.

§175.133 AIP data set

- (a) An AIP data set should be provided covering the extent of information as provided in the AIP.
- (b) When it is not possible to provide a complete AIP data set, the data subset(s) that are available should be provided.
- (c) An AIS provider must ensure that the AIP data set, if available, contains the digital representation of aeronautical information of lasting character, including permanent information and long-duration temporary changes essential to air navigation.
- (d) The AIP data set must include data about the following subjects, including the properties indicated, if applicable:

Data subjects	Associated properties as a minimum
ATS airspace	Type, name, lateral limits, vertical limits, class of airspace
Special activity airspace	Type, name, lateral limits, vertical limits, restriction, activation
ATS route and other routes	Identifier prefix, flight rules, designator
Route segment	Navigation specification, start point, end point, track, distance, upper limit, lower limit, minimum en-route altitude (MEA), minimum obstacle clearance altitude (MOCA), direction of cruising level, reverse direction of cruising level, required navigation performance
Waypoint — en-route	Reporting requirement, identification, location, formation
Aerodrome/heliport	Location indicator, name, International Air Transport Association (IATA) designator, served city, certification date, certification expiration date, control type, field elevation, reference temperature, magnetic variation, airport reference point
Runway	Designator, nominal length, nominal width, surface type, strength
Runway direction	Designator, true bearing, threshold, take-off run available (TORA), take-off distance available (TODA), accelerate-stop distance available (ASDA), landing distance available (LDA), rejected TODA (for helicopters)

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Final approach and take-off area (FATO)	Designation, length, width, threshold point
Touchdown and lift-off area (TLOF)	Designator, centre point, length, width, surface type
Radio navigation aid	Type identification, name, aerodrome served, hours of operation, magnetic variation, frequency/channel, position, elevation, magnetic bearing, true bearing, zero bearing direction

(e) When a property is not defined for a particular occurrence of the subjects listed in (a), the AIP data subset must include an explicit indication: ‘not applicable’.

§175.135 Terrain and obstacle data — General requirements

(a) An AIS provider must ensure that terrain and obstacle data, if available, are provided in accordance with §175.135.

(b) The coverage areas for sets of terrain and obstacle data must be specified as:

(1) Area 1: the 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 which 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 % to each side;

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

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

(3) Area 3: the area bordering an aerodrome movement area which 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; and

(4) Area 4: the area extending 900 m prior to the runway threshold and 60 m to each side of the extended runway centre line in the direction of the approach on a precision approach runway, Category II or III.

(c) 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 should be extended to a distance not exceeding 2 000 m (6 500 ft) from the runway threshold.

Surveyors and providers of electronic terrain and obstacle data for Areas 1, 2, 3 and 4 must be accepted by the President.

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§175.137 Terrain data sets

- (a) An AIS provider must ensure that terrain data, if available, is provided:
- (1) for Area 1, as laid down in §175.135; and
 - (2) for aerodromes regularly used by international civil aviation to cover:
 - (i) Area 2a;
 - (ii) the take-off flight path area;
 - (iii) an area bounded by the lateral extent of the aerodrome obstacle limitation surfaces;
 - (iv) For aerodromes regularly used by international civil aviation, terrain data must be provided for Area 4 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.
- (b) When terrain data sets are provided:
- (1) terrain data sets must contain the digital representation of the terrain surface in the form of continuous elevation values at all intersections of a defined grid, referenced to a common datum;
 - (2) a terrain grid must be angular or linear and must be of a regular or irregular shape;
 - (3) terrain data sets must include spatial (position and elevation), thematic, and temporal aspects of the surface of the Earth, containing naturally occurring features, excluding obstacles;
 - (4) only one feature type, i.e. terrain, must be provided;
 - (5) Terrain data for each area must conform to the applicable numerical requirements in Appendix 1 of ICAO Doc 10066.
 - (6) In terrain data sets, only one feature type, i.e. terrain, must be provided. Feature attributes describing terrain must be those listed in Appendix 6, Table A6-1 of ICAO doc 10066. The terrain feature attributes listed in Appendix 6, Table A6-1 of ICAO Doc 10066 represent the minimum set of terrain attributes, and those annotated as mandatory must be recorded in the terrain data set.
- (c) Further information concerning the provision of terrain data is available in ICAO Doc 10066 PANS AIM Appendix 8.

§175.139 Obstacle data sets

- (a) Obstacle data sets must contain the digital representation of the vertical and horizontal extent of obstacles.
- (b) Obstacle data must not be included in terrain data sets.
- (c) An AIS provider must ensure that obstacle data, if available, is provided:
- (1) for obstacles in Area 1 whose height is 100 m or higher above ground;

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- (2) for aerodromes, regularly used by international civil aviation for all obstacles within Area 2 that are assessed as being a hazard to air navigation; and
- (3) for aerodromes regularly used by international civil aviation, to cover:
 - (i) Area 2a for those obstacles that penetrate the relevant obstacle data collection surface outlined by a rectangular area around a runway that comprises the runway strip plus any clearway that exists. The Area 2a obstacle collection surface must have a height of 3 m above the nearest runway elevation measured along the runway centre line, and for those portions related to a clearway, if one exists, at the elevation of the nearest runway end;
 - (ii) objects in the take-off flight path area which project above a plane surface having a 1.2 % slope and having a common origin with the take-off flight path area;
 - (iii) penetrations of the aerodrome obstacle limitation surfaces or parts thereof;
 - (iv) Area 4 for all runways where precision approach Category II or III operations have been established for aerodromes regularly used by international civil aviation.
- (d) When obstacle data sets are provided in accordance with §175.139:
 - (1) obstacle data elements are features that must be represented in the data sets by points, lines or polygons;
 - (2) Refer to ICAO Doc 10066 PANS AIM Appendix 8 for obstacle data requirements
 - (3) The obstacle feature attributes are listed in ICAO Doc 10066 PANS AIM Appendix 6, Table A6-1

§175.141 Aerodrome mapping data sets

Aerodrome mapping data sets must contain the digital representation of aerodrome features.

- (a) ISO standards for geographic information must be used as a reference framework.
- (b) Aerodrome mapping data products must be described following the relevant 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.

§175.143 Instrument flight procedure data sets

An AIS provider must ensure that instrument flight procedure data sets, if available, are provided in accordance with points (a) and (b) below.

- (a) Instrument flight procedure data sets must contain the digital representation of instrument flight procedures.
- (b) The instrument flight procedure data sets must include data about the following subjects, including all of their properties indicated in brackets being included as a minimum (if applicable):
 - (1) Procedure (all properties);
 - (2) procedure segment (all properties);

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- (3) final approach segment all (all properties);
 - (4) procedure fix (all properties);
 - (5) procedure holding (all properties); and
 - (6) helicopter procedure (all properties).
- (c) The description of the data subjects, together with their properties, data type and applicable data quality requirements, is provided in ICAO Doc 10066 PANS AIM Appendix 1

The instrument flight procedure data set should also cover the data publication requirements contained in ICAO Doc 8168 PANS OPS Volume II – Construction of Visual and Instrument Flight Procedures

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SUBPART D — Distribution, pre-flight information and post-flight information services

§175.145 Distribution services

(a) An AIS provider must:

- (1) distribute available aeronautical information products to those users who request them;
- (2) make available the AIP, AIP amendments, AIP supplements, NOTAM and AIC by the most expeditious means;
- (3) ensure that NOTAM are distributed through the aeronautical fixed service (AFS), whenever practicable;
- (4) When a NOTAM 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. The originating State must select the NOTAM that are to be given international distribution.
- (5) ensure that international exchange of NOTAM takes place only as mutually agreed between the international NOTAM offices and multinational NOTAM processing units concerned; and
- (6) arrange, as necessary, the issuance and receipt of NOTAM distributed by telecommunication to satisfy operational requirements.

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

(c) Distribution of NOTAM series other than those distributed internationally must be granted upon request.

(d) NOTAM must be prepared in conformity with ICAO communication procedures laid down in ICAO Annex 10, Volume II.

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

(f) The exchange of ASHTAM beyond the territory of a contracting state, and NOTAM where contracting states use NOTAM for distribution of information on volcanic activity, must include volcanic ash advisory centres and the world area forecast centres, and take account of the requirements of long-range operations.

§175.147 Pre-flight information services

(a) An AIS provider must ensure that:

- (1) for any aerodrome/heliport used for international air operations, aeronautical information relative to the route stages originating at the aerodrome/heliport is made available to flight operations personnel, including flight crew and services responsible for pre-flight information; and
- (2) aeronautical information provided for pre-flight planning purposes includes information of operational significance from the elements of the aeronautical information products.

(b) Automated pre-flight information systems must be used to make aeronautical data and aeronautical information

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available to operations personnel, including flight crew members, for self-briefing, flight planning and flight information service purposes.

- (c) The human machine interface of the pre-flight information services facilities must ensure easy access to all relevant information/data in a guided manner.
- (d) Self-briefing facilities of an automated pre-flight information system must provide access, as necessary, to the AIS for consultation by telephone or another suitable telecommunication means.
- (e) Automated pre-flight information systems for the supply of aeronautical data and aeronautical information 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 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 the provision of the aeronautical data and aeronautical information accessed, in paper form, as required;
 - (4) use access and interrogation procedures based on abbreviated plain language and ICAO location indicators laid down in ICAO Doc 7910, as appropriate, or based on a menu-driven user interface or other appropriate mechanism as agreed by the President; and
 - (5) provide a timely response to a user request for information.
- (f) Although NOTAM issued with purpose M are regarded as not being subject for a briefing, but available upon request only, AIS Providers must ensure that all NOTAM are available for briefing by default, and content reduction must be at user's discretion.

§175.149 Post-flight information service

- (a) The purpose of post-flight information is to ensure that inadequacies of facilities essential to the safety of flight operations, and the presence of birds on or around the airport constituting a potential hazard to aircraft operations, observed by a pilot during the flight, are reported without delay to the authority responsible for those facilities.
- (b) Aircraft operators are required to report any inadequacy of facilities observed in the course of operations to the authority responsible for them without delay. AIS Providers at aerodromes/heliports must make arrangements to:
 - (1) receive any information concerning the inadequacy of facilities and to make it available for distribution as the circumstances necessitate.
 - (2) receive information concerning the presence of birds observed by aircrews and make it available for such distribution as the circumstances necessitate.
 - (3) provide post-flight report forms to pilots should they wish to confirm in writing any observations or wish to make an initial report. Copies of any post-flight reports should be made available to the airline

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operator. A specimen post-flight report form is shown in ICAO Doc 8126 AIS Manual at Figure 8-9.

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SUBPART E — Aeronautical information products updates

§175.151 General – Aeronautical information products updates

- (a) An AIS provider must ensure that aeronautical data and aeronautical information are amended or reissued to keep them up to date.
- (b) The same AIRAC cycle update must be applied to the AIP amendments, AIP supplements, AIP data set, and the instrument flight procedure data sets in order to ensure consistency of the data items that appear in multiple aeronautical information products.

§175.153 Aeronautical information regulation and control (AIRAC)

- (a) An AIS provider must ensure that information concerning the circumstances listed in §175.153(c) is distributed under the AIRAC system.
- (b) An AIS provider must ensure that:
 - (1) the information notified under the AIRAC system is not changed further for at least another 28 days after the AIRAC effective date unless the circumstance notified is of a temporary nature and would not persist for the full period;
 - (2) the information provided under the AIRAC system is distributed/made available so as to reach recipients at least 28 days in advance of the AIRAC effective date; and
 - (3) implementation dates other than the AIRAC effective dates are not used for pre-planned operationally significant changes requiring cartographic work and/or for updating of navigation databases.
- (c) Information concerning the following circumstances must be distributed under the AIRAC system:
 - (1) horizontal and vertical limits, regulations and procedures applicable to:
 - (i) flight information regions (FIRs);
 - (ii) control areas (CTAs);
 - (iii) control zones;
 - (iv) advisory areas;
 - (v) ATS routes;
 - (vi) permanent danger, prohibited and restricted areas (including type and periods of activity, when known) and air defence identification zones (ADIZs); and
 - (vii) permanent areas or routes, or portions thereof, where the possibility of interception exists;
 - (2) positions, frequencies, call signs, identifiers, known irregularities and maintenance periods of radio navigation aids, and communication and surveillance facilities;

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- (3) holding and approach procedures, arrival and departure procedures, noise abatement procedures and any other pertinent ATS procedures;
 - (4) transition levels, transition altitudes and minimum sector altitudes;
 - (5) meteorological facilities (including broadcasts) and procedures;
 - (6) runways and stopways;
 - (7) taxiways and aprons;
 - (8) aerodrome ground operating procedures (including low-visibility procedures);
 - (9) approach and runway lighting; and
 - (10) aerodrome operating minima, if published.
- (d) Special arrangements must be made whenever major changes are planned and where advance notice is desirable and practicable.
- (e) When information has not been submitted by the AIRAC date, a NIL notification must be distributed through a NOTAM or other suitable means, not later than one cycle before the AIRAC effective date concerned.

§175.155 Aeronautical product updates

- (a) The aeronautical information publication (AIP) must be amended or reissued at such regular intervals as may be necessary to keep it up to date.
- (b) Permanent changes to the AIP must be published as AIP Amendments
- (c) 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

§175.157 NOTAM Distribution

- (a) An AIS provider must:
 - (1) ensure that NOTAM are provided in accordance with the requirements of this Regulation; and
 - (2) provide a ‘trigger NOTAM’, as laid down in 175.157(h), when an AIP amendment or an AIP supplement is published in accordance with AIRAC procedures.
- (b) NOTAM must be published with sufficient lead time for the affected parties to take any required action, except in the case of unserviceability, volcanic activity, release of radioactive material, toxic chemicals and other events that cannot be foreseen.
- (c) NOTAM notifying unserviceability of aids to air navigation, facilities or communication services must provide an estimate of the unserviceability period or of the time at which restoration of service is expected.
- (d) 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.

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- (e) Notice of any subsequent cancellation of the activities or any reduction of the hours of activity or the dimensions of the airspace should be given as soon as possible.
- (f) Within three months from the issuing of a permanent NOTAM, the information contained in the NOTAM must be included in the aeronautical information products affected.
- (g) Within three months from the issuing of a temporary NOTAM of long duration, the information contained in the NOTAM must be included in an AIP supplement.
- (h) When a NOTAM with an estimated end of validity unexpectedly exceeds the three-month period, a replacement NOTAM must be issued unless the condition is expected to last for a further period of more than three months; in that case, an AIP supplement must be issued.
- (i) A ‘trigger NOTAM’ must briefly describe the content, the effective date and time, as well as the reference number of the amendment, or supplement.
- (j) A ‘trigger NOTAM’ must come into force on the same effective date and time as the AIP amendment or supplement.
- (k) In case of an AIP amendment or supplement, a ‘trigger NOTAM’ must remain valid in the pre-flight information bulletin for a period of 14 days.
- (l) In the case of an AIP supplement, the Trigger NOTAM must remain valid for a period of fourteen days.
- (m) In case of an AIP supplement that is valid for less than 14 days, the ‘trigger NOTAM’ must remain valid for the complete validity period of the AIP supplement.
- (n) In case of an AIP supplement that is valid for 14 days or more, the ‘trigger NOTAM’ must remain valid for at least 14 days.
- (o) 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

§175.159 Data set updates

- (a) An AIS provider must:
 - (1) amend or reissue data sets at such regular intervals as may be necessary to keep them up to date; and
 - (2) issue permanent changes and temporary changes of long duration — three months or longer — made available as digital data in the form of a complete data set and/or a subset that includes only the differences from the previously issued complete data set.
- (b) The update interval for the digital data set must be specified in the data product specification.
- (c) Data sets that have been made available in advance, according to the AIRAC cycle, must be updated with the non-AIRAC changes that occurred between the publication and the effective date.
- (d) When temporary changes of short duration are made available as digital data (digital NOTAM), they must use the same aeronautical information model as the complete data set.
- (e) Updates to AIP and digital data sets must be synchronized.