European Aviation Safety Agency

Notice of Proposed Amendment 2016-02

Technical requirements and operational procedures for aeronautical information services and aeronautical information management

RMT.0477 — 27.4.2016

Cross-reference tables

This document contains three cross-reference tables developed for the purpose of rule traceability:

— Table 1 contains the definitions comparison between ICAO Annex 15 and PANS-AIM, Regulation (EU) No 73/2010 and the NPA text;

— Table 2 contains the rule comparison between the provisions of Regulation (EU) No 73/2010 and the NPA text; and

— Table 3 contains the rule comparison between the text of the upcoming major amendment to ICAO Annex 15 and new draft PANS-AIM, and the NPA text.

The tables 2 and 3 comprises three columns:

— The first column contains the text of the provisions to be compared with (ICAO/EC Reg.);

— The second column provides the NPA proposed text.

— The third column shows if changes have been made to the ICAO/EC Reg. provisions or not and if changes were made, the justification why such changes are proposed.

Please note that Table 3 (comparison between ICAO material and the NPA text) is based on the a draft ICAO Annex 15 and PANS-AIM that is currently under approval process at ICAO level.

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Table 1 DEFINITIONS - Comparison between ICAO Annex 15 and PANS-AIM, Regulation (EU) No 73/2010 and the NPA text

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Aerodrome. A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.	---	Not transposed. This term is already defined in Regulation 216/2008.
Aerodrome mapping data (AMD). Data collected for the purpose of compiling aerodrome mapping information. Note.— Aerodrome mapping data are collected for purposes that include the improvement of the user's situational awareness, surface navigation operations, training, charting and planning.	10. 'aerodrome mapping data' means data collected for the purpose of compiling aerodrome mapping information;	Not transposed. This term is already defined in point 14 of Annex I of Regulation (EU) …/.. The Note is not transposed as it is not considered relevant in the context of the rules.
Aerodrome mapping database (AMDB). A collection of aerodrome mapping data organized and arranged as a structured data set.	---	Not transposed. This term is already defined in point 15 of Annex I of Regulation (EU) …/..
Aeronautical Information Circular (AIC). A notice containing information that does not qualify for the origination of a NOTAM or for inclusion in the AIP, but which relates to flight safety, air navigation, technical, administrative or legislative matters.	---	'Aeronautical Information Circular (AIC)' means a notice containing information that does not qualify for the origination of a NOTAM or for inclusion in the AIP, but which relates to flight safety, air navigation, technical, administrative or legislative matters;
Aeronautical information management (AIM). The dynamic, integrated management of aeronautical	---	'Aeronautical information management (AIM)' means the dynamic, integrated management of aeronautical

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information through the provision and exchange of quality-assured digital aeronautical data in collaboration with all parties.		information through the provision and exchange of quality-assured digital aeronautical data in collaboration with all parties;
Aeronautical Information Product. Aeronautical data and aeronautical information provided either as digital data sets or as a standardized presentation in paper or electronic media. Aeronautical Information Products include: — Aeronautical Information Publication (AIP), including Amendments and Supplements — Aeronautical Information Circulars (AIC) — Aeronautical charts — NOTAM — Digital data sets Note.— Aeronautical Information Products are intended primarily to satisfy international requirements for the exchange of aeronautical information.	7. 'integrated aeronautical information package' (hereinafter IAIP) means a package which consists of the following elements: (a) aeronautical information publications (hereinafter AIP), including amendments; (b) supplements to the AIP; (c) the NOTAM, as defined in point 17 and pre-flight information bulletins; (d) aeronautical information circulars; and (e) checklists and lists of valid NOTAMs;	'Aeronautical information product' means aeronautical data and aeronautical information provided either as digital data sets or as a standardized presentation in paper or electronic media. Aeronautical Information products include: — aeronautical information publication (AIP), including Amendments and Supplements — aeronautical information circulars (AIC) — aeronautical charts — NOTAM — gigital data sets The Note is not transposed as it is not considered relevant in the context of the rules.
Aeronautical Information Publication (AIP). A publication issued by or with the authority of a State and containing aeronautical information of a lasting character essential to air navigation.	---	'Aeronautical information publication (AIP)' means a publication issued by or with the authority of a State and containing aeronautical information of a lasting character essential to air navigation;
Aeronautical information service (AIS). A service established within the defined area of coverage responsible for the provision of aeronautical data and	---	'Aeronautical information service' means a service established by or on behalf of a Member State, within the defined area of coverage responsible for the

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aeronautical information necessary for the safety, regularity and efficiency of air navigation.		provision of aeronautical information and data necessary for the safety, regularity, and efficiency of air navigation;
	"aeronautical information service provider" means the organisation responsible for the provision of an aeronautical information service, certified in accordance with the requirements of Commission Implementing Regulation (EU) No 1035/2011;'	'Aeronautical information service provider' means an organisation responsible for the provision of an aeronautical information service;
AIP Amendment. Permanent changes to the information contained in the AIP.	---	'AIP amendment' means permanent changes to the information contained in the AIP;
AIP Supplement. Temporary changes to the information contained in the AIP which are provided by means of special pages.	---	'AIP supplement' means temporary changes to the information contained in the AIP which are provided by means of special pages;
AIRAC. An acronym (aeronautical information regulation and control) signifying a system aimed at advance notification, based on common effective dates, of circumstances that necessitate significant changes in operating practices.	---	'Aeronautical information regulation and control (AIRAC)' means a system aimed at advance notification, based on common effective dates, of circumstances that necessitate significant changes in operating practices;
Air defence identification zone (ADIZ). Special designated airspace of defined dimensions within which aircraft are required to comply with special identification and/or reporting procedures additional to those related to the provision of air traffic services (ATS).	---	Not transposed.

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Air traffic management (ATM). The dynamic, integrated management of air traffic and airspace (including air traffic services, airspace management and air traffic flow management) — safely, economically and efficiently — through the provision of facilities and seamless services in collaboration with all parties and involving airborne and ground-based functions.	---	Not transposed. This term is already defined in Regulation 216/2008 in article 3(q).
Application. Manipulation and processing of data in support of user requirements (ISO 19104*).	---	Not transposed. This generic definition is not considered relevant in the context of the rules.
Area navigation (RNAV). A method of navigation which permits aircraft operation on any desired flight path within the coverage of ground- or space-based navigation aids or within the limits of the capability of self-contained aids, or a combination of these. Note.— Area navigation includes performance-based navigation as well as other operations that do not meet the definition of performance-based navigation.	---	Not transposed. This term is already defined in point 27 of Annex I of Regulation (EU) …/.. The Note is not transposed as it is not considered relevant in the context of the rules.
ASHTAM. A special series NOTAM notifying by means of a specific format change in activity of a volcano, a volcanic eruption and/or volcanic ash cloud that is of significance to aircraft operations.	---	Not transposed. This term is already defined in point 29 of Annex I of Regulation (EU) …/..
Assemble. A process of merging data from multiple sources into a database and establishing a baseline for	---	'Assemble' means a process of merging data from multiple sources into a database and establishing a

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subsequent processing. Note.— The assemble phase includes checking the data and ensuring that detected errors and omissions are rectified.		baseline for subsequent processing; The Note is not transposed as it is not considered relevant in the context of the rules.
ATS surveillance service. Term used to indicate a service provided directly by means of an ATS surveillance system.	---	Not transposed. This term is not used in the rules.
ATS surveillance system. A generic term meaning variously, ADS-B, PSR, SSR or any comparable ground-based system that enables the identification of aircraft. Note.— A comparable ground-based system is one that has been demonstrated, by comparative assessment or other methodology, to have a level of safety and performance equal to or better than monopulse SSR.	---	Not transposed. This term is defined within the scope of ATS.
Automatic dependent surveillance — broadcast (ADS-B). A means by which aircraft, aerodrome vehicles and other objects can automatically transmit and/or receive data such as identification, position and additional data, as appropriate, in a broadcast mode via a data link.	---	Not transposed. This term is defined within the scope of ATS.
Automatic dependent surveillance — contract (ADS-C). A means by which the terms of an ADS-C agreement will be exchanged between the ground system and the aircraft, via a data link, specifying under what conditions ADS-C reports would be initiated, and what data would be contained in the reports.	---	Not transposed. This term is defined within the scope of ATS.

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Note.— The abbreviated term "ADS contract" is commonly used to refer to ADS event contract, ADS demand contract, ADS periodic contract or an emergency mode.		
Automatic terminal information service (ATIS). The automatic provision of current, routine information to arriving and departing aircraft throughout 24 hours or a specified portion thereof: Data link-automatic terminal information service (D-ATIS). The provision of ATIS via data link. Voice-automatic terminal information service (Voice-ATIS). The provision of ATIS by means of continuous and repetitive voice broadcasts.	---	Not transposed. This term is defined within the scope of ATS.
Bare Earth. Surface of the Earth including bodies of water and permanent ice and snow, and excluding vegetation and man- made objects.	---	This term is used in the AMC for terrain data set and will be included in the definition in the ED Decision.
Calendar. Discrete temporal reference system that provides the basis for defining temporal position to a resolution of one day (ISO 19108*).	---	Not transposed. This term is considered to be self-explanatory.
Canopy. Bare Earth supplemented by vegetation height.	---	This term is used in the AMC for terrain data set and will be included in the definition in the ED Decision.
Confidence level. The probability that the true value of a parameter is within a certain interval around the estimate of its value.	---	Not transposed. This term is not used in the rules.

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Note.— The interval is usually referred to as the accuracy of the estimate.		
Controller-pilot data link communications (CPDLC). A means of communication between controller and pilot, using data link for ATC communications.	---	Not transposed. This term is defined within the scope of ATS.
Culture. All man-made features constructed on the surface of the Earth, such as cities, railways and canals.	---	Not transposed. This term is not used in the rules.
Cyclic redundancy check (CRC). A mathematical algorithm applied to the digital expression of data that provides a level of assurance against loss or alteration of data.	---	'Cyclic redundancy check (CRC)' means a mathematical algorithm applied to the digital expression of data that provides a level of assurance against loss or alteration of data;
Data completeness. The degree of confidence that all of the data needed to support the intended use is provided.	---	'Completeness (of data)' means the degree of confidence that all of the data needed to support the intended use is provided;
Data format. A structure of data elements, records and files arranged to meet standards, specifications or data quality requirements	---	'Format (of data)' means a structure of data elements, records and files arranged to meet standards, specifications or data quality requirements;
Data product. Data set or data set series that conforms to a data product specification (ISO 19131*).	---	Not transposed. The term used is data product specification (below).
Data product specification. Detailed description of a data set or data set series together with additional information that will enable it to be created, supplied to and used by	---	'Data product specification' means a detailed description of a data set or data set series together with additional information that will enable it to be

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another party (ISO 19131*). Note.— A data product specification provides a description of the universe of discourse and a specification for mapping the universe of discourse to a data set. It may be used for production, sales, end-use or other purpose.		created, supplied to and used by another party; GM1 to 'Data product specification': A data product specification provides a description of the universe of discourse and a specification for mapping the universe of discourse to a data set. It may be used for production, sales, end-use or other purpose. Data product specification provide a means by which the content of a data set is precisely specified. A data product specification supports the party generating a data set by providing information as to what exactly should be included within the data set. The content of the data product specification is closely related to the metadata model. The users of the data may determine, by comparing their data product specification with the metadata, how the data may be used in their application and what mitigations, if any, are needed as result of, for example, the quality / completeness of the data.
Data timeliness. The degree of confidence that the data is applicable to the period of its intended use	---	'Timeliness (of data)' means the degree of confidence that the data is applicable to the period of its intended use;
Data traceability: the degree that a system or a data product can provide a record of the changes made to that	---	'Traceability (of data)' means the degree that a system or a data product can provide a record of the changes

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product and thereby enable an audit trail to be followed from the end-user to the data originator		made to that product and thereby enable an audit trail to be followed from the end-user to the data originator;
Data set. Identifiable collection of data (ISO 19101*).	---	'Data set' means identifiable collection of data;
Data set series. Collection of data sets sharing the same product specification (ISO 19115*).	---	Not transposed. This term is not used in the rules.
Aeronautical data. A representation of aeronautical facts, concepts or instructions in a formalized manner suitable for communication, interpretation or processing.	1. 'aeronautical data' means a representation of aeronautical facts, concepts or instructions in a formalised manner suitable for communication, interpretation or processing;	'Aeronautical data' means a representation of aeronautical facts, concepts or instructions in a formalized manner suitable for communication, interpretation or processing;
Aeronautical information. Information resulting from the assembly, analysis and formatting of aeronautical data.	2. 'aeronautical information' means information resulting from the assembly, analysis and formatting of aeronautical data;	Not transposed. This term is already defined in point 13 of Annex I of Regulation (EU) …/..
Data quality. A degree or level of confidence that the data provided meet the requirements of the data user in terms of accuracy, resolution, integrity (or equivalent assurance level), traceability, timeliness, completeness and format.	3. 'data quality' means a degree or level of confidence that the data provided meets the requirements of the data user in terms of accuracy, resolution and integrity;	Not transposed. This term is already defined in point 41 of Annex I of Regulation (EU) …/..
Data accuracy. A degree of conformance between the estimated or measured value and the true value. Note.— For measured positional data the accuracy is normally expressed in terms of a distance from a stated	4. 'accuracy' means a degree of conformance between the estimated or measured value and the true value;	'Data accuracy' means a degree of conformance between the estimated or measured value and the true value; The Note is not transposed as it is not considered

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position within which there is a defined confidence of the true position falling.		relevant in the context of the rules.
Data resolution. A number of units or digits to which a measured or calculated value is expressed and used.	5. 'resolution' means a number of units or digits to which a measured or calculated value is expressed and used;	'Resolution (of data)' means a number of units or digits to which a measured or calculated value is expressed and used;
Data integrity (assurance level). A degree of assurance that aeronautical data and its value has not been lost or altered since the data origination or authorized amendment.	6. 'integrity' means a degree of assurance that a data item and its value have not been lost or altered since the data origination or authorised amendment;	'Data integrity' means a degree of assurance that a data item and its value have not been lost or altered since the data origination or authorised amendment;
Obstacle. All fixed (whether temporary or permanent) and mobile objects, or parts thereof, that: a) are located on an area intended for the surface movement of aircraft; or b) extend above a defined surface intended to protect aircraft in flight; or c) stand outside those defined surfaces and that have been assessed as being a hazard to air navigation.	8. 'obstacle data' means data concerning all fixed (whether temporary or permanent) and mobile objects, or parts thereof, that are located on an area intended for the surface movement of aircraft or that extend above a defined surface intended to protect aircraft in flight or that stand outside those defined surfaces and that have been assessed as being a hazard to air navigation;"	Not transposed. This term is already defined in point 75 of Annex I of Regulation (EU) …/.
Terrain. The surface of the Earth containing naturally occurring features such as mountains, hills, ridges, valleys, bodies of water, permanent ice and snow, and excluding obstacles. Note.— In practical terms, depending on the method of data collection used, terrain represents the continuous	9. 'terrain data' means data about the surface of the earth containing naturally occurring features such as mountains, hills, ridges, valleys, bodies of water, permanent ice and snow, and excluding obstacles;	Not transposed. This term is already defined in point 102 of Annex I of Regulation (EU) …/..

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surface that exists at the bare Earth, the top of the canopy or something in-between, also known as “first reflective surface”.		
---	11. ‘survey data’ means geospatial data that is determined by measurement or survey;	Not transposed. The term is not used in the rules
---	12. ‘procedure design’ means the combination of aeronautical data with specific flight instructions to define instrument arrival and/or departure procedures that ensure adequate standards of flight safety;	Not transposed. The term used in the rules is ‘instrument flight procedure design’. It will be defined under the scope of the airspace design rules.
---	13. ‘aeronautical information service provider’ means the organisation responsible for the provision of an aeronautical information service, certified in accordance with Commission Implementing Regulation No 1035/2011";	‘Aeronautical information service provider’ means an organisation responsible for the provision of an aeronautical information service;
---	14. ‘next intended user’ means the entity that receives the aeronautical information from the aeronautical information service provider;	‘Next intended user’ means the entity that receives the aeronautical information from the aeronautical information service provider;
---	15. ‘direct electronic connection’ means a digital connection between computer systems such that data may be transferred between them without manual interaction;	Not transposed. Explanation is given in GM1 AIS.OR.210(b) Exchange of aeronautical data and information.

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---	16. 'data item' means a single attribute of a complete data set, which is allocated a value that defines its current status;	Not transposed. This term is not used in the rules.
NOTAM. A notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.	17. 'NOTAM' means a notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations;	Not transposed. This term is already defined in point 74 of Annex I of Regulation (EU) …/..
---	18. 'digital NOTAM' means a data set that contains the information included in a NOTAM in a structured format which can be fully interpreted by an automated computer system without human interpretation;	Not transposed. This term is not used in the rules.
---	19. 'data originator' means an entity responsible for data origination;	Not transposed. This term is not used in the rules.
---	20. 'data origination' means the creation of a new data item with its associated value, the modification of the value of an existing data item or the deletion of an existing data item;	'Data origination' means the creation of a new data item with its associated value, the modification of the value of an existing data item or the deletion of an existing data item;
---	21. 'period of validity' means the period between the date and time on which aeronautical information is published and the date and time on	Not transposed. It is considered to be self-explanatory.

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	which the information ceases to be effective;	
---	22. 'data validation' means the process of ensuring that data meets the requirements for the specified application or intended use;	'Validation' means the process of ensuring that data meets the requirements for the specified application or intended use;
---	23. 'data verification' means the evaluation of the output of an aeronautical data process to ensure correctness and consistency with respect to the inputs and applicable data standards, rules and conventions used in that process;	'Verification' means the evaluation of the output of an aeronautical data process to ensure correctness and consistency with respect to the inputs and applicable data standards, rules and conventions used in that process;
---	24. 'critical data' means data as classified under point (c) of the integrity classification defined in Chapter 1, Section 1.1 of Annex 15 to the Chicago Convention on International Civil Aviation (hereinafter the Chicago Convention);'	Not transposed. The classification of critical data is included in the rules.
---	25. 'essential data' means data as classified under point (b) of the integrity classification defined in Chapter 1, Section 1.1 of Annex 15 to the Chicago Convention;'	Not transposed. The classification of essential data is included in the rules.
Datum. Any quantity or set of quantities that may serve as a reference or basis for the calculation of other quantities (ISO 19104*).	---	'Datum' means any quantity or set of quantities that may serve as a reference or basis for the calculation of other quantities;
Digital Elevation Model (DEM). The representation of terrain surface by continuous elevation values at all	---	Not transposed.

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intersections of a defined grid, referenced to common datum. Note.— Digital Terrain Model (DTM) is sometimes referred to as DEM.		This term is not used in the rules.
Direct transit arrangements. Special arrangements approved by the public authorities concerned by which traffic which is pausing briefly in its passage through the Contracting State may remain under their direct control.	---	Not transposed. This term is not used in the rules.
Ellipsoidal height (Geodetic height). The height related to the reference ellipsoid, measured along the ellipsoidal outer normal through the point in question.	---	Transposed and included in the related GM to the rule. Ellipsoidal height (Geodetic height) is understood as being the height related to the reference ellipsoid, measured along the ellipsoidal outer normal through the point in question.
Feature. Abstraction of real world phenomena (ISO 19101*).	---	'Feature' means abstraction of real world phenomena
Feature attribute. Characteristic of a feature (ISO 19101*). Note.— A feature attribute has a name, a data type and a value domain associated with it.	---	'Feature attribute' means the characteristic of a feature having a name, a data type and a value domain associated with it;
Feature operation. Operation that every instance of a feature type may perform (ISO 19110*). Note.— An operation upon the feature type dam is to	---	Not transposed. It is not considered necessary to define this term.

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raise the dam. The result of this operation is to raise the level of water in the reservoir.		
Feature relationship. Relationship that links instances of one feature type with instances of the same or a different feature type (ISO 19101*).	---	Not transposed. This term is not used in the rules.
Feature type. Class of real world phenomena with common properties (ISO 19110*). Note.— In a feature catalogue, the basic level of classification is the feature type.	---	'Feature type' means a class of real world phenomena with common properties, forming the basic level of classification in a feature catalogue;
Geodesic distance. The shortest distance between any two points on a mathematically defined ellipsoidal surface.	---	Not transposed. This term is not used in the rules.
Geodetic datum. A minimum set of parameters required to define location and orientation of the local reference system with respect to the global reference system/frame.	---	Not transposed. This term is not used in the rules.
Geoid. The equipotential surface in the gravity field of the Earth which coincides with the undisturbed mean sea level (MSL) extended continuously through the continents. Note.— The geoid is irregular in shape because of local gravitational disturbances (wind tides, salinity, current,	---	'Geoid' means the equipotential surface in the gravity field of the Earth which coincides with the undisturbed mean sea level (MSL) extended continuously through the continents. This term is used in AMC/GM for the vertical reference and will be included in the definition for the

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etc.) and the direction of gravity is perpendicular to the geoid at every point.		ED Decision. The Note is not considered relevant to be transposed with the definition.
Geoid undulation. The distance of the geoid above (positive) or below (negative) the mathematical reference ellipsoid. Note.— In respect to the World Geodetic System — 1984 (WGS-84) defined ellipsoid, the difference between the WGS-84 ellipsoidal height and orthometric height represents WGS-84 geoid undulation.	---	This term is used in AMC/GM for the vertical reference and will be included in the definition for the ED Decision. 'Geoid undulation' means the distance of the geoid above (positive) or below (negative) the mathematical reference ellipsoid. The Note is not considered relevant to be transposed with the definition.
Gregorian calendar. Calendar in general use; first introduced in 1582 to define a year that more closely approximates the tropical year than the Julian calendar (ISO 19108*). Note.— In the Gregorian calendar, common years have 365 days and leap years 366 days divided into twelve sequential months.	---	Not transposed. This term is explained in the ISO reference in GM1 ATM/ANS.OR.A.085(c).
Height. The vertical distance of a level, point or an object considered as a point, measured from a specific datum.	---	Not transposed. This term is already defined in point 63 of Annex I of Regulation (EU) …/..

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Heliport. An aerodrome or a defined area on a structure intended to be used wholly or in part for the arrival, departure and surface movement of helicopters.	---	'Heliport' means an aerodrome or a defined area on a structure intended to be used wholly or in part for the arrival, departure and surface movement of helicopters;
Human Factors principles. Principles which apply to aeronautical design, certification, training, operations and maintenance and which seek safe interface between the human and other system components by proper consideration to human performance.	---	Not transposed. This term is not used in the rules.
Integrity classification (aeronautical data). Classification based upon the potential risk resulting from the use of corrupted data. Aeronautical data are classified as: a) routine data: there is a very low probability when using corrupted routine data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe; b) essential data: there is a low probability when using corrupted essential data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe; and c) critical data: there is a high probability when using corrupted critical data that the continued safe flight and landing of an aircraft would be severely at risk with the	---	'Integrity classification (aeronautical data)' means a classification based upon the potential risk resulting from the use of corrupted data, defining routine, essential and critical data; GM1 to 'Integrity classification' Aeronautical data are classified as : a) routine data: there is a very low probability when using corrupted routine data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe; b) essential data: there is a low probability when using corrupted essential data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe; and

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potential for catastrophe.		c) critical data: there is a high probability when using corrupted critical data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe.
International airport. Any airport designated by the Contracting State in whose territory it is situated as an airport of entry and departure for international air traffic, where the formalities incident to customs, immigration, public health, animal and plant quarantine and similar procedures are carried out.	---	Not transposed. This term is not used in the rules.
International NOTAM office (NOF). An office designated by a State for the exchange of NOTAM internationally.	---	'International NOTAM office (NOF)' means an office designated by a State for the exchange of NOTAM internationally;
Logon address. A specified code used for data link logon to an ATS unit.	---	Not transposed.
Manoeuvring area. That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons.	---	'Manoeuvring area' means that part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons;
Metadata. Data about data (ISO 19115*). Note.— A structured description of the content, quality, condition or other characteristics of data.	---	'Metadata' means data about data;

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Minimum en-route altitude (MEA). The altitude for an en-route segment that provides adequate reception of relevant navigation facilities and ATS communications, complies with the airspace structure and provides the required obstacle clearance.	---	Not transposed. This term is already defined in the data catalogue.
Minimum obstacle clearance altitude (MOCA). The minimum altitude for a defined segment of flight that provides the required obstacle clearance.	---	Not transposed. This term is already defined in the data catalogue and will be covered by ASD task.
Movement area. That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, consisting of the manoeuvring area and the apron	---	'Movement area' means that part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, consisting of the manoeuvring area and the apron;
Navigation specification. A set of aircraft and flight crew requirements needed to support performance-based navigation operations within a defined airspace. There are two kinds of navigation specifications: Required navigation performance (RNP) specification. A navigation specification based on area navigation that includes the requirement for performance monitoring and alerting, designated by the prefix RNP, e.g. RNP 4, RNP APCH. Area navigation (RNAV) specification. A navigation specification based on area navigation that does not include the requirement for performance monitoring and	---	Not transposed. These terms are already defined in the data catalogue.

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alerting, designated by the prefix RNAV, e.g. RNAV 5, RNAV 1. Note 1.— The Performance-based Navigation (PBN) Manual (Doc 9613), Volume II, contains detailed guidance on navigation specifications. Note 2.— The term RNP, previously defined as "a statement of the navigation performance necessary for operation within a defined airspace", has been removed from this Annex as the concept of RNP has been overtaken by the concept of PBN. The term RNP in this Annex is now solely used in the context of navigation specifications that require performance monitoring and alerting, e.g. RNP 4 refers to the aircraft and operating requirements, including a 4 NM lateral performance with on-board performance monitoring and alerting that are detailed in Doc 9613.		
Next intended user. The entity that receives the aeronautical information from the Aeronautical Information Service.	14. 'next intended user' means the entity that receives the aeronautical information from the aeronautical information service provider;	'Next intended user' means the entity that receives the aeronautical information from the aeronautical information service provider;
Obstacle/terrain data collection surface. A defined surface intended for the purpose of collecting obstacle/terrain data.	---	'Data collection surface' means a defined surface intended for the purpose of collecting obstacle or terrain data;
Orthometric height. Height of a point related to the geoid,	---	Not transposed.

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generally presented as an MSL elevation.		This term is explained through the relevant guidance material for vertical reference with regard to the MSL.
Performance-based navigation (PBN). Area navigation based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in a designated airspace. Note.— Performance requirements are expressed in navigation specifications (RNAV specification, RNP specification) in terms of accuracy, integrity, continuity, availability and functionality needed for the proposed operation in the context of a particular airspace concept.	---	Not transposed. This term is not used in the rules.
Portrayal. Presentation of information to humans (ISO 19117*).	---	Not transposed. This term is not used in the rules.
Position (geographical). Set of coordinates (latitude and longitude) referenced to the mathematical reference ellipsoid which define the position of a point on the surface of the Earth.	---	'Position (geographical)' means a set of coordinates (latitude and longitude) referenced to the mathematical reference ellipsoid which define the position of a point on the surface of the Earth;
Post spacing. Angular or linear distance between two adjacent elevation points.	---	Not transposed. This term is not used in the rules.
Precision. The smallest difference that can be reliably distinguished by a measurement process.	---	Not transposed.

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Note.— In reference to geodetic surveys, precision is a degree of refinement in performance of an operation or a degree of perfection in the instruments and methods used when taking measurements.		This term is not used in the rules.
Quality. Degree to which a set of inherent characteristics fulfils requirements (ISO 9000*). Note 1.— The term "quality" can be used with adjectives such as poor, good or excellent. Note 2.— "Inherent", as opposed to "assigned", means existing in something, especially as a permanent characteristic.	---	Not transposed. This term is not used in the rules.
Quality assurance. Part of quality management focused on providing confidence that quality requirements will be fulfilled (ISO 9000*).	---	Not transposed. This term is not used in the rules.
Quality control. Part of quality management focused on fulfilling quality requirements (ISO 9000*)	---	Not transposed. This term is not used in the rules.
Quality management. Coordinated activities to direct and control an organization with regard to quality (ISO 9000*).	---	Not transposed. This term is not used in the rules.
Radio navigation service. A service providing guidance information or position data for the efficient and safe operation of aircraft supported by one or more radio	---	Not transposed. This term is not used in the rules.

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navigation aids.		
Requirement. Need or expectation that is stated, generally implied or obligatory (ISO 9000*). Note 1.— "Generally implied" means that it is custom or common practice for the organization, its customers and other interested parties, that the need or expectation under consideration is implied. Note 2.— A qualifier can be used to denote a specific type of requirement, e.g. product requirement, quality management requirement, customer requirement. Note 3.— A specified requirement is one which is stated, for example, in a document. Note 4.— Requirements can be generated by different interested parties.	---	Not transposed.
Route stage. A route or portion of a route flown without an intermediate landing.	---	'Route stage' means a route or portion of a route flown without an intermediate landing;
SNOWTAM. A special series NOTAM given in a standard format providing a surface condition report notifying the presence or cessation of hazardous conditions due to snow, ice, slush, frost or water associated with snow, slush, ice, or frost on the movement area.	---	'SNOWTAM' means a special series NOTAM given in a standard format providing a surface condition report notifying the presence or cessation of hazardous conditions due to snow, ice, slush, frost or water associated with snow, slush, ice, or frost on the movement area; [from Amdt 39]
Station declination. An alignment variation between the	---	Not transposed.

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zero degree radial of a VOR and true north, determined at the time the VOR station is calibrated.		
Traceability . Ability to trace the history, application or location of that which is under consideration (ISO 9000*). Note.— When considering product, traceability can relate to: — the origin of materials and parts; — the processing history; and — the distribution and location of the product after delivery.	---	'Traceability (of data)' means the degree that a system or a data product can provide a record of the changes made to that product and thereby enable an audit trail to be followed from the end-user to the data originator;
Validation. Confirmation, through the provision of objective evidence, that the requirements for a specific intended use or application have been fulfilled (ISO 9000*).	---	Not transposed. (see above data validation)
Verification. Confirmation, through the provision of objective evidence, that specified requirements have been fulfilled (ISO 9000*). Note 1.— The term "verified" is used to designate the corresponding status. Note 2.— Confirmation can comprise activities such as:	---	Not transposed. (see above data verification)

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— performing alternative calculations; — comparing a new design specification with a similar proven design specification; — undertaking tests and demonstrations; and — reviewing documents prior to issue.		
VOLMET. Meteorological information for aircraft in flight.	---	Not transposed. This term is not used in the rules.
Data link-VOLMET (D-VOLMET). Provision of current aerodrome routine meteorological reports (METAR) and aerodrome special meteorological reports (SPECI), aerodrome forecasts (TAF), SIGMET, special air-reports not covered by a SIGMET and, where available, AIRMET via data link.	---	Not transposed. This term is not used in the rules.
VOLMET broadcast. Provision, as appropriate, of current METAR, SPECI, TAF and SIGMET by means of continuous and repetitive voice broadcasts.	---	Not transposed. This term is not used in the rules.

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Table 2 - Rule comparison between the provisions of Regulation (EU) No 73/2010 and the NPA text.

COMMISSION REGULATION (EU) No 73/2010	*NPA Text*	*Justification*
COMMISSION REGULATION (EU) No 73/2010 **of 26 January 2010** **laying down requirements on the quality of aeronautical data and aeronautical information for the single European sky**	**COMMISSION REGULATION (EU) No XX/20XX of…** **ANNEX VI** **SPECIFIC REQUIREMENTS FOR THE PROVISION OF AERONAUTICAL INFORMATION SERVICES** **(Part-AIS)**	The term 'transposed' means that the substance of the provisions of Regulation 73/2010 is not changed, although, in some cases, some editorial revisions may have been applied.
	NOTE 1: When reference is made to Regulation ../…, it refers to the recently adopted Regulation laying down technical requirements and administrative procedures related to service providers and the oversight thereof, still to be published in the EUOJ. *NOTE 2: The NPA text sometimes refers to various rule references because the same provisions have been transposed for AIS providers or for service providers or for aviation undertakings. The references are identified in **bold** character.*	
CHAPTER I **GENERAL PROVISIONS**	---	---
Article 1 **Subject matter**	---	---
This Regulation lays down the requirements on the quality of aeronautical data and aeronautical information	---	Not transposed since it is the overall subject of the draft rules based on the Essential Requirements of

COMMISSION REGULATION (EU) No 73/2010	NPA Text	Justification
in terms of accuracy, resolution and integrity.		Reg. 216/2008 (EASA Basic Regulation).
Article 2 **Scope**	---	---
1. This Regulation shall apply to European air traffic management network (EATMN) systems, their constituents and associated procedures involved in the origination, production, storage, handling, processing, transfer and distribution of aeronautical data and aeronautical information. It shall apply to the following aeronautical data and aeronautical information: (a) the integrated aeronautical information package as defined in Article 3(7) made available by Member States, with the exception of aeronautical information circulars; (b) electronic obstacle data, or elements thereof, where made available by Member States; (c) electronic terrain data, or elements thereof, where made available by Member States; (d) aerodrome mapping data, where made available by Member States.		Not transposed. The overall objectives of this paragraph are implemented through the NPA.
2. This Regulation shall apply to the following parties: (a) air navigation service providers;	---	Not transposed as such.

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(b) operators of those aerodromes and heliports, for which instrument flight rules (IFR) or Special-visual flight rules (VFR) procedures have been published in national aeronautical information publications; (c) public or private entities providing, for the purposes of this Regulation: (i) services for the origination and provision of survey data; (ii) procedure design services; (iii) electronic terrain data; (iv) electronic obstacle data.		This NPA applies to: • AIS providers (Part-AIS), • service providers (Part-ATM/ANS.OR.A) • aviation undertakings (data originators) • aerodrome operators. The overall objectives of this paragraph are implemented through the NPA.

COMMISSION REGULATION (EU) No 73/2010	NPA Text	Justification
3. This Regulation shall apply up to the moment when the aeronautical data and/or aeronautical information are made available by the aeronautical information service provider to the next intended user. In the case of distribution by physical means, this Regulation shall apply up to the moment when the aeronautical data and/or aeronautical information has been made available to the organisation responsible for providing the physical distribution service. In the case of automatic distribution through the use of a direct electronic connection between the aeronautical information service provider and the entity receiving the aeronautical data and/or aeronautical information, this Regulation shall apply: (a) up to the moment when the next intended user accesses and extracts aeronautical data and/or aeronautical information held by the aeronautical information service provider; or (b) up to the moment when the aeronautical data and/or aeronautical information is delivered by the aeronautical information service provider, into the next intended user's system.	---	Not transposed as such. The overall objectives of this paragraph is implemented through the NPA.
Article 3 **Definitions**	---	Please see the comparison table for the definitions, in this NPA.

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For the purpose of this Regulation, the definitions in Article 2 of Regulation (EC) No 549/2004 shall apply. The following definitions shall also apply:	---	---
1. 'aeronautical data' means a representation of aeronautical facts, concepts or instructions in a formalised manner suitable for communication, interpretation or processing;		'Aeronautical data' means a representation of aeronautical facts, concepts or instructions in a formalized manner suitable for communication, interpretation or processing;
2. 'aeronautical information' means information resulting from the assembly, analysis and formatting of aeronautical data;	---	Already in definition 75 of Annex I of Regulation ../...
3. 'data quality' means a degree or level of confidence that the data provided meets the requirements of the data user in terms of accuracy, resolution and integrity;	---	Already in definition 41 of Annex I of Regulation ../...
4. 'accuracy' means a degree of conformance between the estimated or measured value and the true value;	'Data accuracy' means a degree of conformance between the estimated or measured value and the true value;	Transposed.
5. 'resolution' means a number of units or digits to which a measured or calculated value is expressed and used;	'Resolution (of data)' means a number of units or digits to which a measured or calculated value is expressed and used;	Transposed.
6. 'integrity' means a degree of assurance that a data item and its value have not been lost or altered since the	'Data integrity' means a degree of assurance that a data item and its value have not been lost or altered	Transposed.

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data origination or authorised amendment;	since the data origination or authorised amendment;	
7. 'integrated aeronautical information package' (hereinafter IAIP) means a package which consists of the following elements: (a) aeronautical information publications (hereinafter AIP), including amendments; (b) supplements to the AIP; (c) the NOTAM, as defined in point 17 and pre-flight information bulletins; (d) aeronautical information circulars; and (e) checklists and lists of valid NOTAMs;	Aeronautical Information Product. Aeronautical data and aeronautical information provided either as digital data sets or as a standardized presentation in paper or electronic media. Aeronautical Information Products include: — Aeronautical Information Publication (AIP), including Amendments and Supplements — Aeronautical Information Circulars (AIC) — Aeronautical charts — NOTAM — Digital data sets	Not transposed. The concept of 'integrated aeronautical information package' is replaced by 'aeronautical information product' as per the upcoming amendment to ICAO Annex 15.
8. "obstacle data" means data concerning all fixed (whether temporary or permanent) and mobile objects, or parts thereof, that are located on an area intended for the surface movement of aircraft or that extend above a defined surface intended to protect aircraft in flight or that stand outside those defined surfaces and that have been assessed as being a hazard to air navigation;'	---	Already in definition 75 of Annex I of Regulation ../...
9. 'terrain data' means data about the surface of the earth containing naturally occurring features such as mountains, hills, ridges, valleys, bodies of water,	---	Already in definition 75 of Annex I of Regulation ../...

COMMISSION REGULATION (EU) No 73/2010	*NPA Text*	*Justification*
permanent ice and snow, and excluding obstacles;		
10. “aerodrome mapping data” means data collected for the purpose of compiling aerodrome mapping information’;	---	Already in definition 14 of Annex I of Regulation ../...
11. ‘survey data’ means geospatial data that is determined by measurement or survey;		Not transposed. The term is not used in the rules
12. ‘procedure design’ means the combination of aeronautical data with specific flight instructions to define instrument arrival and/or departure procedures that ensure adequate standards of flight safety;	---	Not transposed. This term will be defined in the context of the NPA on airspace design requirements.
13. “aeronautical information service provider” means the organisation responsible for the provision of an aeronautical information service, certified in accordance with the requirements of Commission Implementing Regulation (EU) No 1035/2011;’	‘Aeronautical information service provider’ means an organisation responsible for the provision of an aeronautical information service;	Transposed.
14. ‘next intended user’ means the entity that receives the aeronautical information from the aeronautical information service provider;	‘Next intended user’ means the entity that receives the aeronautical information from the aeronautical information service provider;	Transposed.
15. ‘direct electronic connection’ means a digital connection between computer systems such that data may be transferred between them without manual interaction;	---	Not transposed. Explanation is given in GM1 AIS.OR.210(b) Exchange of aeronautical data and information.

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16. 'data item' means a single attribute of a complete data set, which is allocated a value that defines its current status;	---	Not transposed. This term is not used in the rules.
17. 'NOTAM' means a notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations;	---	Already in definition 74 of Annex I of Regulation ../...
18. 'digital NOTAM' means a data set that contains the information included in a NOTAM in a structured format which can be fully interpreted by an automated computer system without human interpretation;	---	Not transposed. This term is not used in the rules.
19. 'data originator' means an entity responsible for data origination;	---	Not transposed. This term is not used in the rules.
20. 'data origination' means the creation of a new data item with its associated value, the modification of the value of an existing data item or the deletion of an existing data item;	'Data origination' means the creation of a new data item with its associated value, the modification of the value of an existing data item or the deletion of an existing data item;	Transposed.
21. 'period of validity' means the period between the date and time on which aeronautical information is published and the date and time on which the information ceases to be effective;	---	Not transposed. It is considered to be self-explanatory.

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22. 'data validation' means the process of ensuring that data meets the requirements for the specified application or intended use;	'Validation' means the process of ensuring that data meets the requirements for the specified application or intended use;	
23. 'data verification' means the evaluation of the output of an aeronautical data process to ensure correctness and consistency with respect to the inputs and applicable data standards, rules and conventions used in that process;	'Verification' means the evaluation of the output of an aeronautical data process to ensure correctness and consistency with respect to the inputs and applicable data standards, rules and conventions used in that process;	Transposed.
24. "critical data" means data as classified under point (c) of the integrity classification defined in Chapter 1, Section 1.1 of Annex 15 to the Chicago Convention on International Civil Aviation (hereinafter the Chicago Convention);		Not transposed. The classification of critical data is included in the rules.
25. "essential data" means data as classified under point (b) of the integrity classification defined in Chapter 1, Section 1.1 of Annex 15 to the Chicago Convention;'		Not transposed. The classification of essential data is included in the rules.
CHAPTER II **INTEROPERABILITY AND PERFORMANCE REQUIREMENTS**	---	---
Article 4 **Data set**	**AIS.OR.200 General** An aeronautical information services provider shall	Article 4 of Regulation 73/2010 introduces the requirements that are described in Annex I. Please

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The parties referred to in Article 2(2) shall provide aeronautical data and aeronautical information in accordance with the data set specifications described in Annex I.	ensure that: (a) aeronautical data and aeronautical information are provided in accordance with the specifications laid down in the data catalogue, as specified in Appendix 1 to Annex III to Regulation EU …/…, and the applicable data quality requirements, as specified in ATS.TR.200; and (b) data quality requirements are maintained from reception through to distribution to the next intended user. **Appendix 1 to Article 3** **4. DATA CATALOGUE** Aeronautical data shall be originated in accordance with the data catalogue specified in Appendix 1 to Subpart A of Annex III.	see under Annex I (below) of this table. In this NPA, the data set specifications are contained in the data catalogue which is in Appendix 1 to Annex III of Regulation ../.. The similar reference to the data catalogue is made for the origination requirements in Appendix 1 to Article 3 of Regulation ../..
Article 5 **Data exchange**	---	---
1. The parties referred to in Article 2(2) shall ensure that the aeronautical data and aeronautical information referred to in the second subparagraph of Article 2(1) are	**AIS.OR.210 Exchange of aeronautical data** An aeronautical information services provider shall	Transposed. Article 5.1 of Reg. 73/2010 is transposed for AIS

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transferred between themselves by direct electronic connection.	ensure that: **(b)** aeronautical data is exchanged through electronic means. **ATM/ANS.OR.A.080 Aeronautical data and aeronautical information** […] service providers shall: **(c)** exchange aeronautical data through electronic means. **Appendix 1 to Article 3** **9. DATA EXCHANGE** Aeronautical data shall be exchanged through electronic means.	providers, service providers and for those who originate data. The NPA text proposes not to limit the exchange of aeronautical data to 'direct connection'. The proposal aims at allowing flexibility in terms of operational implementation.
2. Air navigation service providers shall ensure that the aeronautical data and aeronautical information referred to in the second subparagraph of Article 2(1) are transferred between themselves in accordance with the data exchange format requirements laid down in Annex II.	**AIS.OR.210 Exchange of aeronautical data and aeronautical information** An aeronautical information services provider shall ensure that: **(a)** the format of aeronautical data is based on an aeronautical information exchange model designed to be globally interoperable.	Transposed. Please see under Annex II of Regulation 73/2010 in this table for the format requirements.
3. Member States may exclude digital NOTAM from the data exchange format referred to in paragraph 2.	---	Not transposed. Digital NOTAM is not explicitly required as standard in the context of ICAO Annex 15.

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4. Aeronautical information service providers shall ensure that all aeronautical data and aeronautical information within the AIPs, AIP amendments and AIP supplements provided by a Member State are made available to the next intended user, as a minimum: (a) in accordance with the publication requirements identified in the ICAO standards referred to in points 4 and 8 of Annex III; (b) in a way that allows the content and format of the documents to be directly readable on a computer screen; and	*NOTE:* *No NPA text is reproduced here because the transposed provisions are spread out in different requirements of the rules. The NPA text covers the relevant requirements of ICAO Annex 15 in chapter 4 and chapter 6 paragraph 6.*	Transposed. Please see the comparison table 'ICAO Annex 15 rules and EASA rules' and refer to AIS.OR.305, AIS.OR.310 and AIS.OR.315 and AIS.TR.305, AIS.TR.310, AIS.TR.315.
(c) in accordance with the data exchange format requirements laid down in Annex II.	---	This article introduces the requirements that are described in Annex II. Please see under Annex II (below) of this table.
Article 6 **Data quality**	---	---
1. Member States shall ensure that air navigation service providers comply with the data quality requirements laid down in Annex IV, Part A.	---	This article introduces the requirements that are described in Annex IV, Part A. Please see under Annex IV, Part A (below) of this table.
2. When providing aeronautical data and/or aeronautical information, the parties referred to in Article 2(2) shall	---	This article introduces the requirements that are described in Annex IV, Part B. Please see under Annex

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comply with the evidence requirements laid down in Annex IV, Part B.		IV, Part B (below) of this table.
3. When exchanging aeronautical data and/or aeronautical information between themselves, the parties referred to in Article 2(2), shall establish formal arrangements in accordance with the requirements laid down in Annex IV, Part C.	**AIS.OR.205 Formal arrangements** An aeronautical information services provider shall ensure that formal arrangements are established: **(b)** between themselves when exchanging aeronautical information and data. **ATM/ANS.OR.A.080(d) Formal arrangements** […] service providers service providers shall: **(d)** establish formal arrangements between themselves when exchanging aeronautical data and aeronautical information; **APPENDIX 1 to Article 3** **3. FORMAL ARRANGEMENTS** (a) Organisations originating data shall establish formal arrangements with: (1) parties requesting the data and, when different, (2) those to which the data are delivered.	Transposed. The NPA text covers the formal arrangements between service providers, between AIS providers and between aviation undertakings and organisation requesting the data. The text of Annex IV, Part C of Regulation 73/2010 is now contained at AMC level for both AIS.OR.205 and ATM/ANS.OR.A.080(d) and reproduced with no changes, please see below in Annex IV, Part C. For Appendix 1 for aviation undertakings requirements, the content of Annex IV, Part C of Regulation 73/2010 is reduced to fit origination.

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4. When acting as data originators, the parties referred to in Article 2(2), shall comply with the data origination requirements laid down in Annex IV, Part D.	**ATM/ANS.OR.A.080 Aeronautical data and aeronautical information** (a) When originating, processing or transmitting aeronautical data to the aeronautical information services provider, service providers shall […] **APPENDIX 1 to Article 3** [this Appendix covers the data origination requirements for aviation undertakings]	Transposed. ATM/ANS.OR.A.080 is meant to cover all service providers involved in the origination of data. The Appendix 1 to Article 3 on the requirements for aviation undertakings contains the data origination requirements. This article 6.4 introduces the requirements that are described in Annex IV, Part A. Please see under Annex IV, Part A (below) of this table.
5. Aeronautical information service providers shall ensure that aeronautical data and aeronautical information provided by data originators not referred to in Article 2(2) are made available to the next intended user with sufficient quality to meet the intended use.	**AIS.OR.200 General** An aeronautical information services provider shall ensure that: (a) aeronautical data and aeronautical information are provided in accordance with the specifications laid down in the data catalogue, as specified in Appendix 1 to Annex III to Regulation EU…/…, and the applicable data quality requirements, as specified in ATS.TR.200; and (b) data quality requirements are maintained from reception through to distribution to the next intended user.	Transposed. This NPA does not limit the data originators to those referred to in Reg. 73/2010. The concept of aviation undertakings is broader. The aviation undertakings are requested to comply with the requirements applicable to them in Appendix 1 to Article 3 of regulation (EU) No ../..

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6. When acting as the entity responsible for the official request for a data origination activity, the parties referred to in Article 2(2) shall ensure that: (a) the data are created, modified or deleted in compliance with their instructions;	**ATM/ANS.OR.A.080 Aeronautical data and aeronautical information** […] service providers shall: **(g)** when requesting a data origination activity, ensure, through formal arrangements, that: (1) the data are created, modified or deleted in compliance with their instructions;	Transposed.
(b) without prejudice to Annex IV, Part C, their data origination instructions contain, as a minimum: (i) an unambiguous description of the data that are to be created, modified or deleted; (ii) confirmation of the entity to which the data are to be provided; (iii) the date and time by which the data are to be provided; (iv) the data origination report format to be used by the data originator.	**ATM/ANS.OR.A.080(g) Aeronautical data and aeronautical information** (2) their instructions contain, as a minimum: (i) an unambiguous description of the data that are to be created, modified or deleted; (ii) confirmation of the entity to which the data are to be provided; (iii) the date and time by which the data are to be provided; (iv) the data origination report format to be used (V) the requirement to identify any limitation on the use of the data.	Transposed.
7. The parties referred to in Article 2(2) shall comply with the data process requirements laid down in Annex IV,	---	This article introduces the requirements that are

COMMISSION REGULATION (EU) No 73/2010	*NPA Text*	*Justification*
Part E.		described in Annex IV, Part E. Please see under Annex IV, Part E (below) of this table.
8. The parties referred to in Article 2(2) shall ensure that error reporting, feedback and rectification mechanisms are established and operated in accordance with the requirements laid down in Annex IV, Part F.	**AIS.OR.235 Error reporting and corrective actions** An aeronautical information services provider shall ensure that error reporting, measurement and corrective mechanisms are established and maintained.	Transposed. This article introduces the requirements that are described in Annex IV, Part F. Please see under Annex IV, Part F (below) of this table.
Article 7 **Consistency, timeliness and personnel performance**	---	---
1. Where aeronautical data or aeronautical information is duplicated in the AIP of more than one Member State, the aeronautical information service providers responsible for those AIPs shall establish mechanisms to ensure consistency between the duplicated information.	**AIS.OR.250 Consistency** Where aeronautical data or aeronautical information is duplicated in the AIP of more than one Member State, the aeronautical information service providers responsible for those AIPs shall establish mechanisms to ensure consistency between the duplicated information.	Transposed.
2. Aeronautical information service providers shall ensure that aeronautical data and aeronautical information items published in the AIP of their Member State are annotated to indicate those that do not meet the data quality requirements laid down in this Regulation.	**AIS.OR.240 Data limitations** An aeronautical information service provider shall identify the aeronautical data and aeronautical information that do not meet the data quality requirements.	Transposed.

COMMISSION REGULATION (EU) No 73/2010	NPA Text	Justification
	AIS.TR.240 Data limitations The identification of data not meeting the data quality requirements shall be made with an annotation or by explicitly providing the quality value.	
3. Aeronautical information service providers shall ensure that the most current update cycles applicable to AIP amendments and AIP supplements are made publicly available.	**AIS.TR.315 AIP Supplements** **(b)** The most current update cycles applicable to AIP Supplements shall be made publicly available. **AIS.TR.310 AIP Amendments** **(d)** The most current update cycles applicable to AIP Amendments shall be made publicly available	Transposed.
4. The parties referred to in Article 2(2) shall ensure that their personnel responsible for tasks in the provision of aeronautical data or aeronautical information are made aware of and apply:	**AIS.OR.600 General requirements** An aeronautical information services provider shall ensure that personnel responsible for tasks in the provision of aeronautical data and aeronautical information is: (a) made aware of and apply:	The NPA text proposes a proportionate approach related to personnel training requirements for AIS personnel and for data originators.
(a) the requirements for AIP amendments, AIP supplements and NOTAM laid down in the ICAO standards referred to in points 5, 6 and 7 of Annex III;	(1) the requirements for aeronautical products and services;	The change is made to reflect the changes introduced at ICAO level and therefore to be more exhaustive than AIPs and NOTAM.
(b) the update cycles applicable to the issue of AIP amendments and supplements referred to in point (a) of this paragraph for the areas for which they are providing	(2) the update cycles applicable to the issue of AIP	Transposed.

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aeronautical data or aeronautical information.	amendments and supplements for the areas for which they are providing aeronautical data or aeronautical information. **(b)** adequately trained, competent and authorised for the job they are required to do. **Appendix 1 to Article 3** **11 PERSONNEL REQUIREMENTS** Personnel responsible for originating aeronautical data or aeronautical information shall be adequately trained, competent and authorised for the job they are required to do.	
5. Without prejudice to Implementing Regulation (EU) No 1035/2011, the parties referred to in Article 2(2) shall ensure that their personnel responsible for tasks in the provision of aeronautical data or aeronautical information are adequately trained, competent and authorised for the job they are required to do.		Transposed.
Article 8 **Tools and software requirements**	---	---
The parties referred to in Article 2(2) shall ensure that all tools and software used to support the origination, production, storage, handling, processing and transfer of aeronautical data and/or aeronautical information comply with the requirements laid down in Annex V.	**ATM/ANS.OR.A.080(f) Tools and software** […] service providers shall: **(f)** ensure that all 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.	Transposed for all service providers. This article introduces the requirements that are described in Annex V. Please see under Annex V (below)
Article 9	---	---

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Data protection		
1. The parties referred to in Article 2(2) shall ensure that aeronautical data and aeronautical information are protected in accordance with the requirements laid down in Annex VI.	---	This article introduces the requirements that are described in Annex VI. Please see under Annex VI (below)
2. The parties referred to in Article 2(2) shall ensure that traceability is maintained on each data item during its period of validity and for at least 5 years following the end of that period or until 5 years after the end of the period of validity for any data item calculated or derived from it, whichever is later.	**AIS.TR.200 General** (d) Traceability of aeronautical data shall be ensured and retained.	The requirement on traceability is covered by **ATM/ANS.OR.B.030 Record keeping** (b) the format and the retention period of the records shall be specified in the service provider's management system procedures.
CHAPTER III **QUALITY, SAFETY AND SECURITY MANAGEMENT REQUIREMENTS**	---	---
Article 10 **Management requirements**	---	---
1. Without prejudice to Implementing Regulation (EU) No 1035/2011, the parties referred to in Article 2(2) shall implement and maintain a quality management system covering their aeronautical data and aeronautical information provision activities, in accordance with the requirements laid down in Annex VII, Part A.	---	Not transposed. The quality management requirements are covered by ATM/ANS.OR.B of Regulation (EU) .../..

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2. The parties referred to in Article 2(2) shall ensure that the quality management system referred to in paragraph 1 of this Article defines procedures to meet the safety management objectives laid down in Annex VII, Part B and the security management objectives laid down in Annex VII, Part C.	---	Not transposed. The safety management objectives are not considered as being safety requirement as such but overall objectives that are either statements or more specific requirements already covered throughout Regulation (EU) ../.. The security management requirements are covered under ATM/ANS.OR.D.010 of Regulation (EU) ../..
3. The parties referred to in Article 2(2) shall ensure that any changes to the existing systems referred to in the first subparagraph of Article 2(1) or the introduction of new systems are preceded by a safety assessment, including hazard identification, risk assessment and mitigation, conducted by the parties concerned.	---	Not transposed. The safety assessment requirements are covered under ATM/ANS.OR.A.045 changes to a functional system and ATM/ANS.OR.C.055 Safety support assessment and assurance of changes to the functional system of Regulation (EU) ../...
4. During that safety assessment, the requirements referred to in Article 7(3), Annex I, Annex II and points 1 and 2 of Part A of Annex IV shall be considered as safety requirements and shall be taken into consideration, as a minimum.	---	The safety assessment requirements are covered under ATM/ANS.OR.A.045 changes to a functional system and ATM/ANS.OR.C.055 Safety support assessment and assurance of changes to the functional system of Regulation (EU) ../..
CHAPTER IV **CONFORMITY ASSESSMENT AND ADDITIONAL REQUIREMENTS**	---	---

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Article 11 **Conformity or suitability for use of constituents** Before issuing EC declarations of conformity or suitability for use as referred to in Article 5 of Regulation (EC) No 552/2004, manufacturers of constituents of the systems referred to in the first subparagraph of Article 2(1) of this Regulation, or their authorised representatives established in the Union, shall assess the conformity or suitability for use of those constituents in compliance with the requirements laid down in Annex VIII.	---	Not transposed. The NPA does not cover the requirements on manufacturers but only on service providers. It is considered that the requirements on systems or constituents used in the framework of EATMN are sufficiently covered by Regulation (EC) No 552/2004 on interoperability.
Article 12 **Verification of systems**	---	---
1. Air navigation service providers which can demonstrate or have demonstrated that they fulfil the conditions laid down in Annex IX shall conduct a verification of the systems referred to in the first subparagraph of Article 2(1) in accordance with the requirements laid down in Annex X, Part A.	---	Not transposed. The procedures for the EC declarations of verification of systems are considered as being sufficiently covered by Article 6 and related Annex IV of Regulation (EC) No 552/2004.
2. Air navigation service providers which cannot demonstrate that they fulfil the conditions laid down in Annex IX shall subcontract to a notified body a verification of the systems referred to in the first subparagraph of Article 2(1). That verification shall be	---	The procedures for the EC declarations of verification of systems are considered as being sufficiently covered by Article 6 and related Annex IV of Regulation (EC) No 552/2004, and also in the case of the intervention of notified bodies in article 8 of said

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conducted in accordance with the requirements laid down in Annex X, Part B.		regulation.
Article 13 **Additional requirements**	---	---
The parties referred to in Article 2(2)(b) and (c) shall:	---	---
(a) ensure the security clearance of their personnel responsible for tasks in the origination, production, storage, handling, processing, transfer and distribution of aeronautical data or aeronautical information, as appropriate;	---	Not transposed. For service providers, the security clearance requirements are already covered by ATM/ANS.OR.D.010(c). For aviation undertakings it is considered that these requirements are not proportionate.
(b) ensure that their personnel responsible for tasks in the provision of aeronautical data or aeronautical information are made duly aware of the requirements laid down in this Regulation;	---	Not transposed. This paragraph is covered by AIS.OR.600 General requirements for personnel.
(c) develop and maintain operations manuals containing the necessary instructions and information to enable their personnel responsible for tasks in the provision of aeronautical data or aeronautical information to apply this Regulation;	---	Not transposed. For service providers, such requirements are already covered by ATM/ANS.OR.B.035. For aviation undertakings it is considered that these requirements are not proportionate.
(d) ensure that the manuals referred to in point (c) are	---	Not transposed. For service providers, such

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accessible and kept up to date and that their update and distribution are subject to appropriate quality and documentation configuration management;		requirements are already covered by ATM/ANS.OR.B.035(a). For aviation undertakings it is considered that these requirements are not proportionate.
(e) ensure that their working methods and operating procedures comply with this Regulation.	---	Not transposed. Self-evident objectives.
CHAPTER V **FINAL PROVISIONS**	---	This chapter V is specific to Regulation (EU) No 73/2010. Such provisions will be discussed at the appropriate stage of the EASA Opinion.
Article 14 **Transitional provisions**	---	---
1. Member States which, prior to the entry into force of this Regulation, have notified a relevant difference to ICAO in accordance with Article 38 of the Chicago Convention, may maintain their national provisions on the subjects listed in Annex XI to this Regulation until 30 June 2014 at the latest.	---	This paragraph is applicable for Regulation (EU) No 73/2010 only.
2. Aeronautical data and aeronautical information published before 1 July 2013 and not amended shall be brought in line with this Regulation by 30 June 2017 at	---	This paragraph is applicable for Regulation (EU) No 73/2010 only.

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the latest.		
Article 15 **Entry into force and application**	---	---
1. This Regulation shall enter into force on the 20th day following its publication in the *Official Journal of the European Union*.	---	This paragraph is applicable for Regulation (EU) No 73/2010 only.
It shall apply from 1 July 2013.	---	This paragraph is applicable for Regulation (EU) No 73/2010 only.
2. By way of derogation from the second subparagraph of paragraph 1, Article 4, Article 5(1), Article 5(2), Article 5(3) and Article 5(4)(c) shall apply from 1 July 2014.	---	This paragraph is applicable for Regulation (EU) No 73/2010 only.
This Regulation shall be binding in its entirety and directly applicable in all Member States.	---	This paragraph is applicable for Regulation (EU) No 73/2010 only.
Done at Brussels, 26 January 2010.	---	---

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COMMISSION REGULATION (EU) No 73/2010	*NPA Text*	*Justification*
ANNEX I **DATA SET SPECIFICATIONS REFERRED TO IN ARTICLE 4**	---	The NPA text introduces the data catalogue, which partially covers the data set specifications foreseen in Article 4 of Regulation 73/2010.
PART A **IAIP, aerodrome mapping and electronic obstacle data**	---	---
1. The aeronautical data and aeronautical information referred to in points (a), (b) and (d) of the second subparagraph of Article 2(1) shall be provided according to a common data set specification which shall:	**AIS.OR.200 General** An aeronautical information services provider shall ensure that: (a) aeronautical data and aeronautical information are provided in accordance with the specifications laid down in the data catalogue, as specified in Appendix 1 to Annex III to Regulation EU …/…, and the applicable data quality requirements, as specified in ATS.TR.200;	Transposed. The ICAO data catalogue is entirely transposed from ICAO. The data set specifications are identified throughout the rules in Part-AIS. The data catalogue covers: — definition of aeronautical features — the values of each attributes and the definition of a temporal model — the constraints of the possible values — the naming convention — the description of geometrical elements The description of the metadata elements are covered in the metadata requirements.
(a) be documented either: — by using the unified modelling language (UML), specified in the document referred to in point 13 of Annex III, in the form of class diagrams and associated definitions for classes, attributes, associations and lists of values, or — by using a feature catalogue specified in accordance with the ISO standard referred to in point 25 of Annex III;		
(b) define, as individual data elements, each aeronautical feature for which the information is requested to be published in accordance with the ICAO standards referred to in point 10 of Annex III and the Eurocae document referred to in point 24 of Annex III;		

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(c) provide for each attribute the definition of its allowable values in the form of a data type, a range of values or an enumerated list; (d) include the definition of a temporal model, UTC based, which can express the complete lifecycle of an aeronautical feature: — from the creation date and time to the date and time of permanent withdrawal, — including the permanent changes that create new baselines for that feature;		
(e) include the definition of the rules that may constrain the possible values of the feature properties or the temporal variation of these values. This shall include, as a minimum: — constraints that impose accuracy, resolution and integrity for positional (horizontal and vertical) data, — constraints that impose the timeliness of the data;		
(f) apply a naming convention for features, attributes and associations, which avoids the use of abbreviations;		
(g) base the description of geometrical elements (point, curve, surface) on the ISO standard referred to in point 14 of Annex III;		
(h) base the description of the metadata information on the ISO standard referred to in point 5 of Annex III;		

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(i) include the metadata items listed in Annex I, Part C.		
2. Regarding the ISO standards, the relevant certificate issued by an appropriately accredited organisation, shall be considered as a sufficient means of compliance. The parties referred to in Article 2(2) shall accept the disclosure of the documentation related to the certification to the national supervisory authority upon the latter's request.	---	Not transposed. This paragraph is already covered by AMC1 ATM/ANS.OR.B.005(a) Management system with regard to ISO 9001 certificate for service providers.
PART B **Electronic terrain data sets**	---	---
The electronic terrain data referred to in point (c) of the second subparagraph of Article 2(1) shall:	---	
(a) be provided digitally in accordance with the ICAO standards referred to in points 9, 9a and 12 of Annex III;	NOTE: No NPA text is reproduced here because the transposed provisions are spread out in different requirements of the rules. The NPA text covers the relevant requirements of ICAO Annex 15 (chapter 10 and Appendix 8).	Transposed.
(b) include the metadata items listed in Annex I, Part C.	---	The NPA text covers the requirements laid down in Annex I, Part C of Reg. 73/2010. Please see below in Part C.
PART C	---	---

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Metadata		
The metadata for the data set specifications defined in Part A and Part B shall include the following items, as a minimum: (a) the data originator of the data; (b) amendments made to the data; (c) the persons or organisations that have interacted with the data and when; (d) details of any validation and verification of the data that has been performed; (e) effective start date and time of the data; (f) for geospatial data: — the earth reference model used, —the coordinate system used; (g) for numerical data: — the statistical accuracy of the measurement or calculation technique used, — the resolution, — the confidence level as required by the ICAO standards referred to in points 1 and 12 of Annex III and in other relevant ICAO standards; (h) details of any functions applied if data has been subject to conversion/transformation; (i) details of any limitations on the use of the data.	**ATM/ANS.OR.A.080** […] service providers shall: **(e)** collect metadata for aeronautical data processes and exchange points and maintain them up to those parties receiving the data. The metadata to be collected shall include, as a minimum: (1) the identification of the organizations or entities performing any action of originating, transmitting or manipulating the data; (2) the action performed; and (3) the date and time the action was performed. **AIS.TR.225 Metadata** The metadata to be collected shall include, as a minimum: (a) the identification of the organizations or entities performing any action of originating, transmitting or manipulating the data; (b) the action performed; and (c) the date and time the action was performed. **Appendix 1 to Article 3**	Transposed. It is proposed to define a minimum set of data in order to make the implementation feasible. The proposal text is based on ICAO Annex15 and PANS-AIM. The metadata requirements are applicable to service providers, AIS providers and aviation undertakings.

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	7. Metadata Metadata shall be collected and maintained up to the next intended user. The metadata shall include, as a minimum: The identification of the organizations or entities performing any action of originating, transmitting or manipulating the data; The action performed; and The date and time the action was performed.	

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ANNEX II **AERONAUTICAL DATA EXCHANGE FORMAT REQUIREMENTS REFERRED TO IN ARTICLE 5**	---	---
PART A **IAIP, aerodrome mapping and electronic obstacle data**	---	---
1. The aeronautical data and aeronautical information referred to in points (a), (b) and (d) of the second subparagraph of Article 2(1) shall be formatted in accordance with a common specification, which shall:	**AIS.TR.210 Exchange of aeronautical data and aeronautical information** Except for terrain data, the exchange format of aeronautical data shall: [see 2nd row below]	---
— use the extensible mark-up language (XML) specification as defined in the ISO standard referred to in Annex III point 17 for data encoding, — be expressed in the form of an XML schema; in addition, a schematron as defined in the ISO standard referred to in point 19 of Annex III may be used for expressing business rules,	**AMC1 AIS.OR.210(a) Exchange of aeronautical data and aeronautical information** EXCHANGE MODEL An aeronautical information services provider should use an aeronautical information exchange model that describes the features and their properties (attributes and associations) within the AIM domain and includes an XML schema.	Transposed.
— enable the exchange of data for both individual features and feature collections,	**(a)** enable the exchange of data for both individual features and feature collections;	Transposed.
— enable the exchange of baseline information as a	**(b)** enable the exchange of baseline information as a	Transposed.

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result of permanent changes,	result of permanent changes;	
— be structured in accordance with the features, attributes and associations of the data set definition described in Annex I, Part A; the mapping rules shall be documented,	**(c)** be in accordance with the subjects, properties and associations of the data catalogue and be documented through mapping rules.	Transposed.
— implement strictly the enumerated lists of values and range of values defined for each attribute in the data set,	---	Not transposed.
— comply with the geography mark-up language (GML) specification, as defined in the reference referred to in point 18 of Annex III, for the encoding of geographical information.	---	Not transposed.
2. Regarding the ISO standards, the relevant certificate issued by an appropriately accredited organisation, shall be considered as a sufficient means of compliance. The parties referred to in Article 2(2) shall accept the disclosure of the documentation related to the certification to the national supervisory authority upon the latter's request.	---	This paragraph is covered by AMC1 ATM/ANS.OR.B.005(a) Management system with regard to ISO 9001 certificate for air navigation services providers
PART B **Electronic terrain data**	---	---
1. The electronic terrain data referred to in point (c) of the second subparagraph of Article 2(1) shall be provided in a common format compliant with the ISO standards referred to in points 14 to 18 of Annex III.	**AMC2 AIS.TR.210 Exchange of aeronautical data and aeronautical information** ELECTRONIC TERRAIN DATA	Transposed.

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	Electronic terrain data should be provided in a common format compliant with ISO 19107:2003 — Geographic information — Spatial schema (Edition 1 — 8.5.2003) and 19136:2007 — Geographic information — Geography Mark-up Language (GML) (Edition 1 — 23.8.2007).	
2. Regarding the ISO standards, the relevant certificate issued by an appropriately accredited organisation, shall be considered as a sufficient means of compliance. The parties referred to in Article 2(2) shall accept the disclosure of the documentation related to the certification to the national supervisory authority upon the latter's request.	This paragraph is already covered by AMC1 ATM/ANS.OR.B.005(a) Management system with regard to ISO 9001 certificate for air navigation services providers	
ANNEX III **PROVISIONS REFERRED TO IN ARTICLES AND ANNEXES**		This Annex is specific to Reg. 73/2010 – the referred provisions of ICAO Annex 15 have been transposed.
1. Chapter 3, Section 3.7 (Quality management system) of Annex 15 to the Chicago Convention — Aeronautical Information Services (Fourteenth edition — July 2013, incorporating Amendment No 37).	---	The quality system is already covered in ATM/ANS.OR.B.005 of Regulation XX/XXXX
2. Chapter 3, Section 1.2.1 (Horizontal reference system) of Annex 15 to the Chicago Convention — Aeronautical Information Services (Fourteenth edition — July 2013, incorporating Amendment No 37).	---	The horizontal reference system is now transposed and no reference to Annex 15 is no longer needed.

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3. Chapter 3, Section 1.2.2 (Vertical reference system) of Annex 15 to the Chicago Convention — Aeronautical Information Services (Fourteenth edition — July 2013, incorporating Amendment No 37).	---	The vertical reference system is now transposed and no reference to Annex 15 is no longer needed.
4. Chapter 4 (Aeronautical Information Publications (AIP)) of Annex 15 to the Chicago Convention — Aeronautical Information Services (Fourteenth edition — July 2013, incorporating Amendment No 37).	---	Chapter 4 on AIP is now transposed and no reference to Annex 15 is no longer needed.
5. Chapter 4, Section 4.3 (Specifications for AIP Amendments) of Annex 15 to the Chicago Convention — Aeronautical Information Services (Fourteenth edition — July 2013, incorporating Amendment No 37).	---	Chapter 4 on AIP is now transposed and no reference to Annex 15 is no longer needed.
6. Chapter 4, Section 4.4 (Specifications for AIP Supplements) of Annex 15 to the Chicago Convention — Aeronautical Information Services (Fourteenth edition — July 2013, incorporating Amendment No 37).	---	Chapter 4 on AIP is now transposed and no reference to Annex 15 is no longer needed.
7. Chapter 5 (NOTAM) of Annex 15 to the Chicago Convention — Aeronautical Information Services (Fourteenth edition — July 2013, incorporating Amendment No 37).	---	Chapter 5 on AIP is now transposed and no reference to Annex 15 is no longer needed.
8. Chapter 6, Section 6.2 (Provision of information in paper copy form) of Annex 15 to the Chicago Convention — Aeronautical Information Services (Fourteenth edition — July 2013, incorporating	---	Chapter 6 on AIP is now transposed and no reference to Annex 15 is no longer needed.

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Amendment No 37).		
9. Chapter 10, Section 10.1 (Coverage areas and requirements for data provision) of Annex 15 to the Chicago Convention — Aeronautical Information Services (Fourteenth edition — July 2013, incorporating Amendment No 37).	---	Chapter 10 on AIP is now transposed and no reference to Annex 15 is no longer needed.
9a. Chapter 10, Section 10.2 (Terrain data set — content, numerical specification and structure) of Annex 15 to the Chicago Convention — Aeronautical Information Services (Fourteenth edition — July 2013, incorporating Amendment No 37).	---	Chapter 10 on AIP is now transposed and no reference to Annex 15 is no longer needed.
10. Appendix 1 (Contents of Aeronautical Information Publication (AIP)) of Annex 15 to the Chicago Convention — Aeronautical Information Services (Fourteenth edition — July 2013, incorporating Amendment No 37).	---	Appendix 1 on the AIP content is now transposed and no reference to Annex 15 is no longer needed.
11. Appendix 7 (Aeronautical data publication resolution and integrity classification) of Annex 15 to the Chicago Convention — Aeronautical Information Services (Fourteenth edition — July 2013, incorporating Amendment No 37).	---	Appendix 7 on data quality is included in the data catalogue and thus transposed, no reference to Annex 15 is no longer needed.
12. Appendix 8 (Terrain and obstacle data requirements) of Annex 15 to the Chicago Convention — Aeronautical Information Services (Fourteenth edition — July 2013, incorporating Amendment No 37).	---	Appendix 8 on Terrain and obstacle data is now transposed and no reference to Annex 15 is no longer needed.

COMMISSION REGULATION (EU) No 73/2010	*NPA Text*	*Justification*
13. Object Management Group Unified Modelling Language (UML) Specification Version 2.1.1.	---	The reference to the UML specification is now referred to in guidance material to the related requirement.
14. International Organisation for Standardisation, ISO 19107:2003 — Geographic information — Spatial schema (Edition 1 — 8.5.2003).	---	The ISO document reference is now referred to in guidance material to the related requirement.
15. International Organisation for Standardisation, ISO 19115:2003 — Geographic information — Metadata (Edition 1 — 8.5.2003 [Corrigendum Cor 1:2006 5.7.2006]).	---	The ISO document reference is now referred to in guidance material to the related requirement.
16. International Organisation for Standardisation, ISO 19139:2007 — Geographic information — Metadata — XML schema implementation (Edition 1 — 17.4.2007).	---	The ISO document reference is now referred to in guidance material to the related requirement.
17. International Organisation for Standardisation, ISO 19118:2011 — Geographic information — Encoding (Edition 2 — 10.10.2011).	---	The ISO document reference is now referred to in guidance material to the related requirement.
18. International Organisation for Standardisation, ISO 19136:2007 — Geographic information — Geography Mark-up Language (GML) (Edition 1 — 23.8.2007).	---	The ISO document reference is now referred to in guidance material to the related requirement.
19. International Organisation for Standardisation, ISO/IEC 19757-3:2006 — Information technology — Document Schema Definition Languages (DSDL) — Part 3: Rule-based validation — Schematron (Edition 1 — 24.5.2006).	---	The ISO document reference is now referred to in guidance material to the related requirement.

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20. ICAO Doc 9674-AN/946 — World Geodetic System — 1984 Manual (Second Edition — 2002).	---	The reference to the World Geodetic System Manual is now referred to in guidance material to the related requirement.
21. Chapter 7, Section 7.3.2 (Cyclic redundancy check (CRC) algorithm) of ICAO Doc 9674-AN/946 — World Geodetic System — 1984 (WGS-84) Manual (Second Edition — 2002).	---	The reference to the ICAO Doc 9674-AN/946 is now referred to in guidance material to the related requirement.
22. International Organisation for Standardisation, ISO/IEC 27002:2005 — Information technology — Security techniques — Code of practice for information security management (Edition 1 — 15.6.2005).	---	The ISO document reference is now referred to in guidance material to the related requirement.
23. International Organisation for Standardisation, ISO 28000:2007: — Specification for security management systems for the supply chain (Edition 1 — 21.9.2007 under revision, to be replaced by Edition 2 target date 31.1.2008 [At enquiry stage]).	---	The ISO document reference is now referred to in guidance material to the related requirement.
24. Eurocae ED-99A, User Requirements for Aerodrome Mapping Information (October 2005).	---	The reference to Eurocae ED-99A document is now referred to in guidance material to the related requirement.
25. International Organisation for Standardisation, ISO 19110:2005 — Geographic information — Methodology for feature cataloguing (Edition 1).	---	The ISO document reference is now referred to in guidance material to the related requirement.
	---	This NPA text covers article 6.1 of ADQ IR, as the data

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COMMISSION REGULATION (EU) No 73/2010	*NPA Text*	*Justification*
ANNEX IV **DATA QUALITY REQUIREMENTS REFERRED TO IN ARTICLES 6 AND 7**		catalogue will cover the data quality requirements in Annex IV, Part A of Regulation (EU) No 73/2010.
PART A **Data quality requirements**	---	---
1. Data quality requirements for each data item within the scope of aeronautical data and aeronautical information referred to in the second subparagraph of Article 2(1) shall be as defined by the ICAO standards referred to in Annex III point 11 and other relevant ICAO standards without prejudice to point 2 of this Annex.	---	This paragraph refers to Appendix 7 of ICAO Annex 15 (data quality requirements) and is now covered by Appendix 1 to Annex III (ATM/ANS.OR) containing the data catalogue.
2. Data quality requirements for a data item within the scope of aeronautical data and aeronautical information referred to in the second subparagraph of Article 2(1) shall be established based on a safety assessment of the intended uses of the data item, where: (a) a data item is not defined by the ICAO data quality standards referred to in point 11 of Annex III and other relevant ICAO standards; or (b) the data quality requirements for a data item are not met by the ICAO data quality standards referred to in point 11 of Annex III and other relevant ICAO standards.	---	Not transposed. It is considered that the data catalogue will cover all data item with specified data quality requirements. The data catalogue covers the referred (point 11 of Annex III) Appendix 7 of Annex 15.

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3. The data quality requirements for the data items referred to in point 2 shall be developed in accordance with a standardised process describing the methodology for the derivation and validation of these requirements prior to publication, taking due account of the potential impact on relevant ICAO provisions.	---	Transposed through the verification and validation process rules.
4. Where a data item has more than one intended use, only the most stringent data quality requirements, arising from the safety assessment referred to in point 2, shall be applied to it.	---	Not transposed.
5. Data quality requirements shall be defined to cover the following for each data item within the scope of aeronautical data and aeronautical information referred to in the second subparagraph of Article 2(1): (a) the accuracy and resolution of the data; (b) the integrity level of the data; (c) the ability to determine the origin of the data; (d) the level of assurance that data is made available to the next intended user prior to its effective start date/time and not deleted before its effective end date/time.	---	The data quality requirements are covered by the data catalogue. The NPA contains provisions reflecting the objective and notably, processes that are adequate to ensure the timely collection, processing, storing, integration, exchange and delivery of quality-assured aeronautical data and aeronautical information.
6. All of the data items needed to support each application data set and/or a valid subset of the data set shall be defined.	---	Not transposed. This requirement reflect internal arrangements within the relevant parties and not subject to be regulated.

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COMMISSION REGULATION (EU) No 73/2010	*NPA Text*	*Justification*
PART B **Evidence requirements**	---	---
Arguments and evidence shall be generated to show that:	---	---
(a) accuracy and resolution requirements are complied with at data origination and maintained through to publication to the next intended user, including, whenever the resolution of a data item is reduced or changed, or the data is translated into a different coordinate system or unit of measurement;	---	Not transposed. The requirement to ensure that the data quality requirements are met is already covered throughout the rules.
(b) the origin and change history for each data item is recorded and available for audit;	---	Not transposed. The requirement to ensure that the data quality requirements are met is already covered throughout the rules.
(c) the aeronautical data or aeronautical information is complete or any missing items are declared;	---	Not transposed. The requirement to ensure that the data quality requirements are met is already covered throughout the rules.
(d) all data origination, production, storage, handling, processing, transfer or distribution processes used for each data item are defined and adequate for the assigned level of integrity of the data item;	---	Not transposed. The requirement to ensure that the data quality requirements are met is already covered throughout the rules.
(e) data validation and verification processes are adequate for the assigned integrity level of the data item;	**ATM/ANS.OR.A.080 Verification and validation processes**	Transposed.

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	[…] service providers shall: **(h)** ensure that validation and verification techniques are employed throughout the aeronautical data processing chain to ensure that the aeronautical data meets the associated data quality requirements, […]	
(f) manual or semi-automated data processes are performed by trained and qualified staff, with clearly defined roles and responsibilities that are recorded in the organisation's quality system;	**AIS.OR.600 General requirements** An aeronautical information services provider shall ensure that personnel responsible for tasks in the provision of aeronautical data and aeronautical information is: **(b)** adequately trained, competent and authorised for the job they are required to do. **Appendix 1 to Article 3** **11. PERSONNEL REQUIREMENTS** Personnel responsible for originating aeronautical data or aeronautical information shall be adequately trained, competent and authorised for the job they are required to do	The performance of data processes are part of the duties of relevant personnel and are therefore covered for AIS providers and for the personnel of entities originating data.
(g) all tools and/or software used to support or implement the processes are validated as fit for purpose in accordance with Annex V;	---	This paragraph refers to Annex V, please see below the part on Tools and software requirements.

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(h) an effective error reporting, measurement and corrective action process is in operation in accordance with Part F	---	This paragraph refers to Annex IV, Part F please see below the part on Error reporting and rectification requirements.
PART C **Formal arrangements**	**AMC1 ATM/ANS.OR.A.080(d)** **AMC1 AIS.OR.205 Formal arrangements**	Transposed for service providers and AIS providers.

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Formal arrangements shall include the following minimum content: (a) the scope of aeronautical data or aeronautical information to be provided; (b) the accuracy, resolution and integrity requirements for each data item supplied; (c) the required methods for demonstrating that the data provided conforms with the specified requirements; (d) the nature of action to be taken in the event of discovery of a data error or inconsistency in any data provided; (e) the following minimum criteria for notification of data changes: — criteria for determining the timeliness of data provision based on the operational or safety significance of the change, — any prior notice of expected changes, — the means to be adopted for notification; (f) the party responsible for documenting data changes; (g) the means to resolve any potential ambiguities caused where different formats are used to exchange aeronautical data or aeronautical information; (h) any limitations on the use of data; (i) requirements for the production of quality reports by data providers to facilitate verification of data quality by the data users; (j) metadata requirements; (k) contingency requirements concerning the continuity of data provision.	CONTENT Formal arrangements should include the following minimum content: (a) the aeronautical data to be provided; (b) the data quality requirements for each data item supplied according to the data catalogue; (c) the method(s) for demonstrating that the data provided conforms with the specified requirements; (d) the action to be taken in the event of discovery of a data error or inconsistency in any data provided; (e) the following minimum criteria for notification of data changes: (f) criteria for determining the timeliness of data provision based on the operational or safety significance of the change, (g) any prior notice of expected changes, (h) the means to be adopted for notification; (i) the party responsible for documenting data changes; (j) data exchange details such as format or format change processes; (k) any limitations on the use of data; (l) requirements for the production of data origination quality reports ; (m) metadata requirements;	Transposed.

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PART D **Data origination**	----	----
1. The surveying of radio navigation aids and the origination of calculated or derived data whose coordinates are published in the AIP shall be carried out in accordance with appropriate standards and at least in accordance with the relevant ICAO provisions referred to in point 20 of Annex III.	---	Transposed throughout the data origination requirements.
2. All surveyed data shall be referenced to WGS-84 as specified in the ICAO provisions referred to in point 2 of Annex III.	---	Transposed. The use of WGS 1984 is required under ATM/ANS.OR.A.105 (a)
3. A geoid model, sufficient to meet the ICAO provisions referred to in point 3 of Annex III and the aeronautical data and aeronautical information quality requirements laid down in Annex IV, shall be used in order that all vertical data (surveyed, calculated or derived) may be expressed relative to mean sea level via the Earth Gravitational Model 1996. A 'geoid' means the equipotential surface in the gravity field of the Earth, which coincides with the undisturbed mean sea level extended continuously through the continents.	---	Transposed. The use of the vertical reference system is required under ATM/ANS.OR.A.105 (b) and the Earth Gravitational Model — 1996 (EGM-96) is referred to in the related AMC.
4. Surveyed, calculated and derived data shall be maintained throughout the lifetime of each data item.	---	Not transposed. This requirement is considered as not practicable. It is questionable how this requirement

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		can be ensured.
5. Survey data categorised as critical or essential data shall be subject to a full initial survey, and thereafter shall be monitored for changes on a yearly basis, as a minimum. Where changes are detected, re-survey of the relevant data shall be undertaken.	---	Not transposed. This requirement is considered to apply to aerodrome operators when they originate aeronautical data.
6. The following electronic survey data capture and storage techniques shall be employed: (a) reference point coordinates shall be loaded to the surveying equipment by digital data transfer; (b) the measurements in the field shall be stored digitally; (c) raw data shall be digitally transferred and loaded into the processing software.	---	Not transposed. This requirement is considered to apply to aerodrome operators when they originate aeronautical data.
7. All survey data categorised as critical data shall be subject to sufficient additional measurement to identify survey errors not detectable by single measurement.	---	Not transposed. This requirement is considered to apply to aerodrome operators when they originate aeronautical data.
8. Aeronautical data and aeronautical information shall be validated and verified prior to use in deriving or calculating other data.	**Appendix 1 to Article 3** **6. DATA VERIFICATION AND VALIDATION** When using aeronautical data to derive or calculate new aeronautical data, the initial data shall be verified and validated, except when provided by an	Transposed. In general, this requirement is transposed throughout the rules on verification and validation process.

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	authoritative source.	
PART E **Data process requirements**	---	---
1. Where processes or parts of processes used in the origination, production, storage, handling, processing, transfer and distribution of aeronautical data and aeronautical information are subject to automation they shall be:	**AMC1 AIS.OR.200 General** AUTOMATED DATA PROCESS Where processes or parts of processes used in the origination, production, storage, handling, processing, transfer and distribution of aeronautical data and aeronautical information are subject to automation they should be:	Transposed.
(a) automated to a level commensurate with the context of the data process;	(a) automated to a level commensurate with the context of the data process;	
(b) automated to optimise the allocation and interaction of human and machine to achieve a high degree of safety and quality benefits of the process;	(b) automated to optimise the allocation and interaction of human and machine to achieve a high degree of safety and quality benefits of the process;	
(c) designed to avoid the introduction of data errors;	(c) designed to avoid the introduction of data errors; and	
(d) designed to detect errors in received/input data.	(d) designed to detect errors in received/input data.	

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2. Where aeronautical data and aeronautical information is entered manually, it shall be subject to independent verification to identify any errors that may have been introduced.	**ATM/ANS.OR.A.080 Aeronautical data and aeronautical information** **(h)** (2) Aeronautical data and aeronautical information entered manually shall be subject to independent verification to identify any errors that may have been introduced.	Transposed.
PART F **Error reporting and rectification requirements**	**AIS.TR.235 Error reporting and corrective actions**	---
The error reporting, measurement and corrective action mechanisms shall ensure that:	The error reporting, measurement and corrective mechanisms shall ensure that:	Transposed. (f) and (g) are not transposed as they are considered to cover internal arrangements to keep statistics of errors. This requirements is also transposed in: **Appendix 1 to Article 3** **10 ERROR HANDLING REQUIREMENTS** The error handling and corrective action mechanisms shall ensure that: 9.1.2 errors identified during data origination and
(a) problems identified during aeronautical data and aeronautical information origination, production, storage, handling and processing, or those identified by users after publication, are recorded and reported to the aeronautical information service provider;	(a) problems identified during aeronautical data and aeronautical information origination, production, storage, handling and processing, or those reported by users after publication, are recorded;	
(b) all problems reported with the aeronautical data and aeronautical information are analysed by the aeronautical information service provider and the necessary corrective actions are determined;	(b) all problems reported with the aeronautical data and aeronautical information are analysed by the aeronautical information service provider and the necessary corrective actions are determined;	
(c) all errors, inconsistencies and anomalies detected in critical and essential aeronautical data and aeronautical information are urgently resolved;	(c) all errors, inconsistencies and anomalies detected in critical and essential aeronautical data and	

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	aeronautical information are urgently resolved;	after data delivery are addressed or resolved.
(d) affected data users are warned of errors by the aeronautical information service provider by the most effective means, taking into account the integrity level of the aeronautical data and aeronautical information and using the notification criteria agreed in the formal arrangements in accordance with Annex IV, Part C point (d);	(d) affected users are warned of errors by the most effective means, taking into account the integrity level of the aeronautical data and aeronautical information.	9.1.3 priority and urgency are given to errors in critical and essential aeronautical data.
(e) error feedback from data users and other aeronautical data and aeronautical information providers is facilitated and encouraged;	(e) error feedback is facilitated and encouraged;	
(f) error rates for aeronautical data and aeronautical information are recorded on each occasion that aeronautical data and aeronautical information is transferred between the parties referred to in Article 2(2);	---	
(g) error rates for those errors detected prior to transfer and those reported after transfer can be identified separately.	---	
ANNEX V **TOOLS AND SOFTWARE REQUIREMENTS REFERRED TO IN ARTICLE 8**	---	---

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1. Tools used to support or automate aeronautical data and aeronautical information processes shall meet the requirements of points 2 and 3, where the tool: — has the potential to create errors in critical or essential data items, — is the sole means of detecting errors in critical or essential data items, — is the sole means of detecting discrepancies between multiple versions of manually entered data.	---	The NPA text proposes to directly identify the necessary tools and software requirements. The introduction of situations where the tools and software requirements need to apply, is not considered necessary.
2. For the tools referred to in point 1, performance, functionality and integrity level requirements shall be defined to ensure that the tool performs its function within the data process without adversely impacting the quality of aeronautical data or aeronautical information.	**ATM/ANS.OR.A.080 Aeronautical data and aeronautical information** […] service providers shall: **(f)** ensure that all 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.	Transposed.
3. The tools referred to in point 1 shall be validated and verified against the requirements referred to in point 2.	**ATM/ANS.OR.A.080 Aeronautical data and aeronautical information** […] service providers shall: **(h)** ensure that validation and verification techniques are employed throughout the aeronautical data processing chain to ensure that the aeronautical data meets the	Transposed. This paragraph is transposed through the validation and verification processes that includes tools and software performances. GM1 ATM/ANS.OR.A.080(f) covers the validation of software.

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	associated data quality requirements.	
4. The tools referred to in point 1, which are implemented fully or partially in software, shall satisfy the following additional requirements:	**AMC1 ATM/ANS.OR.A.080(f) Aeronautical data and aeronautical information** TOOLS The tools used to support or automate aeronautical data and aeronautical information processes which are implemented fully or partially in software, should:	Transposed
— the software requirements shall correctly state what is required by the software in order to satisfy the tool requirements,	(a) correctly state what is required by the software in order to satisfy the tool requirements,	Transposed
— all software requirements shall be traceable to the tool requirements referred to in point 2,	(b) be traceable to the tool requirements referred to in point 2,	Transposed
— the validation and verification of software, as defined in points 5 and 6 respectively, shall be applied to a known executable version of the software in its target operating environment.	**GM1 ATM/ANS.OR.A.080(f) Aeronautical data and aeronautical information** **(a)** A means by which ATM/ANS.OR.A.080(f) can be met, is through the validation and verification of software applied to a known executable version of the software in its target operating environment.	Transposed.
5. The validation of software means the process of ensuring that software meets the requirements for the specified application or intended use of the	**(b)** The validation of software is a process of ensuring that software meets the requirements for	Transposed.

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aeronautical data or aeronautical information.	the specified application or intended use of the aeronautical data or aeronautical in-formation.	
6. The verification of software means the evaluation of the output of an aeronautical data and/or aeronautical information software development process to ensure correctness and consistency with respect to the inputs and applicable software standards, rules and conventions used in that process.	**(c)** The verification of software is an evaluation of the output of an aeronautical data and/or aeronautical information software development process to ensure correctness and consistency with respect to the inputs and applicable software standards, rules and conventions used in that process.	Transposed.
ANNEX VI **DATA PROTECTION REQUIREMENTS REFERRED TO IN ARTICLE 9**	**ATM/ANS.OR.A.080 Aeronautical data and aeronautical information**	---
1. All data transferred in an electronic format shall be protected against loss or alteration of data by the application of the CRC32Q algorithm as referred to in point 21 of Annex III. The cyclic redundancy check (hereinafter CRC) value shall be applied before the final verification of the data prior to storage or transfer.	[…] service providers shall: **(h)** ensure that validation and verification techniques are employed throughout the aeronautical data processing chain to ensure that the aeronautical data meets the associated data quality requirements and that: (1) the verification ensures that aeronautical data was received without corruption and that the aeronautical data process does not introduce corruption. Verification of received aeronautical data shall involve checks that ensure the integrity of	Transposed. The NPA required validation and verification process requirements in ATM/ANS.OR.A.080(f). The verification encompasses digital error detection techniques during the transmission of data. This addresses data protection. The protection of data applies to all those who handle aeronautical data. The NPA proposes a flexible approach by ensuring the protection of data through verification and validation techniques enabling the protection of data, one of them being the Cyclic
2. Where the physical size of data exceeds that which may be protected at the required level of integrity by a single CRC, multiple CRC values shall be used.		
3. Aeronautical data and aeronautical information shall be given an appropriate level of security protection during storage and when exchanged between the		

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parties referred to in Article 2(2), to ensure that the data cannot be accidentally changed or subjected to unauthorised access and/or alteration at any stage.	the transmitted data. (2) aeronautical data and aeronautical information entered manually are subject to independent verification to identify any errors that may have been introduced.	Redundancy Check. The objective to protect data is ensured as the verification ensures that aeronautical data was received without corruption and that the aeronautical data process does not introduce corruption. Then, the validation enables to check the data for its use.
4. The storage and transfer of aeronautical data and aeronautical information shall be protected by a suitable authentication process such that recipients are able to confirm that the data or information has been transmitted by an authorised source.	**(i)** ensure that digital data error detection techniques are used during the transmission and/or storage of aeronautical data and digital data sets and apply to all integrity levels of data sets. **(j)** ensure that the transfer of aeronautical data shall be 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. **Appendix 1 to Article 3** **8. DATA ERROR DETECTION AND AUTHENTICATION** **(c)** The transfer of aeronautical data shall be 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.	

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ANNEX VII **QUALITY, SAFETY AND SECURITY MANAGEMENT REQUIREMENTS REFERRED TO IN ARTICLE 10**	---	---
PART A **Quality management system**	---	The quality management system is sufficiently covered through ATM/ANS.OR.B.005 Management system. The elements of the management system include the elements of the QMS in Reg. 73/2010 and it is therefore not necessary to transpose this Part A.
1. A quality management system supporting the origination, production, storage, handling, processing, transfer and distribution of aeronautical data and aeronautical information shall:	---	The management system in ATM/ANS.OR.B.005 applies to aeronautical data and aeronautical information.
— define the quality policy in such a way as to meet the needs of different users as closely as possible,	---	The policy is covered by the management system requirements in ATM/ANS.OR.B.005
— set up a quality assurance programme that contains procedures designed to verify that all operations are being conducted in accordance with applicable requirements, standards and procedures, including the relevant requirements of this Regulation,	---	The required procedures are covered by the management system requirements in ATM/ANS.OR.B.005
— provide evidence of the functioning of the quality system by means of manuals and monitoring documents,	---	The provision of evidence is covered by the management system requirements in ATM/ANS.OR.B.005

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— appoint management representatives to monitor compliance with, and adequacy of, procedures to ensure safe and efficient operational practices,	---	The appointment of managers are covered by the management system requirements in ATM/ANS.OR.B.005
— perform reviews of the quality system in place and take remedial actions, as appropriate.	---	The reviews are covered by the management system requirements in ATM/ANS.OR.B.005
2. An EN ISO 9001 certificate, issued by an appropriately accredited organisation, shall be considered as a sufficient means of compliance to the requirements of point 1. The parties referred to in Article 2(2) shall accept the disclosure of the documentation related to the certification to the national supervisory authority upon the latter's request.	---	This paragraph is already covered by AMC1 ATM/ANS.OR.B.005(a) Management system with regard to ISO 9001 certificate for air navigation services providers
PART B **Safety management objectives**	---	This Part B states some general objectives, which are already covered by the management system requirements in ATM/ANS.OR.B.005
1. The safety management objectives shall be:	---	---
— to minimise the contribution to the risk of an aircraft accident arising from data errors as far as reasonably practicable,	---	This objective is covered by the management system requirements in ATM/ANS.OR.B.005, in the overall safety policy.
— to promote awareness of safety around the organisation by sharing lessons arising from safety activities and by involving all staff to propose	---	This function is foreseen by the management system requirements in ATM/ANS.OR.B.005, in the overall

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solutions to identified safety issues and improvements to assist the effectiveness and efficiency of the processes,		safety policy.
— to ensure that a function is identified within the organisation being responsible for development and maintenance of the safety management objectives,	---	This function is foreseen by the management system requirements in ATM/ANS.OR.B.005.
— to ensure that records are kept and monitoring is carried out to provide safety assurance of their activities,	---	Records requirements are covered through ATM/ANS.OR.B.030 Record keeping.
— to ensure improvements are recommended, where needed, to provide assurance of the safety of activities.	---	This objective is foreseen by the management system requirements in ATM/ANS.OR.B.005.
2. The achievement of the safety management objectives shall be afforded the highest priority over commercial, operational, environmental or social pressures.	---	This paragraph is a statement rather than a requirement itself. The management system underlines the need to have a policy with regard to safety. The policy needs to reflect organisational commitments regarding performance of the services and safety and has to include a commitment to improve towards the highest performance standards so as to support the achievement of the highest level of safety and to enforce the performance of the service required to support the achievement of the highest level of safety in the airspace where the service is provided.

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PART C **Security management objectives**	---	This Part C contains requirements which are already covered by the security management requirements in ATM/ANS.OR.D.010
1. The security management objectives shall be:	---	---
— to ensure the security of aeronautical data aeronautical information received, produced or otherwise employed so that it is protected from interference and access to it is restricted only to those authorised,	---	The security of the data is covered by ATM/ANS.OR.D.010 Security management, in (a)(2).
— to ensure that the security management measures of an organisation meet appropriate national or international requirements for critical infrastructure and business continuity, and international standards for security management, including the ISO standards referred to in points 22 and 23 of Annex III.	---	This requirement is already covered by the security management requirements in ATM/ANS.OR.D.010, when defining the procedures related to the risk assessment and mitigation.
2. Regarding the ISO standards, the relevant certificate issued by an appropriately accredited organisation, shall be considered as a sufficient means of compliance. The parties referred to in Article 2(2) shall accept the disclosure of the documentation related to the certification to the national supervisory authority upon the latter's request.	---	This paragraph is already covered by AMC1 ATM/ANS.OR.B.005(a) Management system with regard to ISO 9001 certificate for air navigation services providers
		The NPA does not cover the requirements on

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ANNEX VIII **Requirements for the assessment of the conformity or suitability for use of constituents referred to in Article 11**		manufacturers but on service providers. The procedures for the EC declarations of conformity or suitability are considered as being sufficiently covered by Article 5 and related Annex III of Reg. 552/2004.
1. The verification activities shall demonstrate the conformity of constituents with the interoperability, performance, quality and safety requirements of this Regulation, or their suitability for use whilst these constituents are in operation in the test environment.	---	The procedures for the EC declarations of conformity or suitability are considered as being sufficiently covered by Article 5 and related Annex III of Reg. 552/2004.

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2. The manufacturer, or its authorised representative established in the Union, shall manage the conformity assessment activities and shall in particular: — determine the appropriate test environment, — verify that the test plan describes the constituents in the test environment, — verify that the test plan provides full coverage of applicable requirements, — ensure the consistency and quality of the technical documentation and the test plan, — plan the test organisation, staff, installation and configuration of test platform, — perform the inspections and tests as specified in the test plan, — write the report presenting the results of inspections and tests.	---	The procedures for the EC declarations of conformity or suitability are considered as being sufficiently covered by Article 5 and related Annex III of Reg. 552/2004, in particular its point 2 (scope).
3. The manufacturer, or its authorised representative established in the Union, shall ensure that the constituents involved in the origination, production, storage, handling, processing, transfer and distribution of aeronautical data and aeronautical information integrated in the test environment meet the interoperability, performance, quality and safety requirements of this Regulation.	---	The procedures for the EC declarations of conformity or suitability are considered as being sufficiently covered by Article 5 and related Annex III of Reg. 552/2004, in particular its point 3 (scope), which covers the requirements for any used constituents.

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4. Upon satisfying completion of verification of conformity or suitability for use, the manufacturer, or its authorised representative established in the Union, shall under its responsibility draw up the EC declaration of conformity or suitability for use, specifying notably the requirements of this Regulation met by the constituent and its associated conditions of use in accordance with point 3 of Annex III to Regulation (EC) No 552/2004.	---	The procedures for the EC declarations of conformity or suitability are considered as being sufficiently covered by Article 5 and related Annex III of Reg. 552/2004, in particular its point 3 (scope), which covers the requirements for any used constituents.
ANNEX IX **CONDITIONS REFERRED TO IN ARTICLE 12**	This Annex IX lays down the condition to perform the verification activities. As the procedures for the EC declarations of verification of systems are considered as being sufficiently covered by Article 6 and related Annex IV of Reg. 552/2004, this Annex IX is not transposed.	
1. The air navigation service provider must have in place reporting methods within the organisation that ensure and demonstrate impartiality and independence of judgement in relation to the verification activities.	---	---
2. The air navigation service provider must ensure that the personnel involved in verification processes carry out the checks with the greatest possible professional integrity and the greatest possible technical competence, and are free of any pressure and incentive, in particular of a financial type, which could affect their judgment or the results of their checks, in particular from persons or groups of persons affected	---	---

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by the results of the checks.		
3. The air navigation service provider must ensure that the personnel involved in verification processes, have access to the equipment that enables them to properly perform the required checks.	---	---
4. The air navigation service provider must ensure that the personnel involved in verification processes, have sound technical and vocational training, satisfactory knowledge of the requirements of the verifications they have to carry out, adequate experience of such operations, and the ability required to draw up the declarations, records and reports to demonstrate that the verifications have been carried out.	---	---
5. The air navigation service provider must ensure that the personnel involved in verification processes, are able to perform their checks with impartiality. Their remuneration shall not depend on the number of checks carried out, or on the results of such checks.	---	---
ANNEX X **PART A** **Requirements for the verification of systems referred to in Article 12(1)**	---	The procedures for the EC declarations of verification of systems are considered as being sufficiently covered by Article 6 and related Annex IV of Reg. 552/2004
1. The verification of systems identified in the first subparagraph of Article 2(1) shall demonstrate the conformity of these systems with the interoperability,	---	Not transposed. See Annex IV of Reg. 552/2004 on Systems, in particular its point 2 (Verification

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performance and safety requirements of this Regulation in an assessment environment that reflects the operational context of these systems.		procedure for systems).
2. The verification of systems identified in the first subparagraph of Article 2(1) shall be conducted in accordance with appropriate and recognised testing practices.	---	Not transposed. See Annex IV of Reg. 552/2004 on Constituents, in particular its point 3 (Technical file).
3. Test tools used for the verification of systems identified in the first subparagraph of Article 2(1) shall have appropriate functionalities.	---	Not transposed. See Annex IV of Reg. 552/2004 on Systems, in particular its point 2 (Verification procedure for systems).
4. The verification of systems identified in the first subparagraph of Article 2(1) shall produce the elements of the technical file required by point 3 of Annex IV to Regulation (EC) No 552/2004 including the following elements: — description of the implementation, — the report of inspections and tests achieved before putting the system into service.	---	Not transposed. See Annex IV of Reg. 552/2004 on Constituents, in particular its point 3 (Technical file).

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5. The air navigation service provider shall manage the verification activities and shall in particular: — determine the appropriate simulated operational and technical environment reflecting the operational environment, — verify that the test plan describes the integration of systems identified in the first subparagraph of Article 2(1) in an operational and technical assessment environment, — verify that the test plan provides full coverage of the applicable interoperability, performance and safety requirements of this Regulation, — ensure the consistency and quality of the technical documentation and the test plan, — plan the test organisation, staff, installation and configuration of the test platform, — perform the inspections and tests as specified in the test plan, — write the report presenting the results of inspections and tests.	---	No transposed. See Annex IV of Reg. 552/2004 on Systems, in particular its point 1 (Contents of EC declaration of verification of systems).
6. The air navigation service provider shall ensure that the systems identified in the first subparagraph of Article 2(1) under its responsibility meet the interoperability, performance and safety requirements of this Regulation.	---	This paragraph is applicable in the context of Regulation 73/2010 only.

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7. Upon satisfying completion of verification of conformity, air navigation service providers shall draw up the EC declaration of verification of system and submit it to the national supervisory authority together with the technical file as required by Article 6 of Regulation (EC) No 552/2004.	---	Please see Annex IV of Reg. 552/2004 on Systems, in particular its point 4 (Submission).
PART B **Requirements for the verification of systems referred to in Article 12(2)**	---	Not transposed. See Annex IV of Reg. 552/2004 on Systems when it is referred to notified body, as per Article 8 of said regulation.
1. The verification of systems identified in the first subparagraph of Article 2(1) shall demonstrate the conformity of these systems with the interoperability, performance and safety requirements of this Regulation in an assessment environment that reflects the operational context of these systems.		
2. The verification of systems identified in the first subparagraph of Article 2(1) shall be conducted in accordance with appropriate and recognised testing practices.		
3. Test tools used for the verification of systems identified in the first subparagraph of Article 2(1) shall have appropriate functionalities.		
4. The verification of systems identified in the first subparagraph of Article 2(1) shall produce the elements of the technical file required by point 3 of		

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Annex IV to Regulation (EC) No 552/2004 including the following elements:		
— description of the implementation,		
— the report of inspections and tests achieved before putting the system into service.		
5. The air navigation service provider shall determine the appropriate operational and technical assessment environment reflecting the operational environment and shall have verification activities performed by a notified body.		
6. The notified body shall manage the verification activities and shall in particular:	---	Not transposed. See Annex IV of Reg. 552/2004 on Systems when it is referred to notified body, as per Article 8 of said regulation.
— verify that the test plan describes the integration of systems identified in the first subparagraph of Article 2(1) in an operational and technical assessment environment,		
— verify that the test plan provides full coverage of the applicable interoperability, performance and safety requirements of this Regulation,		
— ensure the consistency and quality of the technical documentation and the test plan,		
— plan the test organisation, staff, installation and configuration of the test platform,		
— perform the inspections and tests as specified in the test plan,		
— write the report presenting the results of		

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inspections and tests. 7. The notified body shall ensure that the systems identified in the first subparagraph of Article 2(1) operated in an operational assessment environment meet the interoperability, performance and safety requirements of this Regulation. 8. Upon satisfying completion of verification tasks, the notified body shall draw up a certificate of conformity in relation to the tasks it carried out.		
9. Then the air navigation service provider shall draw up the EC declaration of verification of system and submit it to the national supervisory authority together with the technical file as required by Article 6 of Regulation (EC) No 552/2004.	---	Not transposed. The EC declaration of verification of system is already required under Article 6 of Regulation (EC) No 552/2004.
ANNEX XI ICAO DIFFERENCES REFERRED TO IN ARTICLE 14 Chapter 3, Section 3.5.2 (Cyclic redundancy check) of Annex 15 to the Chicago Convention — Aeronautical Information Services. (Fourteenth edition — July 2013, incorporating Amendment No 37). —	This Annex XI is applicable in the context of Regulation 73/2010 only and is therefore not transposed.	

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Table 3 - Rule comparison between the text of the upcoming major amendment to ICAO Annex 15 and new draft PANS-AIM, and the NPA text.

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
INTERNATIONAL STANDARDS AND RECOMMENDED PRACTICES	**The term 'transposed' means that the substance of the ICAO provisions is not changed, although, in some cases, some editorial revisions may have been applied.**	
---	*NOTE1: When reference is made to Annex III to Regulation (EU) No ../.., it refers to Part-ATM/ANS.OR in draft Regulation laying down technical requirements and administrative procedures related to service providers and the oversight thereof, still to be adopted.* *NOTE 2: When reference is made to Appendix 1 to Article 3, it refers to the Appendix on requirements for aviation undertakings that is linked to Article 3.1 to Regulation laying down technical requirements and administrative procedures related to service providers and the oversight thereof, still to be adopted.*	
CHAPTER 1. GENERAL	**AIS.OR.105 Responsibilities of aeronautical information services providers**	---
Note 1.— The object of the aeronautical information service (AIS) is to ensure the flow of aeronautical data and aeronautical information necessary for global air traffic management (ATM) system safety, regularity, economy and efficiency in an environmentally sustainable manner. The role and importance of aeronautical data and aeronautical information changed	**(a)** An aeronautical information services provider shall ensure the provision of aeronautical data and aeronautical information necessary for the safety, regularity and efficiency of air navigation.	The ICAO Note 1 generally states what AIS needs to ensure. The NPA text reproduces the ICAO text to highlight the general responsibility of an AIS provider. The second and third paragraphs are explanatory material that are not considered to be reproduced.

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
significantly with the implementation of area navigation (RNAV), performance-based navigation (PBN), airborne computer-based navigation systems and data link systems. Corrupt, erroneous, late, or missing aeronautical data and aeronautical information can potentially affect the safety of air navigation.		
Note 2.— These Standards and Recommended Practices are to be used in conjunction with the Procedures for Air Navigation Services — ICAO Abbreviations and Codes (PANS-ABC, Doc 8400).	---	This Note is applicable in the framework of ICAO rules and not relevant to be transposed in EU rules.
Note 3.— These Standards and Recommended Practices are to be used in conjunction with the Procedures for Aeronautical Information Management (PANS-AIM, Doc XXXX).	---	This Note is not considered to be transposed as it refers to the PANS-AIM which is now transposed.
Note 4.— Guidance material on the organization and operation of aeronautical information services is contained in the Aeronautical Information Services Manual (Doc 8126).	**GM1 to Annex VI – Part-AIS** DOC 8126 Guidance material on the organization and operation of aeronautical information services is contained in the Aeronautical Information Services Manual (ICAO Doc 8126).	Transposed.
1.1 Definitions	*Please see separate cross reference table*	---

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ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
1.2 Common reference systems for air navigation	**ATM/ANS.OR.A.085 Common reference systems for air navigation**	The common reference system requirements are not included in Annex VI (Part-AIS) but in Annex III (Part-ATM/ANS.OR) as they are applicable to all service providers.
1.2.1 Horizontal reference system	---	---
1.2.1.1 World Geodetic System — 1984 (WGS-84) shall be used as the horizontal (geodetic) reference system for international air navigation and published aeronautical geographical coordinates (indicating latitude and longitude) shall be expressed in terms of the WGS-84 geodetic reference datum.	**(a)** For the purpose of air navigation, service providers shall use shall use the World Geodetic System — 1984 (WGS-84) as the horizontal reference system. **Appendix 1 to Article 3** **2. Common reference systems** The World Geodetic System WGS-84 shall be used as the horizontal reference system for data origination.	Transposed. The second part of the paragraph is covered by the specifications in the data catalogue.
Note 1.— Comprehensive guidance material concerning WGS-84 is contained in the World Geodetic System — 1984 (WGS-84) Manual (Doc 9674).	---	Guidance on WGS-84 is provided, based on the EUROCONTROL Specifications for the Origination of Aeronautical Data, Volume 2: Guidance material (EUROCONTROL-SPEC-154, edition 1.0 of 04/02/2013)
1.2.1.2 **Recommendation.—** In precise geodetic applications and some air navigation applications,	---	Guidance on WGS-84 is provided, based on the EUROCONTROL Specifications for the Origination of

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
temporal changes in the tectonic plate motion and tidal effects on the Earth's crust should be modelled and estimated. To reflect the temporal effect, an epoch should be included with any set of absolute station coordinates.		Aeronautical Data, Volume 2: Guidance material (EUROCONTROL-SPEC-154, edition 1.0 of 04/02/2013)
Note 1.— The epoch of the WGS-84 (G873) reference frame is 1997.0 while the epoch of the latest updated WGS-84 (G1150) reference frame, which includes plate motion model, is 2001.0. (G indicates that the coordinates were obtained through Global Positioning System (GPS) techniques, and the number following G indicates the GPS week when these coordinates were implemented in the United States of America's National Geospatial-Intelligence Agency's (NGA's) precise ephemeris estimation process.)	---	Guidance on WGS-84 is provided, based on the EUROCONTROL Specifications for the Origination of Aeronautical Data, Volume 2: Guidance material (EUROCONTROL-SPEC-154, edition 1.0 of 04/02/2013)
Note 2.— The set of geodetic coordinates of globally distributed permanent GPS tracking stations for the most recent realization of the WGS-84 reference frame (WGS-84 (G1150)) is provided in Doc 9674. For each permanent GPS tracking station, the accuracy of an individually estimated position in WGS-84 (G1150) has been in the order of 1 cm (1s).	---	Guidance on WGS-84 is provided, based on the EUROCONTROL Specifications for the Origination of Aeronautical Data, Volume 2: Guidance material (EUROCONTROL-SPEC-154, edition 1.0 of 04/02/2013)
Note 3.— Another precise worldwide terrestrial	---	Guidance on WGS-84 is provided, based on the

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coordinate system is the International Earth Rotation Service (IERS) Terrestrial Reference System (ITRS), and the realization of ITRS is the IERS Terrestrial Reference Frame (ITRF). Guidance material regarding the ITRS is provided in Appendix C of Doc 9674. The most current realization of the WGS-84 (G1150) is referenced to the ITRF 2000 epoch. The WGS-84 (G1150) is consistent with the ITRF 2000 and in practical realization the difference between these two systems is in the one to two centimetre range worldwide, meaning WGS-84 (G1150) and ITRF 2000 are essentially identical.		EUROCONTROL Specifications for the Origination of Aeronautical Data, Volume 2: Guidance material (EUROCONTROL-SPEC-154, edition 1.0 of 04/02/2013)
1.2.2 Vertical reference system	---	---
1.2.2.1 Mean sea level (MSL) datum, shall be used as the vertical reference system for international air navigation.	**ATM/ANS.OR.A.085 Common reference systems for air navigation** **(b)** For the purpose of air navigation, service providers shall use the Mean Sea Level (MSL) datum as the vertical reference system. **Appendix 1 to Article 3 Requirements for aviation undertakings** **2. Common reference systems for air navigation** **(b)** The Mean Sea Level (MSL) datum shall be used	Transposed.

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	as the vertical reference system for data origination.	
Note 1.— The geoid globally most closely approximates MSL. It is defined as the equipotential surface in the gravity field of the Earth which coincides with the undisturbed MSL extended continuously through the continents.	**GM1 ATM/ANS.OR.B.085(b)** MEAN SEA LEVEL **(a)** The geoid globally most closely approximates MSL. It is defined as the equipotential surface in the gravity field of the Earth which coincides with the undisturbed MSL extended continuously through the continents.	Transposed.
Note 2.— Gravity-related heights (elevations) are also referred to as orthometric heights while distances of points above the ellipsoid are referred to as ellipsoidal heights.	**(b)** Gravity-related heights (elevations) are also referred to as orthometric heights while distances of points above the ellipsoid are referred to as ellipsoidal heights.	Transposed.
1.2.2.2 The Earth Gravitational Model — 1996 (EGM-96), shall be used by international air navigation as the global gravity model.	**AMC1 ATM/ANS.OR.A.085(b)** VERTICAL REFERENCE SYSTEM **(a)** A service provider should use the Earth Gravitational Model — 1996 (EGM-96), as the global gravity model.	Transposed. This ICAO standard has been transposed at the level of AMC because the ICAO Annex allows for further alternatives (such as 1.2.2.3 below).
1.2.2.3 At those geographical positions where the accuracy of EGM-96 does not meet the accuracy	**AMC1 ATM/ANS.OR.A.085(b)** VERTICAL REFERENCE SYSTEM	Transposed. This ICAO standard has been transposed at the level

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requirements for elevation and geoid undulation specified in Annex 14, Volumes I and II, on the basis of EGM-96 data, regional, national or local geoid models containing high resolution (short wavelength) gravity field data shall be developed and used. When a geoid model other than the EGM-96 model is used, a description of the model used, including the parameters required for height transformation between the model and EGM-96, shall be provided in the Aeronautical Information Publication (AIP).	**(b)** At those geographical positions where the accuracy of EGM-96 does not meet the accuracy requirements for elevation and geoid undulation specified in Annex 14, Volumes I and II, on the basis of EGM-96 data, regional, national or local geoid models containing high resolution (short wavelength) gravity field data should 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, should be provided in the Aeronautical Information Publication (AIP).	of AMC because this paragraph only constitutes an alternative.
Note.— Specifications governing determination and reporting (accuracy of field work and data integrity) of elevation and geoid undulation at specific positions at aerodromes/heliports are given in Annex 14, Volumes I and II, Chapter 2, and Table A5-2 and Table 2 of Appendices 5 and 1, respectively.	---	Transposed. See Appendix 1 (data catalogue)
1.2.2.4 In addition to elevation referenced to the MSL (geoid), for the specific surveyed ground positions, geoid undulation (referenced to the WGS-84 ellipsoid) for those positions specified in Appendix 1 shall also be	---	Not transposed as such. This paragraph is covered by Appendix 1 (AIP content) to Part-AIS.

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
published.		
1.2.3 Temporal reference system	---	---
1.2.3.1 For international civil aviation, the Gregorian calendar and Coordinated Universal Time (UTC) shall be used as the temporal reference system.	**ATM/ANS.OR.A.085 Common reference systems for air navigation** **(c)** For the purpose of air navigation, service providers shall use the Gregorian calendar and Coordinated Universal Time (UTC) as the temporal reference system. **Appendix 1 to Article 3** **2. Common reference systems for air navigation** **(c)** The Gregorian calendar and Coordinated Universal Time (UTC) shall be used as the temporal reference systems for data origination.	Transposed.
Note 1.— A value in the time domain is a temporal position measured relative to a temporal reference system.	**GM1 ATM/ANS.OR.A.085(c)** TEMPORAL REFERENCE SYSTEM **(a)** A value in the time domain is a temporal position measured relative to a temporal reference system.	Transposed.

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Note 2.— Coordinated Universal Time (UTC) is a time scale maintained by the Bureau International de l'Heure (BIH) and the IERS and forms the basis of a coordinated dissemination of standard frequencies and time signals.	---	Not transposed. This note is not considered as being explanatory material facilitating the understanding of the requirement.
Note 3.— See Attachment D of Annex 5 for guidance material relating to UTC.	---	Not transposed. This note is not considered as being explanatory material facilitating the understanding of the requirement.
Note 4.— ISO Standard 8601 specifies the use of the Gregorian calendar and 24-hour local or UTC for information interchange while ISO Standard 19108 prescribes the Gregorian calendar and UTC as the primary temporal reference system for use with geographic information.	**GM1 ATM/ANS.OR.A.085(c)** TEMPORAL REFERENCE SYSTEM **(b)** ISO Standard 19108 prescribes the Gregorian calendar and UTC as the primary temporal reference system for use with geographic information. **(c)** ISO Standard 8601 specifies the presentation of dates and times for information interchange;	Transposed.
1.2.3.2 When a different temporal reference system is used for some applications, the feature catalogue, or the metadata associated with an application schema or a data set, as appropriate, shall include either a description of that system or a citation for a document that describes that temporal reference system.	---	This paragraph is not transposed as it is considered not relevant in the context of the rules.

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Note.— ISO Standard 19108, Annex D, describes some aspects of calendars that may have to be considered in such a description.	---	This paragraph is not transposed as it is considered not relevant in the context of the rules.
1.3 Miscellaneous specifications	---	---
1.3.1 Aeronautical Information Products intended for international distribution shall include English text for those parts expressed in plain language.	**AIS.TR.300 General** **(a)** Aeronautical Information Products intended for international distribution shall include English text for those parts expressed in plain language.	Transposed.
1.3.2 Place names shall be spelt in conformity with local usage, transliterated, when necessary, into the ISO-Basic Latin alphabet.	**AIS.TR.300 General** **(b)** Place names shall be spelt in conformity with local usage, transliterated, when necessary, into the ISO-Basic Latin alphabet.	Transposed.
1.3.3 **Recommendation.**— Units of measurement used in the origination, processing and distribution of aeronautical data and aeronautical information should be consistent with the decision taken by the State in respect of the use of the tables contained in Annex 5 — Units of Measurement to be Used in Air and Ground Operations.	---	Not transposed. The reference to the units of measurement is covered by the data catalogue (Appendix 1 to Annex III of Regulation (EU) ../…)

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1.3.4 ICAO abbreviations shall be used in the aeronautical information services whenever they are appropriate and their use will facilitate distribution of aeronautical data and aeronautical information.	**AIS.TR.300 General** **(c)** ICAO abbreviations shall be used in the aeronautical information services whenever they are appropriate and their use will facilitate distribution of aeronautical data and aeronautical information.	Transposed.
1.4 Language proficiency	**AIS.OR.605 Language proficiency**	---
An Aeronautical Information Service provider shall ensure that AIS personnel are proficient in speaking, reading, writing and understanding English, as required for the functions that they are expected to perform.	An aeronautical information services provider shall ensure that its personnel is proficient in speaking, reading, writing and understanding English, as required for the functions that it is expected to perform.	Transposed.
CHAPTER 2. RESPONSIBILITIES AND FUNCTIONS	---	---
2.1 State responsibilities	---	--
2.1.1 Each Contracting State shall: a) provide an aeronautical information service; or b) agree with one or more other Contracting State(s) for the provision of a joint service; or c) delegate the authority for the provision of the service to a non-governmental agency, provided the Standards	**GM1 to Article 3.1** **AERONAUTICAL INFORMATION SERVICES** According to ICAO Annex 15, the Member States remain responsible for the provision of aeronautical data and aeronautical information. In that regard they may:	Transposed.

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
and Recommended Practices of this Annex are adequately met.	a) provide an aeronautical information service themselves; or b) agree with one or more other Contracting State(s) for the provision of a joint service; or c) delegate the authority for the provision of the service to a non-governmental agency, provided the Standards and Recommended Practices of this Annex are adequately met.	
2.1.2 Each Contracting State shall ensure that the provision of aeronautical data and aeronautical information covers its own territory and those areas over the high seas for which it is responsible for the provision of air traffic services.	**GM1 to Article 3.1** Member States will ensure that the provision of aeronautical data and aeronautical information covers its own territory and those areas over the high seas for which it is responsible for the provision of air traffic services.	Transposed.
2.1.3 The State concerned shall remain responsible for the aeronautical data and aeronautical information provided in accordance with 2.1.2. Aeronautical data and aeronautical information provided for and on behalf of a State shall clearly indicate that they are provided under the authority of that State, irrespective of the format in which it is provided.	**AIS.OR.105 Responsibilities of aeronautical information services providers** **(g)** An aeronautical information services provider shall clearly indicate that aeronautical data and aeronautical information provided for and on behalf of a Member State are provided under the authority of that Member State, irrespective of the format in which it is provided.	Transposed. The first sentence is covered by the GM1 above.

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
2.1.4 Each Contracting State shall ensure that the aeronautical data and aeronautical information provided is complete, timely and of required quality in accordance with 3.2.	---	Not transposed. This provision is addressed to Contracting States but the requirements are covered under the AIS providers' responsibilities.
2.1.5 Each contracting State shall ensure that formal arrangements are established between originators of aeronautical data and aeronautical information and the aeronautical information service in relation to the timely and complete provision of aeronautical data and aeronautical information.	**ATM/ANS.OR.A.085 Formal arrangements** **(d)** Formal arrangements in relation with the provision of aeronautical data and aeronautical information between service providers shall be established. **AIS.OR.205 Formal arrangements** An aeronautical information services provider shall ensure that formal arrangements are established: (a) with all parties transmitting data to them; and (b) between themselves when exchanging aeronautical information and data. **Appendix 1 to Article 3** **3. Formal arrangements** (a) Organisations originating data shall establish formal arrangements with: (1) parties requesting the data and;	Transposed. Formal arrangements are established: — between AIS providers themselves; — between service providers themselves; — between service providers and aviation undertakings; and — between AIS providers and aviation undertakings.

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
	(2) when different, those to which the data are delivered.	
Note.— The scope of aeronautical data and aeronautical information that would be the subject of formal arrangements is specified in Chapter 4.	---	This Note is not considered relevant to transpose as the scope of the formal arrangements is included in the rules.
2.2 AIS responsibilities and functions	**AIS.OR.105 Responsibilities of aeronautical information services providers**	---
2.2.1 An aeronautical information service shall ensure that aeronautical data and aeronautical information necessary for the safety, regularity or efficiency of air navigation is made available in a form suitable for the operational requirements of the ATM community, including: a) those involved in flight operations, including flight crews, flight planning and flight simulators; and b) the air traffic services unit responsible for flight information service and the services responsible for pre-flight information.	**(c)** An aeronautical information services provider shall ensure that aeronautical data and aeronautical information are available for operations in a form suitable for: (1) personnel involved in flight operations, including flight crews, flight planning, and flight simulators; and (2) air traffic services providers responsible for flight information service, and the services responsible for pre-flight information.	Transposed.
Note.— A description of the ATM community is contained in the Global Air Traffic Management Operational Concept (Doc 9854).	---	This Note is not transposed because the term 'ATM community' is not used in the rules.

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2.2.2 An aeronautical information service shall receive, collate or assemble, edit, format, publish/store and distribute aeronautical data and aeronautical information concerning the entire territory of the State as well as those areas over the high seas in which the State is responsible for the provision of air traffic services. Aeronautical data and aeronautical information shall be provided as aeronautical information products.	**AIS.OR.105 Responsibilities of aeronautical information services providers** **(b)** An aeronautical information services provider shall receive, collate or assemble, edit, format, publish, store and distribute aeronautical data and aeronautical information concerning the entire territory of a Member State as well as those areas over the high seas in which the Member State is responsible for the provision of air traffic services.	Transposed. The second sentence is not transposed as it is considered to be a generic statement rather than a requirement per se.
Note.— An aeronautical information service may include origination functions.		This note is not considered as being explanatory material facilitating the understanding of the requirement. The NPA covers origination requirements.
2.2.3 Where 24-hour service is not provided, service shall be available during the whole period an aircraft is in flight in the area of responsibility of an aeronautical information service, plus a period of at least two hours before and after such a period. The service shall also be available at such other time as may be requested by an appropriate ground organization.	**AIS.OR.105 Responsibilities of aeronautical information services providers** **(e)** An aeronautical information services provider shall provide 24-hour services for NOTAM origination and issuance in its area of responsibility and pre-flight information needed in relation to route stages originating at the aerodrome/heliport in its area of responsibility.	Transposed. The proposed text takes into account the actual European operational environment. [This paragraph is combined with parts of 5.5.1 below]

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
2.2.4 An aeronautical information service shall, in addition, obtain aeronautical data and aeronautical information to enable it to provide pre-flight information service and to meet the need for in-flight information: a) from the aeronautical information services of other States; b) from other sources that may be available.	**GM1 AIS.OR.105 Responsibilities of aeronautical information services providers** An aeronautical information service provider obtains aeronautical data and aeronautical information to enable it to provide pre-flight information service and to meet the need for in-flight information: a) from the aeronautical information services of other States; b) from other sources that may be available.	Transposed.
Note.— One such source is the subject of a provision in 5.7.	---	This note is not considered as being explanatory material facilitating the understanding of the requirement.
2.2.5 Aeronautical data and aeronautical information obtained under 2.2.4 a) shall, when distributed, be clearly identified as having the authority of the State of Origin.	---	This provision is not relevant as it is considered as not being practicable.
2.2.6 Aeronautical data and aeronautical information obtained under 2.2.4 b) shall, if possible, be verified before distribution and if not verified shall, when distributed, be clearly identified as such.	---	This provision is not relevant as it is considered as not being practicable.

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
2.2.7 An aeronautical information service shall promptly make available to the aeronautical information services 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 2.2.1.	**AIS.OR.105 Responsibilities of aeronautical information services providers** **(d)** An aeronautical information services provider shall promptly make available to other aeronautical information services providers any aeronautical data and aeronautical information required by them.	Transposed. The last part of the sentence is already covered AIS.OR.105(a).
2.3 Exchange of aeronautical data and aeronautical information	---	---
2.3.1 Each State shall designate the office to which all aeronautical information products provided by other States shall be addressed. Such an office shall be qualified to deal with requests for aeronautical data and aeronautical information provided by other States.	**GM1 to Article 3.1** Each Member State designates the office to which all aeronautical information products provided by other States shall be addressed. Such an office shall be qualified to deal with requests for aeronautical data and aeronautical information provided by other States.	Transposed as explanatory material to the obligation of the Member States laid down in Article 3(1) of Regulation (EU) .../...
2.3.2 **Recommendation** — Formal arrangements should be established between those parties providing aeronautical information on behalf of the States and their users in relation to the provision of the service.	---	Not transposed. It is considered that this paragraph is out of the scope of the regulation. Formal arrangements cannot be imposed on such users.
Note. — Guidance material on such formal arrangements	---	Not transposed.

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
may be found in XXXX		
2.3.3 Where more than one international NOTAM office is designated within a State, the extent of responsibility and the territory covered by each office shall be defined.	**GM1 to Article 3.1** Where more than one international NOTAM office is designated within a State, the extent of responsibility and the territory covered by each office shall be defined.	Transposed as explanatory material to the obligation of the Member States laid down in Article 3(1) of Regulation (EU) .../...
2.3.4 An aeronautical information service shall arrange, as necessary, to satisfy operational requirements for the issuance and receipt of NOTAM distributed by telecommunication.	---	Not transposed. This paragraph is not a requirement as such but is considered to be internal arrangement within AIS providers.
2.3.5 Wherever practicable, direct contact between aeronautical information services shall be established in order to facilitate the international exchange of aeronautical data and aeronautical information.	---	Not transposed. This paragraph is considered current practice and therefor it is not necessary to regulate it.
2.3.6 Except as provided in 2.3.8, one copy of each of the following aeronautical information products (where available) that have been requested by the aeronautical information service of an ICAO Contracting State shall be provided in the mutually-agreed form(s), without charge, even where authority for publication/storage and distribution has been delegated to a non-governmental	---	Not transposed. This requirement relates to contractual arrangements for the free exchange of AI products. It is considered not necessary to transpose in the framework of safety rules.

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
agency: — Aeronautical Information Publication (AIP), including Amendments and Supplements — Aeronautical Information Circulars (AIC) — NOTAM		
2.3.7 **Recommendation.**— The exchange of more than one copy of the elements of the aeronautical information products and other air navigation documents, including those containing air navigation legislation and regulations, should be subject to bilateral agreement between the participating States and entities.		Not transposed. This requirement relates to contractual arrangements for the free exchange of AI products. It is considered not necessary to transpose in the framework of safety rules.
2.3.8 Where aeronautical information and aeronautical data is provided in the form of digital data sets to be used by Aeronautical Information Services, it shall be provided on the basis of agreement between the concerned Contracting States	---	Not transposed. This requirement relates to contractual arrangements for the free exchange of AI products. It is considered not necessary to transpose in the framework of safety rules.
Note. - The intention is that States are able to access foreign data for the purposes specified in 2.2.4.	---	This Note is not transposed as it self-explanatory.
2.3.9 **Recommendation.**— The procurement of aeronautical data and aeronautical information, including the elements of the aeronautical information	---	This paragraph is not transposed as it is related to procurement arrangements requirements, which considered not necessary to transpose in the

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
products, and other air navigation documents, including those containing air navigation legislation and regulations, by States other than ICAO Contracting States and by other entities should be subject to separate agreement between the participating States and entities.		framework of safety rules.
2.4 Copyright	---	The NPA does not cover copyright matters.
Note.— In order to protect the investment in the products of a State's AIS as well as to ensure better control of their use, States may wish to apply copyright to those products in accordance with their national laws.	---	The NPA does not cover copyright matters.
2.4.1 Any aeronautical information product which has been granted copyright protection by the State and provided to another State in accordance with 2.3, such products shall only be made available to a third party on the condition that the third party is made aware that the product is copyright protected and provided that it is appropriately annotated that the product is subject to copyright by the State.	---	The NPA does not cover copyright matters.
2.4.2 When aeronautical information and aeronautical data is provided to the State in accordance with 2.3.8, the receiving State shall not provide digital data sets of the providing State to any third party, without the	---	The NPA does not cover copyright matters.

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
consent of the providing State.		
2.5 Cost recovery	---	The NPA dos not cover cost recovery requirements.
2.5.1 **Recommendation.—** The overhead cost of collecting and compiling aeronautical data and aeronautical information should be included in the cost basis for airport 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 (Doc 9082).	---	The NPA dos not cover cost recovery requirements.
Note.— When costs of collection and compilation of aeronautical data and aeronautical information are recovered through airports and air navigation services charges, the charge to an individual customer for the supply of a particular AIS product may be based on the costs of printing paper copies, production of electronic media, and costs of distribution.	---	The NPA dos not cover cost recovery requirements.
CHAPTER 3. AERONAUTICAL INFORMATION MANAGEMENT	---	---
3.1 Information management requirements	**AIS.OR.100 Information management**	---
The information management resources and processes	An aeronautical information services provider shall	Transposed.

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established by an aeronautical information service shall be adequate to ensure the timely collection, processing, storing, integration, exchange and delivery of quality-assured aeronautical data and aeronautical information within the ATM system.	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.	
3.2 Data quality specifications	**Section 2 Data quality requirements**	---
3.2.1 Accuracy	---	---
The order of accuracy for aeronautical data shall be in accordance with its intended use.	**AIS.TR.200 General** **(a)** The accuracy for aeronautical data shall be as in the data catalogue, as specified in Appendix 1 to Annex III. **ATM/ANS.OR.A.080 Aeronautical data and aeronautical information** **(b)(1)** the accuracy of aeronautical data, as specified in the data catalogue. **Appendix 1 to Article 3** **5. DATA QUALITY** The accuracy for aeronautical data shall be as specified in the Data Catalogue.	Transposed.

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Note.— Specifications governing the order of accuracy (including confidence level) for aeronautical data are provided in PANS-AIM Appendix 1.	---	This Note is not transposed as the order of the accuracy is contained in the data catalogue.
3.2.2 Resolution	---	---
The order of resolution of aeronautical data shall be commensurate with the actual data accuracy.	**AIS.TR.200 General** **(b)** The order of resolution of aeronautical data shall be commensurate with the actual data accuracy. **ATM/ANS.OR.A.080 Aeronautical data and aeronautical information** **(b)(3)** the resolution of aeronautical data, which shall be commensurate with the actual data accuracy. **Appendix 1 Article 3** **5. DATA QUALITY** **(c)** The resolution of aeronautical data shall be commensurate with the actual data accuracy.	Transposed.
Note 1. — Specifications governing the publication resolution of the data are specified in the PANS-AIM Appendix 1	---	This Note is not necessary to transpose as the publication resolution is contained in the data catalogue.

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Note 2. — The resolution of the data contained in the database may be the same or finer than the publication resolution.	**GM1 AIS.TR.200(b) General** The resolution of the data contained in the database may be the same or finer than the publication resolution.	Transposed.
3.2.3 Integrity	---	---
3.2.3.1 The integrity of aeronautical data shall be maintained throughout the data process from origination to distribution to the next intended user.	**AIS.TR.200 General** **(c)** The integrity of aeronautical data shall be maintained throughout the data process from reception to distribution to the next intended user. **ATM/ANS.OR.A.080 Aeronautical data and aeronautical information** **(b)(2)** the integrity of aeronautical data shall be maintained throughout the data process. **Appendix 1 Article 3** **5. DATA QUALITY** **(b)** The integrity of aeronautical data, which shall be maintained throughout the data process from origination to distribution to the next intended user.	Transposed.
Note: Specifications governing the integrity classification	---	This Note is not necessary to transpose as the

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related to aeronautical data are provided in PANS-AIM, Appendix 1		integrity classification is contained in the data catalogue.
3.2.3.2 Based on the applicable integrity classification, procedures shall be put in place in order to: a) for routine data: avoid corruption throughout the processing of the data; b) for essential data: assure corruption does not occur at any stage of the entire process and may include additional processes as needed to address potential risks in the overall system architecture to further assure data integrity at this level; and c) for critical data: assure corruption does not occur at any stage of the entire process and include additional integrity assurance processes to fully mitigate the effects of faults identified by thorough analysis of the overall system architecture as potential data integrity risks.	**Appendix 1 Data origination** **5. DATA QUALITY** **(b)** Based on the integrity classification specified in the data catalogue, procedures shall be put in place in order to: (1) for routine data, avoid corruption throughout the processing of the data; (2) for essential data, assure that 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 (3) for critical data, assured that 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 by thorough analysis of the overall system architecture as potential data integrity risks.	Transposed.

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3.2.4 Traceability	---	---
3.2.4.1 Traceability of aeronautical data shall be ensured and retained as long as the data is in use.	**AIS.TR.200 General** **(d)** Traceability of aeronautical data shall be ensured and retained. **ATM/ANS.OR.A.080 Aeronautical data and aeronautical information** **(b)(4)** traceability of aeronautical data; **Appendix 1 to Article 3** **5. DATA QUALITY** (e) Traceability of aeronautical data shall be ensured.	Transposed.
Note - Configuration management is essential for compliance with traceability requirements.	---	This note is not considered as being explanatory material facilitating the understanding of the requirement.
3.2.5 Timeliness	---	---
3.2.5.1 Timeliness shall be ensured by including limitations on the effective period with the data elements.	**AIS.TR.200 General** **(e)** Timeliness shall be ensured by including any limits on the effective period with the data elements.	Transposed.

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	ATM/ANS.OR.A.080 Aeronautical data and aeronautical information **(b)(5)** timeliness of the data, by including any limits on the effective period with the data elements. **Appendix 1 Article 3** **5. DATA QUALITY** **(e)** Timeliness shall be ensured by including any limits on the effective period with the data elements.	
Note 1 - These limits may be associated with individual data elements or data sets.	---	This note is not considered as being explanatory material facilitating the understanding of the requirement.
Note 2 - If the effective period is defined for a data set, it should account for the effective dates of all of the individual data elements.	---	This note is not considered as being explanatory material facilitating the understanding of the requirement.
3.2.6 Completeness	---	---
3.2.6.1 Completeness of the aeronautical data shall be ensured in order to support the intended use.	**AIS.TR.200 General** **(f)** Completeness of the aeronautical data shall be ensured in order to support the intended use.	Transposed.

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	ATM/ANS.OR.A.080 Aeronautical data and aeronautical information **(b)(6)** completeness of the aeronautical data shall be ensured in order to support the intended use. **Appendix 1 Article 3** **5. DATA QUALITY** **(f)** Completeness of the aeronautical data, in order to support the intended use.	
3.2.7 Format	---	---
3.2.7.1 The format of delivered data shall be adequate to ensure that the data is interpreted in a manner that is consistent with the intended use of the data.	**AIS.TR.200 General** **(g)** The format of delivered data shall be adequate to ensure that the data is interpreted in a manner that is consistent with the intended use of the data. **ATM/ANS.OR.A.080 Aeronautical data and aeronautical information** **(b)(7)** the format of delivered data, which shall be adequate to ensure that the data is interpreted in a manner that is consistent with the intent of the data. **Appendix 1 Article 3**	Transposed.

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	5. DATA QUALITY **(g)** The format of delivered data shall be adequate to ensure that the data is interpreted in a manner that is consistent with the intent of the data.	
3.3 Aeronautical data and aeronautical information validation and verification	**ATM/ANS.OR.A.080 Aeronautical data and aeronautical information**	---
3.3.1 Material to be issued as part of an aeronautical information product shall be thoroughly checked before it is submitted to the aeronautical information service, in order to make certain that all necessary information has been included and that it is correct in detail. 3.3.2 An aeronautical information service shall establish verification and validation procedures which ensure that upon receipt of aeronautical data and aeronautical information, quality requirements are met.	When originating, processing or transmitting data to the aeronautical information services provider, service providers shall: (h) ensure that validation and verification techniques are employed throughout the aeronautical data processing chain to ensure that the aeronautical data meets the associated data quality requirements, and that: […]	Transposed.
3.4 Data error detection	---	---
3.4.1 Digital data error detection techniques shall be used during the transmission and/or storage of aeronautical data and digital data sets.	**AIS.OR.230 Authentication and data error detection** An aeronautical information services provider shall ensure that: Digital data error detection techniques are used	Transposed.

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	during the transmission and/or storage of aeronautical data and digital data sets; **ATM/ANS.OR.A.080 Aeronautical data and aeronautical information** **(i)** ensure that digital data error detection techniques are used during the transmission and/or storage of aeronautical data and digital data sets. **Appendix 1 Article 3** **8 DATA ERROR DETECTION AND AUTHENTICATION** (a) Digital data error detection techniques shall be used during the transmission and/or storage of aeronautical data and digital data sets.	
3.4.2 Digital data error detection techniques shall apply to all integrity levels of data sets as specified in 3.2.3.	**AIS.OR.235 Authentication and data error detection** An aeronautical information services provider shall ensure that: (2) Digital data error detection techniques apply to all integrity levels of data sets. **ATM/ANS.OR.A.080 Aeronautical data and aeronautical information** **(i)** ensure that digital data error detection techniques […] apply to all integrity levels of data	Transposed.

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	sets. **Appendix 1 Article 3** **8 DATA ERROR DETECTION AND AUTHENTICATION** **(b)** Digital data error detection techniques shall apply to all integrity levels of data sets.	
3.5 Use of automation	---	---
3.5.1 Automation shall be applied in order to ensure the timeliness, quality, efficiency and cost- effectiveness of aeronautical information services.	---	Not transposed as it is considered as being current practice in Europe.
Note.— Guidance on the development of databases and the establishment of data exchange services is contained in the Aeronautical Information Services Manual (Doc 8126).	**GM1 to Annex VI – Part-AIS** DOC 8126 Guidance material on the organization and operation of aeronautical information services is contained in the Aeronautical Information Services Manual (ICAO Doc 8126).	Transposed. It is proposed to apply this GM to Part-AIS in its entirety.
3.5.2 In order to meet the data quality requirements, automation shall: a) enable digital aeronautical data exchange between the parties involved in the data processing chain; and	**AMC1 AIS.OR.200 General** AUTOMATION (a) In order to meet the data quality requirements, automation should enable digital aeronautical	Transposed.

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	data exchange between aeronautical information services providers.	
b) use aeronautical information exchange models and data exchange models designed to be globally interoperable.	**AIS.OR.210 Exchange of aeronautical data and aeronautical information** An aeronautical information services provider shall ensure that: **(a)** the format of aeronautical data is based on an aeronautical information exchange model designed to be globally interoperable;	Transposed.
3.6 Quality management system	---	The quality management requirements are covered by ATM/ANS.OR.B of Regulation (EU) .../..
3.6.1 Quality management systems shall be implemented and maintained encompassing all functions of an aeronautical information service, as outlined in 2.2. The execution of such quality management systems shall be made demonstrable for each function stage.	---	The Quality management systems is covered by ATM/ANS.OR.B of Regulation (EU) .../..
Note.— Guidance material is contained in the Manual on the Quality Management System for Aeronautical Information Services (Doc 9839).	---	Not transposed. The relevant guidance material is already contained in the related AMC/GM to ATM/ANS.OR.B of Regulation (EU) .../..
3.6.2 **Recommendation.**— Quality management should	---	The quality management requirements are covered

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be applicable to the whole aeronautical information data chain from data origination to distribution to the next intended user, taking into consideration the intended use of data.		by ATM/ANS.OR.B of Regulation (EU) .../..
3.6.3 **Recommendation.—** The quality management system established in accordance with 3.6.1 should follow the International Organization for Standardization (ISO) 9000 series of quality assurance standards, and be certified by an accredited certification body.	---	This paragraph is covered by AMC1 ATM/ANS.OR.B.005(a) of Regulation (EU) .../.. with regard to ISO 9001 certificate for air navigation services providers.
3.6.4 Within the context of the established quality management system, the competencies and the associated knowledge, skills and abilities required for each function shall be identified, and personnel assigned to perform those functions shall be appropriately trained. Processes shall be in place to ensure that personnel possess the competencies required to perform specific assigned functions. Appropriate records shall be maintained so that the qualifications of personnel can be confirmed. Initial and periodic assessments shall be established that require personnel to demonstrate the required competencies. Periodic assessments of personnel shall be used as a means to detect and correct shortfalls in knowledge, skills and	---	The quality management covered by ATM/ANS.OR.B of Regulation (EU) .../.. requires a process to ensure that personnel are trained and competent to perform their duties.

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abilities.		
3.6.5 Each quality management system shall 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.	---	Not transposed. This paragraph is covered throughout the rules related to metadata, error detection and verification and validation processes.
3.6.6 The established quality management system shall provide users with the necessary assurance and confidence that distributed aeronautical data and aeronautical information satisfy the aeronautical data quality requirements.	---	Not transposed. It is part of the management system policy to be put in place.
3.6.7 All necessary measures shall be taken to monitor compliance with the quality management system in place.	---	The quality management covered by ATM/ANS.OR.B of Regulation (EU) .../.. requires the establishment of a function to monitor compliance of the organisation.
3.6.8 Demonstration of compliance of the quality management system applied shall be by audit. If nonconformity is identified, initiating action to correct its cause shall be determined and taken without undue	---	The quality management covered by ATM/ANS.OR.B of Regulation (EU) .../.. requires a compliance monitoring system that includes a feedback system of findings to ensure

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delay. All audit observations and remedial actions shall be evidenced and properly documented.		implementation of corrective actions as necessary and a process to review the causes of underperformance of the management system, determine their implications and eliminate or mitigate such causes.
3.7 Safety management	---	---
3.7.1 A safety process shall be established to demonstrate commitment to safety management in order to meet defined safety objectives.	---	This paragraph states some general objectives, which are already covered by the management system requirements in ATM/ANS.OR.B.005 of Regulation (EU) .../..
3.7.2 Safety management activities shall, as a minimum: a) ensure hazards and safety risks associated with changes to AIM processes, procedures, resources and systems are assessed and mitigated;	---	The quality management covered by ATM/ANS.OR.B of Regulation (EU) .../.. requires the establishment of a process to identify changes within the 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 them.
b) ensure that review and monitoring processes are in place to identify potential safety issues;	---	The quality management covered by ATM/ANS.OR.B of Regulation (EU) .../.. requires the establishment of a function to monitor compliance of the organisation with the relevant requirements

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		and the adequacy of the procedures.
c) ensure that procedures are in place to assess and mitigate safety risks to aviation arising from data and information errors;	**AIS.OR.105 Responsibilities of aeronautical information services providers** **(f)** An aeronautical information services provider shall ensure that procedures are in place to assess and mitigate safety risks to aviation arising from data and information errors.	Transposed.
d) identify roles and responsibilities within the organisation for the performance of the safety management functions;	---	The quality management covered by ATM/ANS.OR.B of Regulation (EU) .../.. requires clearly defined lines of responsibility and accountability throughout the organisation.
e) promote awareness of safety by involving all personnel to identify safety issues and propose solutions to identified safety issues;	---	The quality management covered by ATM/ANS.OR.B of Regulation (EU) .../.. requires formal means to ensure that all personnel are fully aware of the management system, that conveys critical information, and explains why particular actions are taken and why procedures are introduced or changed.
f) document procedures relating to safety management activities and	---	The quality management covered by ATM/ANS.OR.B of Regulation (EU) .../.. requires to document all management system key processes.

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g) ensure that records pertaining to safety management performance are kept.	---	Record keeping are required under ATM/ANS.OR.B.030 of Regulation (EU) .../..
Note 1 — The above activities may be included in the implementation of a Safety Management System as described in Annex 19 Safety Management and detailed in the Safety Management Manual (SMM) (Doc 9859).	---	Not transposed as relevant guidance material is already contained in the related AMC/GM to ATM/ANS.OR.B of Regulation (EU) .../..
Note 2 — Guidance pertaining to the relationship between SMS and QMS may be found in the PANS-AIM and in the QMS Manual (Doc 9839).	---	The reference to PANS-AIM is not relevant as it has been transposed in this NPA.
3.8 Human Factors considerations	---	---

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3.8.1 The organization of the aeronautical information services as well as the design, contents, processing and distribution of aeronautical data and aeronautical information shall take into consideration Human Factors principles which facilitate their optimum utilization. 3.8.2 Due consideration shall be given to the integrity of information where human interaction is required and mitigating steps taken where risks are identified. Note.— This may be accomplished through the design of systems, through operating procedures or through improvements in the operating environment.	---	Not transposed. These paragraphs are very generic provisions and do not identify specific requirements on service providers.
CHAPTER 4. SCOPE OF AERONAUTICAL DATA AND AERONAUTICAL INFORMATION	---	---
Note 1 — The scope of aeronautical data and aeronautical information that is managed by an AIS is described in this chapter.	---	This Note is not considered necessary to transpose as it only explains what chapter 4 includes.
Note 2 — The scope of aeronautical data and aeronautical information provides the minimum requirement to support aeronautical information products and services, aeronautical navigation data	---	This Note is not considered necessary to transpose as it explains the scope in the framework of ICAO Annex 15.

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bases, air navigation applications and ATM systems.		
Note 3 — Aeronautical data and aeronautical information in each sub-domain may be originated by more than one organization or authority.	---	Not transposed.
4.1 Origination of aeronautical data and aeronautical information	---	---
4.1.1 The aeronautical data and aeronautical information originated in the following sub-domains shall include: a) National regulations, rules and procedures; b) Aerodromes and heliports; c) Airspace; d) ATS and other routes; e) Instrument flight procedures; f) Radio navigation aids/systems; g) Obstacles; and h) Geographic information.	---	This paragraph is covered by the domains included in the data catalogue (Appendix 1 to Annex III of Regulation (EU) .../..) and applies to origination activities.
Note. — The contents of each sub-domain are described	---	Not transposed.

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fully in Appendix1 and Appendix 2 to the PANS-AIM.		
4.1.2 Determination and reporting of aeronautical data shall be in accordance with the required accuracy and integrity classification.	---	This paragraph is covered by the domains included in the data catalogue (Appendix 1 to Annex III of Regulation (EU) .../..) and applies to origination activities.
Note. — Specifications governing the accuracy requirements and integrity classification related to aeronautical data are contained in the PANS-AIM Appendix 1.	---	This Note is not transposed. The accuracy requirements and integrity classification are contained in the data catalogue.
4.1.3 Originators shall take into account accuracy requirements and integrity classification for aeronautical data.	---	This paragraph is covered by point 5 (data quality requirements) of Appendix 1 to Article 3 requirements for aviation undertakings.
4.2 Metadata	---	---

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4.2.1 Metadata shall be collected for aeronautical data processes and exchange points. 4.2.2 Metadata collection shall be applied throughout the aeronautical information data chain, from origination to distribution to the next intended user.	**ATM/ANS.OR.A.080 Aeronautical data and aeronautical information** […] service providers shall: **(e)** collect metadata for aeronautical data processes and exchange points and maintain them up to those parties receiving the data. **AIS.OR.225 Metadata requirements** An aeronautical information services provider shall collect and retain metadata. **Appendix 1 Article 3** 7. Metadata Metadata shall be collected and maintained up to the next intended user.	Transposed.
Note. — The metadata requirement is not intended to contradict existing privacy regulations.	**GM1 AIS.OR.225 Metadata requirements** When collecting metadata, the protection of individuals with regard to the processing of personal data and on the free movement of such data, apply, in accordance with Directive 95/46/EC on Data protection.	Transposed. The reference to EU related directive is added.

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CHAPTER 5. AERONAUTICAL INFORMATION PRODUCTS AND SERVICES	---	---
5.1 General	---	---
5.1.1 Aeronautical information shall be provided in the form of Aeronautical Information Products and associated services.	---	Not transposed. This paragraph is considered as being a generic statement rather than a requirement per se.
Note. — Cases where digital data sets may replace the corresponding elements of the standardized presentation are detailed in PANS-AIM.	---	This Note is not considered to be transposed as it refers to the PANS-AIM which is now transposed.
5.1.2 Where aeronautical data and aeronautical information are provided in multiple formats, processes shall be implemented to ensure data and information consistency between formats.	**AIS.OR.300 General** An aeronautical information services provider shall ensure that, where aeronautical data and aeronautical information are provided in multiple formats, processes are implemented to ensure data and information consistency between those formats.	Transposed.
5.1.3 Aeronautical data shall be provided in accordance with the resolution requirements.	---	This paragraph is covered by AIS.TR.200(b)
Note.— Specifications governing the order of resolution for aeronautical data are provided in the PANS-AIM	---	This Note is not necessary to transpose as the order

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Appendix 1		of resolution is contained in the data catalogue.
5.1.4 Geographical coordinates whose accuracy does not meet the requirements shall be identified.	**AIS.TR.240 Data limitations** An aeronautical information service provider shall identify the aeronautical data and aeronautical information that do not meet the data quality requirements.	Transposed.
5.2 Aeronautical information in a standardized presentation	---	---
5.2.1 The AIP, AIP Amendment, AIP Supplement and AIC shall be provided on paper and/or as an electronic document "Electronic AIP" (eAIP) that allows for both displaying on a computer screen and printing on paper.	**AIS.TR.305 Aeronautical information publication (AIP)** **(a)** The AIP, AIP Amendment, AIP Supplement shall be provided on paper and/or as an electronic document "Electronic AIP" (eAIP) that allows for displaying on computer screen and printing on paper.	Transposed. The AIC is covered in the AIS.TR.320 (a)
5.2.2 Aeronautical Information Publication (AIP)	**AIS.OR.305 Aeronautical information publication (AIP)**	---
5.2.2.1 An Aeronautical Information Publication and its Amendments shall contain aeronautical information of lasting character (permanent information and long	An aeronautical information services provider shall issue aeronautical information of lasting character, permanent information and long duration	Transposed.

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duration temporary changes) essential to air navigation.	temporary changes, essential to air navigation as AIP, including amendments and supplements.	
5.2.2.2 Aeronautical Information Publications shall include:	**AIS.TR.305 Aeronautical information publication (AIP)** **(b)** The AIP shall include:	Transposed.
a) a statement of the competent authority responsible for the air navigation facilities, services or procedures covered by the AIP;	(1) a statement of the competent authority responsible for the air navigation facilities, services or procedures covered by the AIP;	Transposed.
b) the general conditions under which the services or facilities are available for international use;	(2) the general conditions under which the services or facilities are available for international use;	Transposed.
c) a list of significant differences between the national regulations and practices of the State and the related ICAO Standards, Recommended Practices and Procedures, given in a form that would enable a user to differentiate readily between the requirements of the State and the related ICAO provisions;	(3) a list of significant differences between the national regulations and practices of the State and the related ICAO Standards, Recommended Practices and Procedures, given in a form that would enable a user to differentiate readily between the requirements of the State and the related ICAO provisions;	Transposed.
d) the choice made by a State in each significant case where an alternative course of action is provided for in ICAO Standards, Recommended Practices and	(4) the choice made by a State in each significant case where an alternative course of action is provided for in ICAO Standards, Recommended	Transposed.

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Procedures.	Practices and Procedures.	
5.2.3 AIP Supplement	---	---
5.2.3.1 AIP Supplement shall contain temporary changes to the information contained in the AIP provided by means of distinctive pages.	**AIS.TR.315 AIP Supplements** (a) The AIP Supplement shall be provided by means of distinctive pages.	Transposed. The reference to 'temporary changes' is included in AIS.OR.315.
5.2.3.2 A checklist of valid AIP Supplements shall be regularly provided.	**AIS.OR.315 AIP Supplements** An aeronautical information services provider shall: (b) regularly provide a checklist of the valid AIP Supplements.	Transposed.
5.2.4 Aeronautical Information Circulars (AIC)	---	---
5.2.4.1 An AIC shall be used to provide: a) a long-term forecast of any major change in legislation, regulations, procedures or facilities; or b) information of a purely explanatory or advisory nature liable to affect flight safety; or c) information or notification of an explanatory or advisory nature concerning technical, legislative or purely administrative matters.	**AIS.OR.320 Aeronautical Information Circular (AIC)** **(a)** An aeronautical information services provider shall issue the following as an AIC: (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 liable to affect flight safety; or (3) information or notification of an explanatory or	Transposed.

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	advisory nature concerning technical, legislative or purely administrative matters.	
5.2.4.2 An AIC shall not be used for information that qualifies for inclusion in AIP or NOTAM.	**AIS.TR.320 Aeronautical Information Circular (AIC)** **(c)** The AIC shall not be used for information that qualifies for inclusion in AIP or NOTAM.	Transposed.
5.2.4.3 The validity of AIC currently in force shall be reviewed at least once a year.	**AIS.OR.320 Aeronautical Information Circular (AIC)** **(b)** An aeronautical information services provider shall review the validity of AIC currently in force at least once a year.	Transposed.
5.2.4.4 A checklist of the currently valid AIC shall be regularly provided.	**AIS.TR.320 Aeronautical Information Circular (AIC)** **(h)** A checklist of AIC currently in force shall be issued at least once a year, with distribution as for the AIC.	Transposed. The text is based on PANS-AIM 5.2.2.8.
5.2.5 Aeronautical Charts	---	---
Note.— Annex 4 provides standards and recommended practices including provision requirements for each chart type.	---	The ICAO Annex 4 is included in Part-AIS and referred to in AMC.

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5.2.5.1 The aeronautical charts listed alphabetically below shall, when made available for designated international aerodromes/heliports, form part of the AIP, or be provided separately to recipients of the AIP: a) Aerodrome/Heliport Chart — ICAO; b) Aerodrome Ground Movement Chart — ICAO; c) Aerodrome Obstacle Chart — ICAO Type A; d) Aerodrome Terrain and Obstacle Chart — ICAO (Electronic); e) Aircraft Parking/Docking Chart — ICAO; f) Area Chart — ICAO; g) ATC Surveillance Minimum Altitude Chart — ICAO; h) Instrument Approach Chart — ICAO; i) Precision Approach Terrain Chart — ICAO; j) Standard Arrival Chart — Instrument (STAR) — ICAO; k) Standard Departure Chart — Instrument (SID) — ICAO; l) Visual Approach Chart — ICAO.	**AIS.OR.325 Aeronautical charts** **(p) Chart distribution requirements** An aeronautical information service provider shall ensure that the following aeronautical charts, where made available: (1) form part of the AIP or are provided separately to recipients of the AIP: (i) aerodrome obstacle chart — type A; (ii) aerodrome/heliport chart; (iii) aerodrome ground movement chart; (iv) aircraft parking/docking chart; (v) precision approach terrain chart; (vi) ATC surveillance minimum altitude chart; (vii) area chart; (viii) standard arrival chart — instrument (STAR); (ix) standard departure chart — instrument (SID); (x) instrument approach chart;	Transposed.

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	(xi) visual approach chart; and (xii) en route chart; and	
5.2.5.2 The "Enroute Chart — ICAO" shall, when available, form part of the AIP, or be provided separately to recipients of the AIP.	---	Transposed in (12) above
5.2.5.3 The aeronautical charts listed alphabetically below shall, when available, be provided as Aeronautical Information Products: a) Aerodrome Obstacle Chart — ICAO Type B; b) The World Aeronautical Chart — ICAO 1:1 000 000; c) The Aeronautical Chart — ICAO 1:500 000 d) The Aeronautical Navigation Chart — ICAO Small Scale e) The Plotting Chart — ICAO chart f) ATC Surveillance Minimum Altitude Chart — ICAO.	**AIS.OR.325 Aeronautical charts** **(p) Chart distribution requirements** (2) are provided as part of the aeronautical information products: (i) aerodrome obstacle chart — type B; (ii) world aeronautical chart 1:1 000 000; and (iii) world aeronautical chart 1:500 000.	Transposed. The charts not included are considered as not being relevant.
5.2.5.4 **Recommendation -** Electronic aeronautical charts should be provided based on digital databases and the use of geographic information systems.	---	Not transposed.
5.2.5.5 Aeronautical data shall be provided in accordance	---	The resolution requirements are covered in the

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with the charting resolution requirements.		data catalogue.
Note.— Specifications governing the order of charting resolution for aeronautical data are provided in PANS-AIM Appendix 1.	---	This Note is not considered to be transposed as it refers to the PANS-AIM which is now transposed, included Appendix 1 which is the data catalogue.
5.2.6 NOTAM	---	---
5.2.6.1 A NOTAM shall contain information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.	**AIS.OR.330 NOTAM** **(b)** issue information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations, as a NOTAM.	Transposed.
Note.— Detailed specifications for NOTAM, including formats for SNOWTAM and ASHTAM, are contained in PANS-AIM.	---	The reference to PANS-AIM is not relevant as the formats for SNOWTAM and ASHTAM have been transposed in this NPA.
5.2.6.2 A checklist of valid NOTAM shall be regularly provided.	**AIS.TR.330 NOTAM** **(s)** A checklist of valid NOTAM shall be regularly provided.	Transposed.
5.3 Digital data sets	---	---

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5.3.1 General		
5.3.1.1 When provided, digital data shall be in the form of the following data sets: a) Aeronautical (AIP) data set; b) Terrain data sets; c) Obstacle data sets; d) Aerodrome mapping data sets; and e) Instrument flight procedure data sets.	**AIS.OR.335 General** **(a)** When provided, an aeronautical information services provider shall ensure that digital data is in the form of the following data sets: (1) AIP data set; (2) Terrain data sets; (3) Obstacle data sets; (4) Aerodrome mapping data sets; and (5) Instrument flight procedure data sets.	Transposed.
5.3.1.2 Each data set shall include the minimum set of metadata that needs to be provided to the next intended user.	**AIS.OR.335 General** **(b)** Each data set shall include a minimum set of metadata that needs to be provided to the next intended user.	Transposed.
5.3.1.3 A checklist of valid data sets shall be regularly provided.	**AIS.OR.335 General** **(c)** A checklist of valid data sets shall be regularly provided.	Transposed.
5.3.2 Aeronautical (AIP) data set	---	---

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5.3.2.1 The Aeronautical (AIP) data set shall contain the digital representation of aeronautical information of lasting character (permanent information and long duration temporary changes) essential to air navigation.	**AIS.OR.345 AIP data set** When provided, an aeronautical information services provider shall ensure that the AIP data set contains the digital representation of aeronautical information of lasting character - including permanent information and long duration temporary changes - essential to air navigation.	There is no obligation to provide an AIP data set.
Note. — The exact content of the Aeronautical (AIP) data set is specified in PANS-AIM.	---	This Note is not transposed. The Appendix 1 to Part-AIS covers the content of the AIP.
5.3.2.2 **Recommendation. —** The Aeronautical (AIP) data set should be provided.	---	Covered by AIS.OR.345 above.
5.3.2.3 **Recommendation. —** When it is not possible to provide a complete Aeronautical (AIP) data set, the data subset(s) that are available should be provided.	---	Covered by AIS.OR.345 above.
5.3.3 Terrain and obstacle data sets	**AIS.OR.350 Terrain and Obstacle data – general requirements**	---
The coverage areas for sets of electronic terrain and obstacle data shall be as specified in Appendix 1.	When made available, an aeronautical information services provider shall ensure that terrain and obstacle data are provided in accordance with AIS.TR.350.	Transposed.

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5.3.3.1 Terrain data sets	---	---
5.3.3.1.1 Terrain data sets shall contain the digital representation of the terrain surface in the form of continuous elevation values at all intersections (points) of a defined grid, referenced to common datum.	**AIS.TR.355 Terrain data sets** (a) Terrain data sets shall contain the digital representation of the terrain surface in the form of continuous elevation values at all intersections of a defined grid, referenced to common datum;.	Transposed.
5.3.3.1.2 Terrain data shall be provided for Area 1.	**AIS.OR.355 Terrain data sets** Where made available, an aeronautical information services provider shall ensure that terrain data are provided: **(a)** for area 1;	Transposed.
5.3.3.1.3 For aerodromes regularly used by international civil aviation, terrain data shall be provided for: a) Area 2a; b) the take-off flight path area; and c) an area bounded by the lateral extent of the aerodrome obstacle limitation surfaces.	**(b)** for aerodromes regularly used by international civil aviation, to cover: (1) area 2a; (2) areas 2b, 2c and 2d for terrain that penetrates the relevant terrain data collection surface; (3) the take-off flight path area;	Transposed. (b)(2) Covers the recommendation below 5.3.3.1.4

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	(4) an area bounded by the lateral extent of the aerodrome obstacle limitation surfaces;	
5.3.3.1.4 **Recommendation.—** For aerodromes regularly used by international civil aviation, terrain data should be provided for Areas 2b, 2c and 2d for terrain that penetrates the relevant terrain data collection surface specified in Appendix 1.	---	Not transposed. It is already covered by (b)(2) above
5.3.3.1.5 **Recommendation.—** Arrangements should be made for the coordination of providing terrain data for adjacent aerodromes where their respective coverage areas overlap to assure that the data for the same terrain are correct.	---	Not transposed.
5.3.3.1.6 **Recommendation.—** For those aerodromes located near territorial boundaries, arrangements should be made among States concerned to share terrain data.	---	Not transposed.
5.3.3.1.7 **Recommendation.—** For aerodromes regularly used by international civil aviation, terrain data should be provided for Area 3.	**AIS.OR.355 Terrain data sets** **(b)** for aerodromes regularly used by international civil aviation, to cover: (5) area 3;	Transposed.

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5.3.3.1.8 For aerodromes regularly used by international civil aviation, terrain data shall 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.	**AIS.OR.355 Terrain data sets** **(b)** for aerodromes regularly used by international civil aviation, to cover: (6) 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;	Transposed.
5.3.3.1.9 **Recommendation.—** Where additional terrain data are collected to meet other aeronautical requirements, the terrain data sets should be expanded to include these additional data.	**GM1 AIS.OR.355 Terrain data sets** Where additional terrain data are collected to meet other aeronautical requirements, the terrain data sets should be expanded to include these additional data.	Transposed.
5.3.3.2 Obstacle data sets	---	---
5.3.3.2.1 Obstacle data sets shall contain the digital representation of the vertical and horizontal extent of obstacles.	**AIS.TR.360 Obstacle data sets** **(f)** Obstacle data sets shall contain the digital representation of the vertical and horizontal extent of obstacles.	Transposed.

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5.3.3.2.2 Obstacles shall not be included in terrain data sets.	**AIS.TR.360 Obstacle data sets** **(g)** Obstacles shall not be included in terrain data sets.	Transposed.
5.3.3.2.3 The obstacle data shall be provided for obstacles in Area 1 whose height is 100 m or higher above ground.	**AIS.OR.360 Obstacle data sets** Where made available, an aeronautical information services provider shall ensure that obstacle data are provided: **(a)** for obstacles in area 1 whose height is 100 m or higher above ground.	Transposed.
5.3.3.2.4 For aerodromes regularly used by international civil aviation, obstacle data shall be provided for all obstacles within Area 2 that are assessed as being a hazard to air navigation.	**AIS.OR.360 Obstacle data sets** Where made available, an aeronautical information services provider shall ensure that obstacle data are provided: **(b)** for aerodromes regularly used by international civil aviation, for all obstacles within area 2 that are assessed as being a hazard to air navigation.	Transposed.
5.3.3.2.5 For aerodromes regularly used by international civil aviation, obstacle data shall be provided for: a) Area 2a , for those obstacles that penetrate the relevant obstacle data collection surface specified in	**AIS.OR.360 Obstacle data sets** Where made available, an aeronautical information services provider shall ensure that obstacle data are provided:	Transposed.

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Appendix 1; b) objects in the take-off flight path area which project above a plane surface having a 1.2 per cent slope and having a common origin with the take-off flight path area; and c) penetrations of the aerodrome obstacle limitation surfaces.	**(c)** for aerodromes regularly used by international civil aviation, to cover: (1) area 2a , for those obstacles that penetrate the relevant obstacle data collection surface; (2) objects in the take-off flight path area which project above a plane surface having a 1.2 per cent slope and having a common origin with the take-off flight path area; (3) penetrations of the aerodrome obstacle limitation surfaces;	
Note.— Take-off flight path areas are specified in Annex 4, 3.8.2. Aerodrome obstacle limitation surfaces are specified in Annex 14, Volume 1, Chapter 4.	—	This note is not considered as being explanatory material facilitating the understanding of the requirement.
5.3.3.2.6 **Recommendation.—** For aerodromes regularly used by international civil aviation, obstacle data should be provided for Areas 2b, 2c and 2d for obstacles that penetrate the relevant obstacle data collection surface specified in Appendix 1, except that data need not be collected for obstacles less than a height of 3 m above ground in Area 2b and less than a height of 15 m above ground in Area 2c.	**AIS.OR.360 Obstacle data sets** **(c)** for aerodromes regularly used by international civil aviation, to cover: (4) areas 2b, 2c, 2d for obstacles that penetrate the relevant obstacle data collection surfaces;	Transposed. The last part of the sentence is included in AIS.TR.360, items (c) (2) and (c) (3).

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5.3.3.2.7 **Recommendation.—** Arrangements should be made for the coordination of providing obstacle data for adjacent aerodromes where their respective coverage areas overlap to assure that the data for the same obstacle are correct.	---	Not transposed.
5.3.3.2.8 **Recommendation.—** At those aerodromes located near territorial boundaries, arrangements should be made among States concerned to share obstacle data.	---	Not transposed.
5.3.3.2.9 **Recommendation.—** For aerodromes regularly used by international civil aviation, obstacle data should be provided for Area 3 for obstacles that penetrate the relevant obstacle data collection surface specified in Appendix 1.	**AIS.OR.360 Obstacle data sets** **(c)** for aerodromes regularly used by international civil aviation, to cover: (5) area 3 for obstacles that penetrate the relevant obstacle data collection surface;	Transposed.
5.3.3.2.10 For aerodromes regularly used by international civil aviation, obstacle data shall be provided for Area 4 *for obstacles that penetrate the relevant obstacle data collection surface specified in Appendix 1,* for all runways where precision approach Category II or III operations have been established.	**AIS.OR.360 Obstacle data sets** **(c)** for aerodromes regularly used by international civil aviation, to cover: (6) area 4, for all runways where precision approach category II or III operations have been established;	Transposed. The *sentence in italic* is not transposed as no vertical obstacle data collection surface has been defined by ICAO.

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5.3.3.2.11 **Recommendation.—** Where additional obstacle data are collected to meet other aeronautical requirements, the obstacle data sets should be expanded to include these additional data.	**GM1 AIS.OR.360 Obstacle data sets** Where additional obstacle data are collected to meet other aeronautical requirements, the obstacle data sets should be expanded to include these additional data.	Transposed.
5.3.4 Aerodrome mapping data sets	---	---
5.3.4.1 Aerodrome mapping data sets shall contain the digital representation of aerodrome features.	**AIS.TR. 365 Aerodrome mapping data sets** (a) Aerodrome mapping data sets shall contain the digital representation of aerodrome features.	Transposed.
Note 1.— Aerodrome features consist of attributes and geometries, which are characterized as points, lines or polygons. Examples include runway thresholds, taxiway guidance lines and parking stand areas.	**GM1 AIS.TR. 365 Aerodrome mapping data sets** Aerodrome features consist of attributes and geometries, which are characterized as points, lines or polygons. Examples include runway thresholds, taxiway guidance lines and parking stand areas.	Transposed.
5.3.4.2 **Recommendation.—** Aerodrome mapping data sets should be provided for aerodromes regularly used by international civil aviation.	---	Not transposed. It is not considered to be a means of compliance in the context of the draft rules and not considered necessary to elevate it to a requirement.
5.3.5 Instrument flight procedure data sets	---	---

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
5.3.5.1 Instrument flight procedure data sets shall contain the digital representation of instrument flight procedures.	**AIS.TR.370 Instrument flight procedure data sets** (a) Instrument flight procedure data sets shall contain the digital representation of instrument flight procedures.	Transposed.
Note. — The exact content of the instrument flight procedure data sets is specified in PANS-AIM.	---	The reference to PANS-AIM is not relevant as the exact content of the instrument flight procedure data sets has been transposed in this NPA.
5.3.5.2 **Recommendation.** — Instrument flight procedures data sets should be made available for aerodromes regularly used by international civil aviation.	---	Not transposed. It is not considered to be a means of compliance in the context of the draft rules and not considered necessary to elevate it to a requirement.
5.4 Distribution services	**AIS.OR.400 Distribution services**	---
5.4.1 General	---	---
5.4.1.1 Aeronautical Information Products shall be distributed to those users who requested them.	An aeronautical information services provider shall: **(a)** distribute aeronautical information products to those users who requested them.	Transposed.
5.4.1.2 AIP, AIP Amendments, AIP Supplements and AIC shall be made available by the most expeditious means.	**(b)** make available AIP, AIP amendments, AIP supplements and AIC by the most expeditious	Transposed.

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	means.	
5.4.1.3 **Recommendation.** - Global communication networks and Web services shall, whenever practicable, be employed for the provision of Aeronautical Information Products.	---	Not transposed. The mean by which the provision is ensured is not considered necessary to transpose.
5.4.2 NOTAM distribution	---	--
5.4.2.1 NOTAM shall be prepared in conformity with the relevant provisions of the ICAO communication procedures.	---	This paragraph is not transposed as the AFS is required.
5.4.2.2 The AFS shall, whenever practicable, be employed for NOTAM distribution.	**AIS.OR.400 Distribution services** An aeronautical information services provider shall: **(c)** ensure that NOTAM are distributed through the aeronautical fix services, whenever practicable.	Transposed.
5.4.2.3 The originating State shall select the NOTAM that are to be given international distribution.	---	Not transposed. Covered by AIS.OR.400 and AIS.TR.400
5.4.2.4 International exchange of NOTAM shall take place only as mutually agreed between the international NOTAM offices and multinational NOTAM Processing Units concerned.	**AIS.OR.330 NOTAM** An aeronautical information services provider shall: **(c)** ensure that international exchange of NOTAM	Transposed.

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	takes place only as mutually agreed between the international NOTAM offices and multinational NOTAM processing units concerned.	
5.4.2.5 The Originating State shall upon request grant distribution of NOTAM series other than those distributed internationally.	---	Covered by AIS.OR.400 and AIS.TR.400
5.4.2.6 **Recommendation.—** Selective distribution list should be used when practicable.	**GM1 AIS.OR.400(d) Distribution services** DISTIBUTION OF NOTAM Selective distribution list should be used when practicable.	Transposed.
Note.— Guidance material relating to this is contained in the Aeronautical Information Services Manual (Doc 8126).	---	As the reference to ICAO Doc 8126 is made several times throughout the ICAO Annex 15 (and PANS-AIM), A general reference in the introduction of the AMC/GM is made underlining that when never deemed suitable, rules may be supported by the material contained in this ICAO document. This will avoid repeating several GM referring to Doc 8126.
5.5 Pre-Flight Information Service	**AIS.OR.405 Pre-flight information services**	---
5.5.1 For any aerodrome/heliport used for international air operations, aeronautical information relative to the route stages originating at the aerodrome/heliport shall	An aeronautical information services provider shall ensure that:	Transposed.

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be made available to flight operations personnel, including flight crews and services responsible for pre-flight information.	**(a)** for any aerodrome/heliport regularly used by international civil aviation, aeronautical information relative to the route stages originating at the aerodrome/heliport is made available to flight operations personnel, including flight crews and services responsible for pre-flight information; and	
5.5.2 Aeronautical information provided for pre-flight planning purposes shall include information of operational significance from the elements of the Aeronautical Information Products.	**(b)** aeronautical information provided for pre-flight planning purposes includes information of operational significance from the elements of the aeronautical information products.	Transposed.
Note 1.— The elements of the Aeronautical Information Products may be limited to national publications and when practicable, those of immediately adjacent States, provided a complete library of aeronautical information is available at a central location and means of direct communications are available with that library.	---	Not transposed.
Note 2.— A recapitulation of valid NOTAM of operational significance and other information of urgent character can be made available to flight crews in the form of plain-language pre-flight information bulletins (PIB). Guidance on the preparation of PIB is contained in the Aeronautical Information Services Manual (Doc 8126).	**GM1 to Annex VI – Part-AIS** **DOC 8126** Guidance material on the organization and operation of aeronautical information services is contained in the Aeronautical Information Services	Transposed.

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	Manual (ICAO Doc 8126).	
5.6 Post-flight information Service	---	Post-flight information is not transposed as it is not a requirement put on AIS providers.
5.6.1 For any aerodrome/heliport used for international air operations, arrangements shall be made to receive information concerning the state and operation of air navigation facilities or services noted by aircrews.	---	Post-flight information is not transposed as it is not a requirement put on AIS providers.
5.6.2 The arrangements specified in 5.6.1 shall ensure that such information is made available to the aeronautical information service for distribution as the circumstances necessitate.	---	Post-flight information is not transposed as it is not a requirement put on AIS providers.
5.6.3 For any aerodrome/heliport used for international air operations, arrangements shall be made to receive information concerning the presence of wildlife hazard observed by aircrews.	---	Post-flight information is not transposed as it is not a requirement put on AIS providers.
5.6.4 The information about presence of wildlife hazard shall be made available to the aeronautical information service for distribution as the circumstances necessitate.	---	Post-flight information is not transposed as it is not a requirement put on AIS providers.
Note.— See Annex 14, Volume I, Chapter 9, Section 9.4.	---	Not transposed.

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CHAPTER 6. AERONAUTICAL INFORMATION UPDATES	**Section 5 Aeronautical information products updates**	---
6.1 General specifications	**AIS.OR.500 General**	---
6.1.1 Aeronautical data and aeronautical information shall be amended or reissued to be kept up to date.	An aeronautical information services provider shall ensure that aeronautical data and aeronautical information are amended or reissued to keep them up to date.	Transposed.
6.2 Aeronautical Information Regulation and Control (AIRAC)	**AIS.OR.505 AIRAC**	---
6.2.1 Information concerning the following circumstances shall be distributed under the regulated system (AIRAC), i.e. basing establishment, withdrawal or significant changes upon a series of common effective dates at intervals of 28 days, including 14 January 2010:	**(a)** An aeronautical information services provider shall ensure that information concerning the following circumstances is distributed under the AIRAC system - i.e. basing establishment, withdrawal or significant changes upon a series of common effective dates at intervals of 28 days, including [XX/XX/2016]:	Transposed.
a) Limits (horizontal and vertical), regulations and procedures applicable to: 1) flight information regions;	(1) Horizontal and vertical limits, regulations and procedures applicable to: (i) flight information regions;	Transposed.

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2) control areas; 3) control zones; 4) advisory areas; 5) ATS routes; 6) permanent danger, prohibited and restricted areas (including type and periods of activity when known) and ADIZ; 7) permanent areas or routes or portions thereof where the possibility of interception exists.	(ii) control areas; (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 ADIZ; (vii) permanent areas or routes or portions thereof where the possibility of interception exists.	
b) Positions, frequencies, call signs, identifiers, known irregularities and maintenance periods of radio navigation aids, and communication and surveillance facilities.	(2) Positions, frequencies, call signs, identifiers, known irregularities and maintenance periods of radio navigation aids, and communication and surveillance facilities.	Transposed.
c) Holding and approach procedures, arrival and departure procedures, noise abatement procedures and any other pertinent ATS procedures.	(3) Holding and approach procedures, arrival and departure procedures, noise abatement procedures and any other pertinent ATS procedures.	Transposed.
d) Transition levels, transition altitudes and minimum sector altitudes.	(4) Transition levels, transition altitudes and minimum sector altitudes.	Transposed.
e) Meteorological facilities (including broadcasts) and	(5) Meteorological facilities (including broadcasts)	Transposed.

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procedures.	and procedures.	
f) Runways and stopways.	(6) Runways and stopways.	Transposed.
g) Taxiways and aprons.	(7) Taxiways and aprons.	Transposed.
h) Aerodrome ground operating procedures (including low visibility procedures).	(8) Aerodrome ground operating procedures (including low visibility procedures).	Transposed.
i) Approach and runway lighting.	(9) Approach and runway lighting.	Transposed.
j) Aerodrome operating minima if published by a State.	(10) Aerodrome operating minima if published by a State.	Transposed.
6.2.2 The information notified under the AIRAC system shall not be changed further for at least another 28 days after the effective date, unless the circumstance notified is of a temporary nature and would not persist for the full period.	**(b)** An aeronautical information services provider shall ensure that: (1) the information notified under the AIRAC system is not changed further for at least another 28 days after the effective date, unless the circumstance notified is of a temporary nature and would not persist for the full period;	Transposed.
6.2.3 Information provided under the AIRAC system shall be distributed/made available by the AIS so as to reach recipients at least 28 days in advance of the AIRAC	(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	Transposed.

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effective date.	effective date;	
6.2.4 When information has not been submitted by the AIRAC date, a NIL notification shall be distributed not later than one cycle before the AIRAC effective date concerned.	(3) when information has not been submitted under the AIRAC system, a NIL notification is distributed by the NOTAM checklist not later than one cycle before the AIRAC effective date concerned;	Transposed.
6.2.5 Implementation dates other than AIRAC effective dates shall not be used for pre-planned operationally significant changes requiring cartographic work and/or for updating of navigation databases.	(4) implementation dates other than AIRAC effective dates are not used for pre-planned operationally significant changes requiring cartographic work and/or for updating of navigation databases.	Transposed.
6.2.6 **Recommendation.—** The regulated system (AIRAC) should also be used for the provision of information relating to the establishment and withdrawal of, and premeditated significant changes in, the circumstances listed below: a) Position, height and lighting of navigational obstacles. b) Hours of service of aerodromes, facilities and services. c) Customs, immigration and health services. d) Temporary danger, prohibited and restricted areas and navigational hazards, military exercises and mass movements of aircraft. e) Temporary areas or routes or portions thereof where	**GM2 AIS.OR.505(a) AIRAC** USE OF AIRAC SYSTEM The AIRAC may be used for the provision of information relating to the establishment and withdrawal of, and premeditated significant changes in, the circumstances listed below: (a) Position, height and lighting of navigational obstacles. (b) Hours of service of aerodromes, facilities and services. (c) Customs, immigration and health services. (d) Temporary danger, prohibited and restricted	Transposed.

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the possibility of interception exists.	areas and navigational hazards, military exercises and mass movements of aircraft. (e) Temporary areas or routes or portions thereof where the possibility of interception exists.	
6.2.7 **Recommendation.—** Whenever major changes are planned and where advance notice is desirable and possible, information should be distributed/made available by the AIS so as to reach recipients at least 56 days in advance of the AIRAC effective date. This should be applied to the establishment of, and premeditated major changes in, the circumstances listed below, and other major changes if deemed necessary. a) New aerodromes for international IFR operations. b) New runways for IFR operations at international aerodromes. c) Design and structure of the air traffic services route network. d) Design and structure of a set of terminal procedures (including change of procedure bearings due to magnetic variation change). e) Circumstances listed in 6.2.1 if the entire State or any significant portion thereof is affected or if cross-border	**GM3 AIS.OR.505(a) AIRAC** ADVANCE NOTIFICATION OF MAJOR CHANGES Whenever major changes are planned and where advance notice is desirable and possible, information may be distributed and/or made available by the aeronautical information services provider, whenever practicable, so as to reach recipients at least 56 days in advance of the AIRAC effective date. This may apply to the establishment of, and premeditated major changes in the circumstances listed below, and other major changes if deemed necessary: (a) New aerodromes for international IFR operations; (b) New runways for IFR operations at international aerodromes; (c) Design and structure of the ATS route network; (d) Design and structure of a set of terminal	Transposed.

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coordination is required.	procedures (including change of procedure bearings due to magnetic variation change); (e) Circumstances listed in AIS.OR.505(a)(10) if the entire State or any significant portion thereof is affected or if cross-border coordination is required.	
Note. — Guidance on what constitutes a major change is included in PANS-AIM.	---	The reference to PANS-AIM is not relevant as it has been transposed in this NPA.
6.3 Aeronautical Information Product updates	---	---
6.3.1 AIP updates	---	---
6.3.1.1 AIP shall be amended or reissued at such regular intervals as may be necessary to keep them up to date.	**AIS.OR.310 AIP Amendments** An aeronautical information services provider shall: **(b)** ensure that the AIP is amended or re-issued at such regular intervals as necessary to ensure the information is complete and up to date.	Transposed.
6.3.1.2 Permanent changes to the AIP shall be published as AIP Amendments.	**AIS.OR.310 AIP Amendments** An aeronautical information services provider shall: (a) provide permanent changes to the AIP as AIP Amendments.	Transposed.

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
6.3.1.3 Temporary changes of long duration (three months or longer) and information of short duration which contains extensive text and/or graphics shall be published as AIP Supplements.	**AIS.OR.315 AIP Supplements** An aeronautical information services provider shall: **(a)** issue temporary changes of long duration - three months or longer - and information of short duration which contains extensive text and/or graphics as AIP Supplements.	Transposed.
6.3.2 NOTAM	**AIS.OR.510 NOTAM updates**	---
6.3.2.1 When an AIP Amendment or an AIP Supplement is published in accordance with AIRAC procedures, a "Trigger" NOTAM shall be provided giving a brief description of the contents.	**(b)** An aeronautical information services provider shall provide a 'Trigger' NOTAM when an AIP amendment or an AIP supplement is published in accordance with AIRAC procedures.	Transposed.
6.3.2.2 A NOTAM shall 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.	**AIS.OR.330 NOTAM** An aeronautical information services provider shall: **(a)** originate and issue promptly 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;	Transposed.

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
6.3.2.3 A NOTAM shall be originated and provided concerning the following information: a) establishment, closure or significant changes in operation of aerodrome(s) or heliport(s) or runways; b) establishment, withdrawal and significant changes in operation of aeronautical services (AGA, AIS, ATS, CNS, MET, SAR, etc.); c) establishment, withdrawal and significant changes in operational capability of radio navigation and air-ground communication services. This includes: interruption or return to operation, change of frequencies, change in notified hours of service, change of identification, change of orientation (directional aids), change of location, power increase or decrease amounting to 50 per cent or more, change in broadcast schedules or contents, or irregularity or unreliability of operation of any radio navigation and air-ground communication services or limitations of relay stations including operational impact, affected service, frequency and area; d) unavailability of back-up and secondary systems, having a direct operational impact; e) establishment, withdrawal or significant changes made to visual aids;	**AIS.TR.330 NOTAM** A NOTAM shall not contain the following information: (1) establishment, closure or significant changes in operation of aerodrome(s) or heliport(s) or runways; (2) establishment, withdrawal and significant changes in operation of aeronautical services, such as AGA, AIS, ATS, CNS, MET, SAR, etc.; (3) establishment, withdrawal and significant changes in operational capability of radio navigation and air-ground communication services; (4) unavailability of back-up and secondary systems, having a direct operational impact; (5) establishment, withdrawal or significant changes made to visual aids; (6) interruption of or return to operation of major components of aerodrome lighting systems; (7) establishment, withdrawal or significant changes made to procedures for air navigation services; (8) occurrence or correction of major defects or impediments in the manoeuvring area;	Transposed.

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
f) interruption of or return to operation of major components of aerodrome lighting systems; g) establishment, withdrawal or significant changes made to procedures for air navigation services; h) occurrence or correction of major defects or impediments in the manoeuvring area; i) changes to and limitations on availability of fuel, oil and oxygen; j) major changes to search and rescue facilities and services available; k) establishment, withdrawal or return to operation of hazard beacons marking obstacles to air navigation; l) changes in regulations requiring immediate action, e.g. prohibited areas for SAR action; m) presence of hazards which affect air navigation (including obstacles, military exercises, displays, fireworks, sky lanterns, races and major parachuting events outside promulgated sites); n) planned laser emissions, laser displays and search lights if pilots night vision is likely to be impaired; o) erecting or removal of, or changes to, obstacles to air navigation in the take-off/climb, missed approach,	(9) changes to and limitations on availability of fuel, oil and oxygen; (10) major changes to search and rescue facilities and services available; (11) establishment, withdrawal or return to operation of hazard beacons marking obstacles to air navigation; (12) changes in regulations requiring immediate action; (13) presence of hazards which affect air navigation; (14) planned laser emissions, laser displays and search lights if pilots night vision is likely to be impaired; (15) erecting or removal of, or changes to, obstacles to air navigation in the take-off/climb, missed approach, approach areas and runway strip; (16) establishment or discontinuance, including activation or deactivation, as applicable, or changes in the status of prohibited, restricted or danger areas; (17) establishment or discontinuance of areas or routes or portions thereof where the possibility of	

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
approach areas and runway strip; p) establishment or discontinuance (including activation or deactivation) as applicable, or changes in the status of prohibited, restricted or danger areas; q) establishment or discontinuance of areas or routes or portions thereof where the possibility of interception exists and where the maintenance of guard on the VHF emergency frequency 121.5 MHz is required; r) allocation, cancellation or change of location indicators; s) changes in aerodrome/heliport rescue and fire fighting category provided (see Annex 14, Volume I, Chapter 9, and Attachment A, Section 17); t) presence or removal of, or significant changes in, hazardous conditions due to snow, slush, ice, radioactive material, toxic chemicals, volcanic ash deposition or water on the movement area; u) outbreaks of epidemics necessitating changes in notified requirements for inoculations and quarantine measures; v) forecasts of solar cosmic radiation, where provided; w) an operationally significant change in volcanic	interception exists and where the maintenance of guard on the VHF emergency frequency 121.5 MHz is required; (18) allocation, cancellation or change of location indicators; (19) changes in aerodrome/heliport rescue and firefighting category; (20) presence or removal of, or significant changes in, hazardous conditions due to snow, slush, ice, radioactive material, toxic chemicals, volcanic ash deposition or water on the movement area; (21) outbreaks of epidemics necessitating changes in notified requirements for inoculations and quarantine measures; (22) forecasts of solar cosmic radiation, where provided; (23) an operationally significant change in volcanic activity, the location, date and time of volcanic eruptions and/or horizontal and vertical extent of volcanic ash cloud, including direction of movement, flight levels and routes or portions of routes which could be affected; (24) release into the atmosphere of radioactive	

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
activity, the location, date and time of volcanic eruptions and/or horizontal and vertical extent of volcanic ash cloud, including direction of movement, flight levels and routes or portions of routes which could be affected; x) release into the atmosphere of radioactive materials or toxic chemicals following a nuclear or chemical incident, the location, date and time of the incident, the flight levels and routes or portions thereof which could be affected and the direction of movement; y) establishment of operations of humanitarian relief missions, such as those undertaken under the auspices of the United Nations, together with procedures and/or limitations which affect air navigation; and z) implementation of short-term contingency measures in cases of disruption, or partial disruption, of air traffic services and related supporting services. aa) specific loss of satellite based navigation systems integrity.	materials or toxic chemicals following a nuclear or chemical incident, the location, date and time of the incident, the flight levels and routes or portions thereof which could be affected and the direction of movement; (25) establishment of operations of humanitarian relief missions, together with procedures and/or limitations which affect air navigation; (26) implementation of short-term contingency measures in cases of disruption, or partial disruption, of air traffic services and related supporting services; and (27) specific loss of satellite based navigation systems integrity.	
Note.— See Annex 11, 2.28 and Attachment D to that Annex.	---	This Note is not considered to constitute necessary material to understand the rule.
6.3.2.4 The following information shall not be notified by NOTAM:	**AIS.TR.330 NOTAM** A NOTAM shall not contain the following	Transposed.

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
a) routine maintenance work on aprons and taxiways which does not affect the safe movement of aircraft; b) runway marking work, when aircraft operations can safely be conducted on other available runways, or the equipment used can be removed when necessary; c) temporary obstructions in the vicinity of aerodromes/heliports that do not affect the safe operation of aircraft; d) partial failure of aerodrome/heliport lighting facilities where such failure does not directly affect aircraft operations; e) partial temporary failure of air-ground communications when suitable alternative frequencies are available and are operative; f) the lack of apron marshalling services and road traffic closures, limitations and control; g) the unserviceability of location, destination or other instruction signs on the aerodrome movement area; h) parachuting when in uncontrolled airspace under VFR (see 5.1.1.1 l)), when controlled, at promulgated sites or within danger or prohibited areas;	information: (1) routine maintenance work on aprons and taxiways which does not affect the safe movement of aircraft; (2) runway marking work, when aircraft operations can safely be conducted on other available runways, or the equipment used can be removed when necessary; (3) temporary obstructions in the vicinity of aerodromes/heliports that do not affect the safe operation of aircraft; (4) partial failure of aerodrome/heliport lighting facilities where such failure does not directly affect aircraft operations; (5) partial temporary failure of air-ground communications when suitable alternative frequencies are available and are operative; (6) the lack of apron marshalling services and road traffic closures, limitations and control; (7) the unserviceability of location, destination or other instruction signs on the aerodrome movement area;	

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
i) training activities by ground units; j) unavailability of back-up and secondary systems if these do not have an operational impact; k) limitations to airport facilities or general services with no operational impact; l) national regulations not affecting general aviation; m) announcement or warnings about possible/potential limitations, without any operational impact; n) general reminders on already published information; o) availability of equipment for ground units without containing information on the operational impact for airspace and facility users; p) information about laser emissions without any operational impact and fireworks below minimum flying heights; q) closure of movement area parts in connection with planned work locally coordinated of duration of less than one hour; r) closure, changes, unavailability in operation of aerodrome(s)/heliport(s) other than aerodrome(s)/heliport(s) operation hours.	(8) parachuting when in uncontrolled airspace under VFR, when controlled, at promulgated sites or within danger or prohibited areas; (9) training activities by ground units; (10) unavailability of back-up 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) announcement or warnings about possible/potential limitations, without any operational impact; (14) general reminders on already published information; (15) availability of equipment for ground units without containing information on the operational impact for airspace and facility users; (16) information about laser emissions without any operational impact and fireworks below minimum flying heights; (17) closure of movement area parts in connection	

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
s) other non-operational information of a similar temporary nature.	with planned work locally coordinated of duration of less than one hour; (18) closure, changes, unavailability in operation of aerodrome(s)/heliport(s) other than aerodrome(s)/heliport(s) operation hours; and (19) other non-operational information of a similar temporary nature.	
Note.— Information which relates to an aerodrome and its vicinity and does not affect its operational status may be distributed locally during pre-flight or in-flight briefing or other local contact with flight crew members.	---	Not transposed.
6.3.3 Data set updates	**AIS.OR.515 Digital data updates**	---
6.3.3.1 Data sets shall be amended or reissued at such regular intervals as may be necessary to keep them up to date.	An aeronautical information services provider shall: **(a)** amend or reissue data sets at such regular intervals as may be necessary to keep them up to date.	Transposed.
6.3.3.2 Permanent changes and temporary changes of long duration (three months or longer) made available as digital data shall be issued in the form of a complete data set and/or a sub-set that includes only the differences	**(b)** 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 sub-set that includes only the differences from the previously issued complete	Transposed.

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
from the previously issued complete data set.	data set.	
6.3.3.3 **Recommendation.** - When made available as a completely re-issued data set, the differences from the previously issued complete data set should be indicated.	**AMC1 AIS.OR.515 Digital data updates** GENERAL **(a)** When made available as a completely re-issued data set, the differences from the previously issued complete data set should be indicated.	Transposed.
6.3.3.4 **Recommendation.** - When temporary changes of short duration are made available as digital data (Digital NOTAM), they should use the same aeronautical information model as the complete data set.	**(b)** When temporary changes of short duration are made available as digital data, they should use the same aeronautical information model as the complete data set.	Transposed.
6.3.3.5 Updates to AIP, Aeronautical (AIP) data sets and Instrument Flight Procedures data sets shall be synchronised.	**AIS.OR.515 Digital data updates** **(c)** synchronise updates to AIP, AIP data sets and instrument flight procedures data sets.	Transposed.
APPENDIX 1. TERRAIN AND OBSTACLE DATA REQUIREMENTS (see Chapter 5) 1. The coverage areas for sets of terrain and obstacle data shall be specified as: — Area 1: the entire territory of a State;	**AIS.TR.350 Terrain and Obstacle data – general requirements** The coverage areas for sets of electronic terrain and obstacle data shall be specified as: (a) area 1: the entire territory of a State; (b) area 2: within the vicinity of an aerodrome,	Transposed. The Note is not considered necessary.

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
— Area 2: within the vicinity of an aerodrome, subdivided as follows; — Area 2a: a rectangular area around a runway that comprises the runway strip plus any clearway that exists. Note.— See Annex 14, Volume I, Chapter 3, for dimensions for runway strip. — Area 2b: an area extending from the ends of Area 2a in the direction of departure, with a length of 10 km and a splay of 15 per cent to each side; — Area 2c: an area extending outside Area 2a and Area 2b at a distance of not more than 10 km from the boundary of Area 2a; and — Area 2d: an area outside the Areas 2a, 2b and 2c up to a distance of 45 km from the aerodrome reference point, or to an existing TMA boundary, whichever is nearest; — Area 3: the area bordering an aerodrome movement area that extends horizontally from the edge of a runway to 90 m from the runway centre line and 50 m from the edge of all other parts of the aerodrome movement area. — Area 4: The area extending 900 m prior to the runway threshold and 60 m each side of the extended runway centre line in the direction of the approach on a	subdivided as follows: (1) area 2a: a rectangular area around a runway that comprises the runway strip plus any clearway that exists; (2) 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; (3) 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 (4) 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 TMA boundary, whichever is nearest; (c) area 3: the area bordering an aerodrome movement area that extends horizontally from the edge of a runway to 90 m from the runway centre line and 50 m from the edge of all other parts of the aerodrome movement area; and (d) area 4: the area extending 900 m prior to the runway threshold and 60 m each side of the extended runway centre line in the direction of	

ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
precision approach runway, Category II or III.	the approach on a precision approach runway, category II or III.	
Recommendation. — 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.	**AMC1 AIS.TR.350 Terrain and Obstacle data – general requirements** 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.	Transposed.

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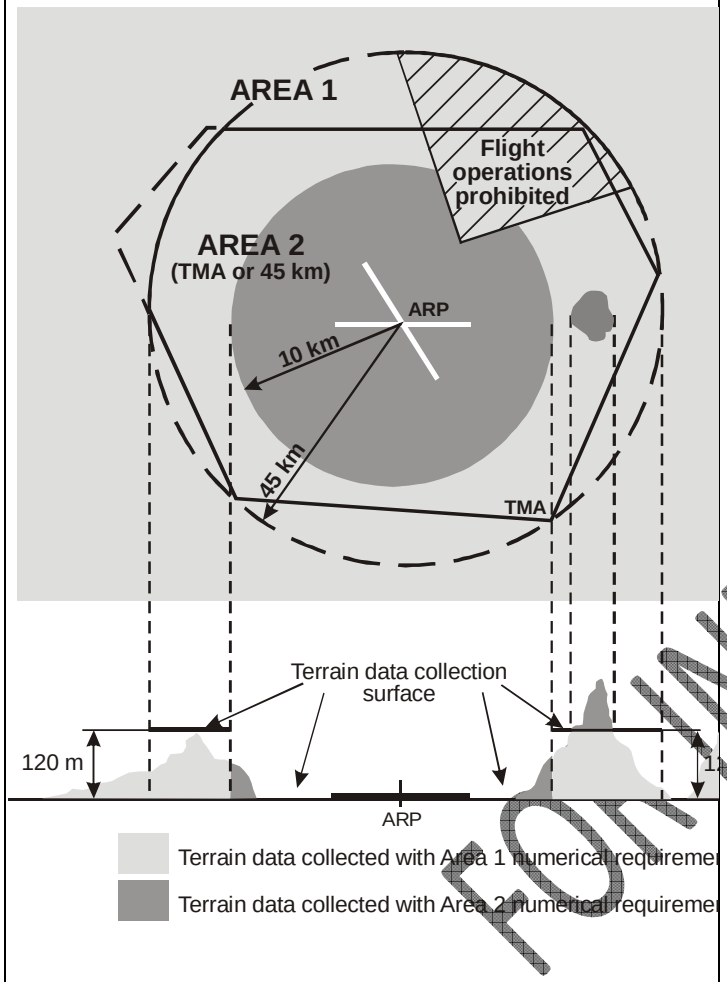
ICAO Annex 15 *(upcoming proposed amendment)*	*NPA Text*	*Justification*
	[This graphic has been reproduced in AIS.TR.355 Transposed. Terrain data sets]	

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Notice of Proposed Amendment 2016-02

ICAO Annex 15 *(upcoming proposed amendment)*	*NPA Text*	*Justification*
Figure A1-1. Terrain data collection surfaces — Area 1 and Area 2 1. Within the area covered by a 10-km radius from the ARP, terrain data shall comply with the Area 2 numerical requirements. 2. In the area between 10 km and the TMA boundary or 45-km radius (whichever is smaller), data on terrain that penetrates the horizontal plane 120 m above the lowest runway elevation shall comply with the Area 2 numerical requirements. 3. In the area between 10 km and the TMA boundary or 45-km radius (whichever is smaller), data on terrain that does not penetrate the horizontal plane 120 m above the lowest runway elevation shall comply with the Area 1 numerical requirements. 4. In those portions of Area 2 where flight operations are prohibited due to very high terrain or other local restrictions and/or regulations, terrain data shall comply with the Area 1 numerical requirements. Note.— Terrain data numerical requirements for Areas 1 and 2 are specified in PANS-AIM, Table A1-6.	**AIS.TR.355 Terrain data sets** **(g)** Within the area covered by a 10-km radius from the ARP, terrain data shall comply with the area 2 numerical requirements. **(h)** In the area between 10 km and the TMA boundary or 45-km radius (whichever is smaller), data on terrain that penetrates the horizontal plane 120 m above the lowest runway elevation shall comply with the area 2 numerical requirements. **(i)** In the area between 10 km and the TMA boundary or 45-km radius (whichever is smaller), data on terrain that does not penetrate the horizontal plane 120 m above the lowest runway elevation shall comply with the area 1 numerical requirements. **(j)** In those portions of area 2 where flight operations are prohibited due to very high terrain or other local restrictions and/or regulations, terrain data shall comply with the area 1 numerical requirements.	Transposed.

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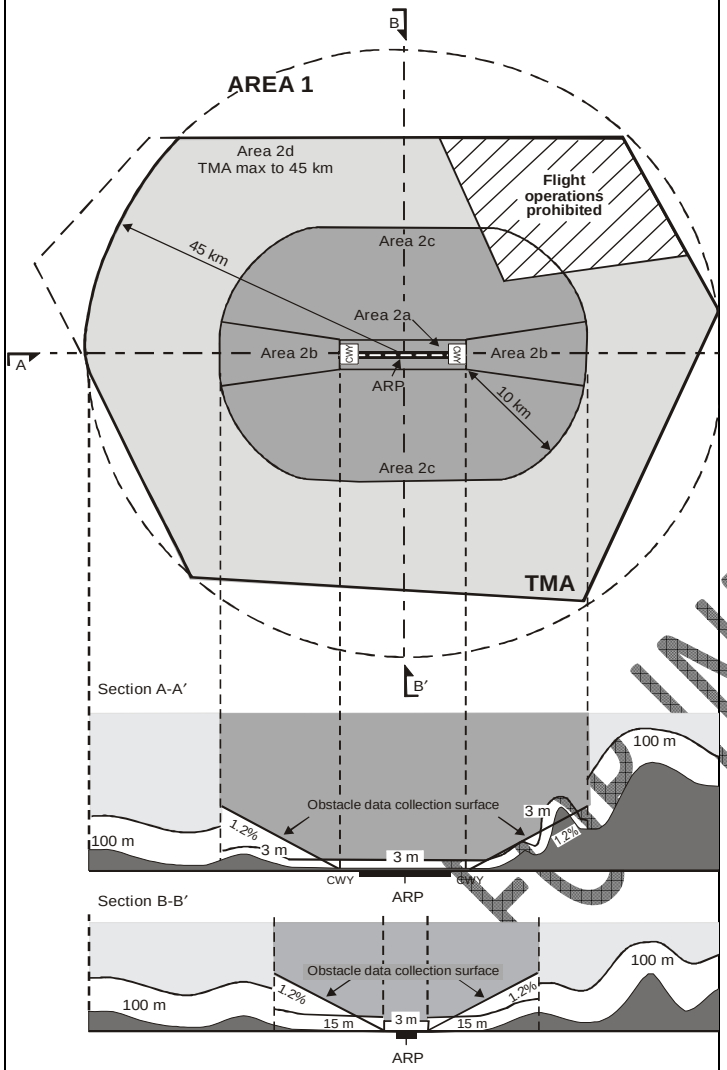
ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
	[This graphic has been reproduced in AIS.TR.360 Transposed. Obstacle data sets]	

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ICAO Annex 15 *(upcoming proposed amendment)*	*NPA Text*	*Justification*
Figure A1-2. Obstacle data collection surfaces — Area 1 and Area 2	**AIS.TR.360 Obstacle data sets**	
1. Obstacle data shall be collected and recorded in accordance with the Area 2 numerical requirements ~~specified in Table A8-2~~: a) ~~Area 2a: a rectangular area around a runway that comprises the runway strip plus any clearway that exists.~~ The Area 2a obstacle collection surface shall have 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; b) ~~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.~~ The Area 2b obstacle collection surface has a 1.2% slope extending from the ends of Area 2a at the elevation of the runway end in the direction of departure, with a length of 10 km and a splay of 15% to each side. Obstacles less than 3 m in height above ground need not be collected; c) ~~Area 2c: an area extending outside Area 2a and Area 2b at a distance of not more than 10 km from the boundary of Area 2a.~~ The Area 2c obstacle collection	**(c)** Obstacle data for area 2 and 3 shall be collected in accordance with the following obstacle collection surfaces: (1) the area 2a obstacle collection surface has 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; (2) the area 2b obstacle collection surface has a 1.2% slope extending from the ends of area 2a at the elevation of the runway end in the direction of departure, with a length of 10 km and a splay of 15% to each side. Obstacles less than 3 m in height above ground need not be collected; (3) the area 2c obstacle collection surface has a 1.2% slope extending outside areas 2a and 2b at a distance of not more than 10 km from the boundary of area 2a. The initial elevation of area 2c shall be the elevation of the point of area 2a	Transposed. The deleted texts are already covered under AIS.TR.350 Terrain and Obstacle data – general requirements, and therefore not necessary to duplicate.

ICAO Annex 15 *(upcoming proposed amendment)*	*NPA Text*	*Justification*
surface has a 1.2% slope extending outside Area 2a and Area 2b at a distance of not more than 10 km from the boundary of Area 2a. The initial elevation of Area 2c shall be the elevation of the point of Area 2a at which it commences. Obstacles less than 15 m in height above ground need not be collected; and d) ~~Area 2d: an area outside the Areas 2a, 2b and 2c up to a distance of 45 km from the aerodrome reference point, or to an existing TMA boundary, whichever is nearest.~~ The Area 2d obstacle collection surface has a height of 100 m above ground.	at which it commences. Obstacles less than 15 m in height above ground need not be collected; and (4) the area 2d obstacle collection surface has a height of 100 m above ground; and	
2. In those portions of Area 2 where flight operations are prohibited due to very high terrain or other local restrictions and/or regulations, obstacle data shall be collected and recorded in accordance with the Area 1 requirements.	**AIS.TR.360 Obstacle data sets** **(d)** In those portions of area 2 where flight operations are prohibited due to very high terrain or other local restrictions and/or regulations, obstacle data shall be collected and recorded in accordance with the area 1 requirements.	Transposed.
3. Data on every obstacle within Area 1 whose height above the ground is 100 m or higher shall be collected and recorded in the database in accordance with the Area 1 numerical requirements specified in PANS-AIM Table A1-8.	---	Covered in the data catalogue.

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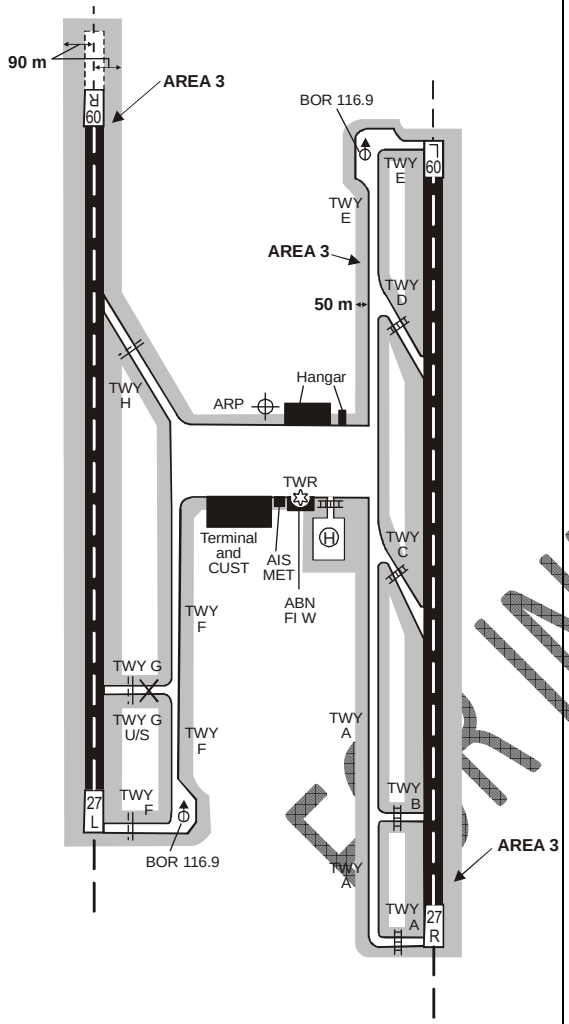
ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
	---	This figure is not transposed as it is considered not required to understand the related requirements.

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ICAO Annex 15 *(upcoming proposed amendment)*	*NPA Text*	*Justification*
Figure A1-3. Terrain and obstacle data collection surface — Area 3		
1. The data collection surface for terrain and obstacles extends a half-metre (0.5 m) above the horizontal plane passing through the nearest point on the aerodrome movement area.	**AIS.TR.360 Obstacle data sets** **(c)** (5) The area 3 obstacle collection surface extends a half-metre (0.5 m) above the horizontal plane passing through the nearest point on the aerodrome movement area.	Transposed.
2. Terrain and obstacle data in Area 3 shall comply with the numerical requirements specified in PANS-AIM, Table A1-6 and PANS-AIM, Table A1-8, respectively.		Covered by the data catalogue

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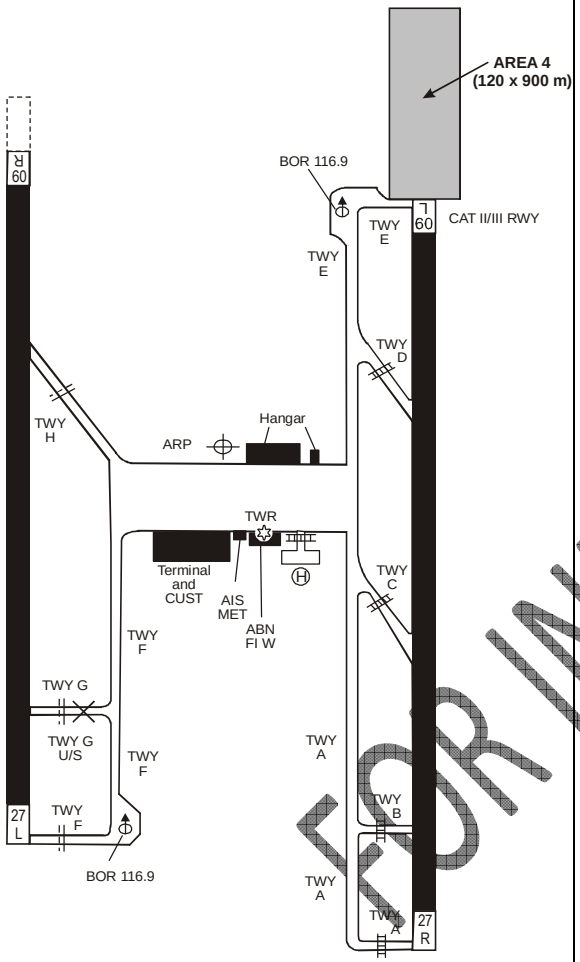
ICAO Annex 15 (upcoming proposed amendment)	*NPA Text*	*Justification*
	---	This figure is not transposed as it is considered not required to understand the related requirements.

ICAO Annex 15 *(upcoming proposed amendment)*	*NPA Text*	*Justification*
Figure A1-4. Terrain and obstacle data collection surface — Area 4 Terrain and obstacle data in Area 4 shall comply with the numerical requirements specified in Table A8-1 and Table A8-2 respectively. Note.— Area 4 may be extended in accordance with 10.1.2.	---	Covered by the data catalogue.

ICAO PANS-AIM *(new proposed amendment)*	*NPA Text*	*Justification*
----	---	**The term 'transposed' means that the substance of the ICAO provisions is not changed, although, in some cases, some editorial revisions may have been applied.**
----	*NOTE1: When reference is made to Annex III to Regulation ../.., it refers to Part-ATM/ANS.OR in draft Regulation laying down technical requirements and administrative procedures related to service providers and the oversight thereof, still to be adopted.* *NOTE 2: When reference is made to Appendix 1 to Article 3, it refers to the Appendix on requirements for aviation undertakings that is linked to Article 3.1 to Regulation laying down technical requirements and administrative procedures related to service providers and the oversight thereof, still to be adopted.*	

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ICAO PANS-AIM (new proposed amendment)	*NPA Text*	*Justification*
CHAPTER 2. AERONAUTICAL INFORMATION MANAGEMENT	---	---
2.1 Information management requirements	---	---
Management of aeronautical data and aeronautical information shall be carried out to include the following handling processes: - collection - processing - quality control	**GM1 Article 3(1) Provision of services** Management of aeronautical data and aeronautical information shall be carried out to include the following handling processes: - collection - processing - quality control	Transposed as explanatory material to Article 3.1 of draft Regulation laying down common requirements for service providers and the oversight in air traffic management and air navigation services and other air traffic management network functions.
2.1.1 Collection	---	---
2.1.1.1 The identification of the data originator (or of the relevant intermediate entity responsible for delivering data to AIS) shall be documented taking into account the scope of aeronautical data and aeronautical information to be collected.	**GM1 Article 3(1) Provision of services** The identification of the data originator (or of the relevant intermediate entity responsible for delivering data to AIS) shall be documented taking into account the scope of aeronautical data and aeronautical information to be collected.	Transposed as explanatory material to Article 3.1 of draft Regulation laying down common requirements for service providers and the oversight in air traffic management and air navigation services and other air traffic management network functions.
2.1.1.2 A record of data originators should be maintained.	**GM1 Article 3(1) Provision of services** A record of data originators should be maintained.	Transposed as explanatory material to Article 3.1 of draft Regulation laying down common requirements for service providers and the oversight in air traffic management and air navigation services and other air traffic management network functions.

ICAO PANS-AIM (new proposed amendment)	NPA Text	Justification
Note. — Metadata requirements in Chapter 4 specify which information is to be recorded for each originator	---	Not transposed.
2.1.1.3 Each data element to be collected should be mapped to an identified data originator, in accordance with the formal arrangements established between data originators and AIS.	**GM1 Article 3(1) Provision of services** Each data element to be collected should be mapped to an identified data originator, in accordance with the formal arrangements established between data originators and AIS.	Transposed as explanatory material to Article 3.1 of draft Regulation laying down common requirements for service providers and the oversight in air traffic management and air navigation services and other air traffic management network functions.
2.1.1.4 The list of aeronautical information subjects and their properties contained in Appendix 1 and Appendix 2 should be used for establishing the formal arrangements between originators and aeronautical information services.	---	Not transposed. Formal arrangements requirements are foresee between the relevant organisations involved in the origination and provision of aeronautical data and aeronautical information.
2.1.1.5 The valid codes for the properties or sub-properties of type code list should be defined in the formal arrangements between originator of the data and the aeronautical information service.	---	Not transposed.
2.1.1.6 Appendix 1 and Appendix 2 shall be considered as a reference for aeronautical data and aeronautical information origination and publication requirements.	---	Not transposed. It is already mentioned in the data catalogue
Note 1. - Appendix 1 and Appendix 2 present the scope of data and information that can be collected and maintained by the Aeronautical Information Service	The Data catalogue presents the scope of data that can be collected and maintained by the aeronautical information service providers and provides a	Transposed in: — Appendix 1 to Article 3

ICAO PANS-AIM (new proposed amendment)	*NPA Text*	*Justification*
Note 2. - Appendix 1 and Appendix 2 provide a common language that can be used by data originators and AIS;	common terminology that can be used by data originators and service providers.	— GM1 AIS.OR.200 — GM1 ATM/ANS.OR.A.080(a)
2.1.2 Processing	---	---
2.1.2.1 Collected data shall be verified and validated for compliance with completeness, format, timeliness, traceability and data quality requirements.	**ATM/ANS.OR.A.080 Aeronautical data and aeronautical information** When originating, processing or transmitting data to the aeronautical information services provider, service providers shall: **(h)** ensure that validation and verification techniques are employed throughout the aeronautical data processing chain to ensure that the aeronautical data meets the associated data quality requirements, and […] **AIS.OR.220 Verification and validation process** An aeronautical information services provider shall ensure that verification and validation techniques are employed so that the aeronautical data meets the data quality requirements specified in AIS.TR.200. **Appendix 1 to Article 3** **6. Data verification and validation**	Transposed.

ICAO PANS-AIM (new proposed amendment)	NPA Text	Justification
	When using aeronautical data to derive or calculate new aeronautical data, the initial data shall be verified and validated, except when provided by an authoritative source.	
Note 1. — Appendix 1 contains aeronautical data attributes, metadata, and accuracy requirements.	---	This Note is not considered necessary to transpose.
Note 2. — Guidance material on the aeronautical data quality requirements (accuracy, resolution, integrity), traceability and protection requirements may be found in the World Geodetic System — 1984 (WGS-84) Manual (Doc 9674).	---	Guidance on WGS-84 is provided, based on the EUROCONTROL Specifications for the Origination of Aeronautical Data, Volume 2: Guidance material (EUROCONTROL-SPEC-154, edition 1.0 of 04/02/2013)
Note 3. — Supporting data quality material in respect of data accuracy, publication resolution, and integrity of aeronautical data, together with guidance material in respect to the rounding convention for aeronautical data, is contained in RTCA Document DO-201A and European Organization for Civil Aviation Equipment (EUROCAE) Document ED-77 — Standards for Aeronautical Information (or equivalent).	---	Not transposed. The NPA makes reference to ED-76A 'Standards for processing aeronautical data', which contains sufficient material with regard to data quality.
Note 4. — Guidance material on the management of aeronautical data quality is included in the Manual on the Quality Management System for Aeronautical Information Services (Doc 9839).	---	Not transposed. ATM/ANS.OR.B.005 on management system contains sufficient guidance on the QMS.

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Note 5. — Verification activities may include: *a) Comparison processes in which data and information are compared with an independant source;* *b) Feedback processes in which data and information are compared between their input and output state;* *c) Processing through multiple independent and different systems, comparing the output of each; this includes performing alternative calculations.* *d) Processes in which data and information are compared to the originator's request;*	---	Not transposed. However, similar guidance material based on ED-76A on verification and validation processes are included in the NPA.
Note 6. — Validation activities may include: *a) Application processes in which data and information are tested;* *b) Processes in which data and information are compared between two different outputs, and;* *c) Processes in which data and information are compared to an expected range, value or other business rules.*	---	Not transposed. However, similar guidance material based on ED-76A on verification and validation processes are included in the NPA.
2.1.2.2 Automation systems implemented for processing aeronautical data and aeronautical information should ensure traceability of the performed actions.	**AMC1 AIS.OR.200 General** **(b)** Automation systems implemented for processing aeronautical data and aeronautical information should ensure traceability of the performed actions.	Transposed
2.1.3. Quality control	---	---

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Note.— Error-producing faults in the entire process may be mitigated by additional data quality assurance techniques as may be required. These could include application tests for critical data (for example, by flight check); the use of security, logic, semantic, comparison, and redundancy checks; digital error detection; and the qualification of human resources and process tools such as hardware and software.	---	Not transposed. This paragraph is covered by the verification and validation processes.
2.1.3.1 Quality checks should be implemented to ensure compliance with product specifications contained in Chapter 5 of PANS-AIM.	---	Not transposed. This paragraph is covered by the verification and validation processes.
2.1.3.2 When the same data is duplicated in different AI products, coherency checks should be undertaken.	---	Not transposed. This paragraph is covered by the verification and validation processes.
2.2 Data protection	---	---
2.2.1–Technical controls used to protect data integrity should be based on the use of systematic cycling codes (e.g. cyclic redundancy check - CRC) or cryptographic technologies (e.g. hash functions, message authentication codes, symmetric and asymmetric encryption, and digital certificates).	**GM1 AIS.OR.220 Verification and validation process** **(b)** Digital error detection techniques can be used to detect errors during the transmission or storage of data. An example of a digital error detection technique is the use of cyclic redundancy checks (CRCs). Coding techniques can be effective	Transposed.

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	regardless of the transmission media (e.g., computer disks, modem communication, or internet). **GM1 ATM/ANS.OR.A.080(h) Aeronautical data and aeronautical information** VALIDATION AND VERIFICATION […] (same text as above)	
Note.— Guidance material in respect of the processing of aeronautical data and aeronautical information is contained in RTCA Document DO-200B and European Organization for Civil Aviation Equipment (EUROCAE) Document ED-76A — Standards for Processing Aeronautical Data.	---	Not transposed. The guidance material on verification and validation is based on the referred ED-76A.
CHAPTER 3. QUALITY AND SAFETY MANAGEMENT	---	---
3.1 Quality management system	---	---
In the framework of the quality management system, a user feedback system shall be defined and implemented.	---	Not transposed. It is already covered by ATM/ANS.OR.B.005
Note 1. — Quality management may be provided by a single quality management system or a series of quality management systems.	---	Not transposed. It is not considered relevant to specify this in the rules.
Note 2. — International Organization for Standardization (ISO) 9000 series of quality assurance standards provide	---	Transposed. It is already covered by AMC1

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a basic framework for the development of a quality assurance programme. An ISO 9000 certificate issued by an accredited certification body is considered an acceptable means of compliance.		ATM/ANS.OR.B.005(a) Management system.
Note 3. — Formal arrangements concerning data quality between originator and distributor and between distributor and next intended user may be used to manage the aeronautical information data chain.	---	Not transposed. It is already covered by the formal arrangements requirements throughout the NPA.
Note 4. — Guidance material concerning training methodology to ensure the competency of personnel is contained in the Aeronautical Information Management Training Development Manual (Doc 9991).	**GM1 AIS.OR.600 General requirements** TRAINING Guidance material concerning training methodology to ensure the competency of personnel is contained in the aeronautical information management training development manual (ICAO Doc 9991).	Transposed.
3.2 Safety management	---	---
3.2.1 Monitoring and measurement processes and procedures should be established in order to provide verification that safety performance complies with the established safety policy and objectives.	---	Not transposed. The safety policy is already covered by ATM/ANS.OR.B.005
3.2.2 Safety management activities	---	---

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3.2.2.1 Assessment and mitigation of hazards and safety risks relating to AIM changes should include: a) identifying potential and actual hazards as well as associated safety risks related to AIM processes, procedures, resources and systems changes; b) assessing and classifying the safety risks for acceptability; c) identifying and implementing mitigations to reduce safety risks to an acceptable level; and d) evaluating the mitigation measures to determine effectiveness in reducing the associated safety risk.	---	Not transposed. The elements of the safety management are already covered by Appendix I of the AMC/GM related to Regulation (EU) No ../.. on 'General guidance material related to changes to functional systems'
3.2.2.2 Voluntary confidential reporting procedures should be implemented where appropriate.	---	Not transposed.
Note 1.— Each State is encouraged to facilitate and promote the voluntary reporting of events that could affect aviation safety by adjusting their applicable laws, regulations and policies.	---	Not transposed. Occurrence reporting requirements are put on service providers in Annex III of Regulation (EU) ../..
Note 2.— A non-punitive environment is fundamental to voluntary reporting.	---	Not transposed.

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3.2.2.3 As a minimum, the following safety documents should be developed and maintained: a) The safety policy and objectives of the organization; b) Responsibilities, authorities and accountabilities for safety related activities; and c) Records of identified safety risks, safety assessments performed and mitigations implemented.	---	Not transposed. The safety policy is already covered by ATM/ANS.OR.B.005
3.3 Relationship between safety management and quality management	---	---
Note 1.— The objective of quality management is to satisfy the needs of the users of a product or a service, whether they are expressed or implied. Safety is one of the requirements relating to aeronautical information management and aeronautical information services and products.	---	Not transposed. This Note is not considered necessary to understand the requirements.
Note 2.— Hence, safety management is that part of quality management that deals with the satisfaction of the users' requirement for safety.	---	Not transposed. This Note is not considered necessary to understand the requirements.
Note 3.— Safety management activities can be embedded into a safety management system or exist as standalone activities. A safety management system can	---	Not transposed. Guidance material on the relationship between

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exist on its own or be part of a broader quality management system which will then deal with all the aspects of quality, including safety.		safety management system and quality management system are included in the related AMC/GM to ATM/ANS.OR.B.005.
Chapter 4 - AERONAUTICAL DATA REQUIREMENTS	---	---
4.1 Data Origination Requirements	---	---
4.1.1 Data shall be collected and transmitted to AIS in accordance with the accuracy requirements and integrity classification specified in Tables A1-1 to A1-8 of Appendix 1.	**Appendix 1 to Article 3** **4. Data catalogue** Aeronautical data shall be originated in accordance with the Data Catalogue specified in Appendix 1 of Subpart A of Annex III.	Transposed.
4.1.2 Positional data shall be classified as: surveyed points (e.g. navigation aids positions, runway threshold), calculated points (mathematical calculations from the known surveyed points of points in space, fixes) or declared points (e.g. flight information region boundary points).	---	Not transposed. This term is not used in the rules.
4.1.3 Geographical coordinates indicating latitude and longitude shall be determined and reported to the aeronautical information service in terms of the World Geodetic System — 1984 (WGS-84) geodetic reference datum.	---	This paragraph is already covered in the rules related to the common reference system.
4.1.4 Geographical coordinates which have been	---	Already covered in AIS.TR.240

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transformed into WGS-84 coordinates by mathematical means and whose accuracy of original field work does not meet the applicable requirements contained in Appendix 1 shall be identified.		(An aeronautical information service provider shall identify the aeronautical data and aeronautical information that do not meet the data quality requirements.)
4.2 Metadata Requirements	---	---
4.2.1 The metadata to be collected shall include, as a minimum: 1. the name of the organizations or entities performing any action of originating, transmitting or manipulating the data; 2. the action performed; and 3. the date and time the action was performed.	The metadata to be collected shall include, as a minimum: (1) the identification of the organizations or entities performing any action of originating, transmitting or manipulating the data; (2) the action performed; and (3) the date and time the action was performed.	Transposed in: — AIS.TR. 225 — ATM/ANS.OR.A.080 (e) — Appendix 1 to Article 3 (point 7)
Note 1. — ISO standard 19115 specifies requirements for Geographic information — metadata	Further explanation on the schema required for describing geographic information and services by means of metadata may be found in the International Organisation for Standardisation, ISO 19115:2014 — Geographic information — Metadata, Part I. It provides information about the identification, the extent, the quality, the spatial and temporal aspects, the content, the spatial reference, the portrayal, distribution, and other properties of digital geographic data and services.	Transposed in: — GM1 AIS.TR. 225 — GM1 ATM/ANS.OR.A.080(e) — Appendix 1 to Article 3 (GM1 to point 7)
CHAPTER 5 - AERONAUTICAL INFORMATION PRODUCTS AND SERVICES	---	---

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5.1 General	---	---
5.1.1 Aeronautical data shall be provided in accordance with the resolution requirements contained in Appendix 1.	---	Transposed. The resolution requirements are covered in the data catalogue.
5.1.2 The identification of geographical coordinates whose accuracy does not meet the requirements may be made either with an annotation or by explicitly providing the actual accuracy value.	**AIS.TR.240 Data limitations** The identification of data not meeting the data quality requirements shall be made with an annotation or by explicitly providing the quality value.	Transposed.
5.1.2.1 In aeronautical information products that are distributed on paper, the identification should be done with an asterisk following the coordinate value concerned.		Not transposed a such as the identification of an asterisk should not be ruled. Relevant guidance material is proposed in GM1 AIS.TR.240
5.2 Aeronautical information in a standardized presentation	---	---
5.2.1 Aeronautical Information Publication (AIP)	---	---
5.2.1.1 Contents	---	---
5.2.1.1.1 The AIP shall contain information relating to, and arranged under, the subject headings listed in Appendix 3. This facilitates both the locating of information under a specific heading and the storage/retrieval of the information using automated	**AIS.TR.305 Aeronautical information publication (AIP)** **(c)** The AIP shall contain information relating to, and arranged under, the subject headings listed in	The first sentence is transposed. The second sentence is not transposed as reference is made to ICAO Doc 8126 which already covers this explanatory material.

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processing.	Appendix 1 of this Annex.	
5.2.1.1.2 If no facilities or services are provided or no information is available for publication in respect of one of the categories of information specified in Appendix 3, an indication should be given as to which of these circumstances applies (e.g. “NIL” or “Not AVBL”).	---	This paragraph is not transposed as reference is made to ICAO Doc 8126 which already covers this explanatory material.
5.2.1.1.3 When the AIP Data Set (as specified in 5.3.2.1) is provided, the following sections of the AIP may be left blank and a reference to the data set availability shall be provided: 1. ENR 2.1 FIR, UIR, TMA 2. ENR 3.1 Lower ATS Routes 3. ENR 3.2 Upper ATS Routes 4. ENR 3.3 Area Navigation (RNAV) Routes 5. ENR 3.4 Helicopter Routes 6. ENR 3.5 Other Routes 7. ENR 3.6 En-route Holding 8. ENR 4.1 Radio navigation aids — en-route 9. ENR 4.4 Name-code designators for significant points 10. ENR 4.5 Aeronautical Ground Lights — En-route 11. ENR 5.1 Prohibited, Restricted and Danger Areas 12. ENR 5.2 Military exercise and training areas and air defence identification zone (ADIZ) 13. ENR 5.3.1 Other activities of a dangerous nature 14. ENR 5.5 Aerial sporting and recreational activities	**GM1 AIS.TR.305(c) Aeronautical information publication (AIP)** AIP DATA SET When the AIP data set is provided, the following sections of the AIP may be left blank and a reference to the data set availability should be provided: (a) ENR 2.1 FIR, UIR, TMA; (b) ENR 3.1 Lower ATS routes; (c) ENR 3.2 Upper ATS routes; (d) ENR 3.3 Area navigation (RNAV) routes; (e) ENR 3.4 Helicopter routes; (f) ENR 3.5 Other routes; (g) ENR 3.6 En route holding; (h) ENR 4.1 Radio navigation aids — en route; (i) ENR 4.4 Name-code designators for significant points; (j) ENR 4.5 Aeronautical ground lights — en route; (k) ENR 5.1 Prohibited, restricted and danger areas; (l) ENR 5.2 Military exercise and training areas and air defence identification zone (ADIZ);	Transposed.

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15. **** AD 2.19 Radio navigation and landing aids 16. **** AD 3.18 Radio navigation and landing aids	(m) ENR 5.3.1 Other activities of a dangerous nature; (n) ENR 5.5 Aerial sporting and recreational activities; (o) AD 2.19 Radio navigation and landing aids; and *(p)* AD 3.18 Radio navigation and landing aids.	
5.2.1.1.4 When the Obstacle Data Set (as specified in 5.3.2.3.2) is provided, the following sections of the AIP may be left blank and a reference to the data set availability shall be provided: 17. ENR 5.4 Air navigation obstacles 18. ***AD 2.10 Aerodrome obstacles 19. ***AD 3.10 Heliport obstacles	**GM1 AIS.TR.360 Obstacle data set** GENERAL When the obstacle data set is provided, the following sections of the AIP may be left blank and a reference to the data set availability should be provided: (a) ENR 5.4 Air navigation obstacles ; (b) AD 2.10 Aerodrome obstacles; and (c) AD 3.10 Heliport obstacles.	Transposed.
5.2.1.2 General Specification	---	---
5.2.1.2.1 The issuing State and publishing authority shall be clearly indicated.	**AIS.TR.305 Aeronautical information publication (AIP)** **(d)** The issuing State and publishing authority shall be clearly indicated.	Transposed.
5.2.1.2.2 When two or more States jointly provide an AIP, these States shall be clearly indicated.	**AIS.TR.305 Aeronautical information publication (AIP)** **(e)** When two or more States jointly provide an AIP, these States shall be clearly indicated.	Transposed.

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5.2.1.2.3 Each AIP shall be self-contained and shall include a table of contents.	**AIS.TR.305 Aeronautical information publication (AIP)** **(f)** Each AIP shall be self-contained and shall include a table of contents.	Transposed.
5.2.1.2.4 An AIP shall be organised in three parts (GEN, ENR and AD), sections and sub-sections, except when the AIP, or a volume of the AIP, is designed to facilitate operational use in flight, the precise format and arrangement may be left to the discretion of the State provided that an adequate table of contents is included.	**AIS.TR.305 Aeronautical information publication (AIP)** **(g)** An AIP shall be organised in three parts (GEN, ENR and AD), sections and sub-sections, except when the AIP, or a volume 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 State provided that an adequate table of contents is included.	Transposed.
5.2.1.2.5 Each AIP shall be dated.	**AIS.TR.305 Aeronautical information publication (AIP)** **(h)** Each AIP shall be dated.	Transposed.
5.2.1.2.5.1 The date, consisting of the day, month (by name) and year, shall be the publication date or the effective date (AIRAC) of the information.	**AIS.TR.305 Aeronautical information publication (AIP)** **(i)** The date, consisting of the day, month (by name) and year, shall be the publication date and/or the effective date (AIRAC) of the information.	Transposed.
5.2.1.2.6 Charts, maps or diagrams shall be used, when appropriate, to complement or as a substitute for the tabulations or text of Aeronautical Information Publications.	**GM1 AIS.TR.305(c) Aeronautical information publication (AIP)** CHARTS, MAPS OR DIAGRAMS **(a)** Charts, maps or diagrams should be used, when	Transposed.

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	appropriate, to complement or as a substitute for the tabulations or text of the AIP.	
Note.— Where appropriate, charts produced in conformity with Annex 4 — Aeronautical Charts, may be used to fulfil this requirement. Guidance material as to the specifications of index maps and diagrams included in Aeronautical Information Publications is contained in the Aeronautical Information Services Manual (Doc 8126).	**(b)** Where appropriate, charts produced in conformity with AIS.OR.325 may be used to fulfil this requirement.	Transposed. Reference to ICAO Doc 8126 is made in the explanatory note to the AMC/GM document and applies to the relevant paragraphs, so that there is no need to repeat it for all the related provisions.
5.2.1.2.7 When listing locations, the city or town should be given in capital letters followed, where the facility is an aerodrome/heliport or is located at an aerodrome/heliport, by an oblique stroke and the name of the aerodrome/heliport in smaller capital letters or lowercase type. Unless otherwise indicated, the list should be in alphabetical order.	**AMC1 AIS.TR.305 Aeronautical information publication (AIP)** LOCATON FORMAT When listing locations, the city or town should be given in capital letters followed, where the facility is an aerodrome/heliport or is located at an aerodrome/heliport, by an oblique stroke and the name of the aerodrome/heliport in smaller capital letters or lower-case letters. Unless otherwise indicated, the list should be in alphabetical order.	Transposed.
5.2.1.2.8 The spelling of place names shall conform with local usage, transliterated where necessary into the ISO Basic-Latin alphabet.	**AIS.TR.300 General** **(b)** Place names shall be spelt in conformity with local usage, transliterated, when necessary, into the ISO basic Latin alphabet.	Transposed. But based on Annex 15 3.1.3.2

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5.2.1.2.9 In the indication of the geographical coordinates of a location: — the latitude should be given first; — symbols for degrees, minutes or seconds should be omitted; — two digits should always be used in expressing values of less than 10 degrees of latitude; and — three digits should always be used in expressing values of less than 100 degrees of longitude.	**AMC1 AIS.TR.305(c) Aeronautical information publication (AIP)** LOCATION In the indication of the geographical coordinates of a location: **(a)** the latitude should be given first; **(b)** symbols for degrees, minutes or seconds should be omitted; **(c)** two digits should always be used in expressing values of less than 10 degrees of latitude; and **(d)** three digits should always be used in expressing values of less than 100 degrees of longitude.	Transposed.
5.2.1.2.10 When describing periods of activity, availability or operation, the applicable days and times shall be specified.	**AIS.TR.305 Aeronautical information publication (AIP)** **(j)** When describing periods of activity, availability or operation, the applicable days and times shall be specified.	Transposed.
5.2.1.2.11 The units of measurement selected for use in the AIP, e.g. dimensions on aerodromes, distances, elevations or altitudes, should be consistently followed and should adhere to Annex 5.	---	Not transposed. The reference to the units of measurement is covered by the data catalogue (Appendix 1 to Annex III of Regulation ../...)
5.2.1.2.12 Index maps and diagrams included in the AIP should comply with the following specifications:	**AMC1 AIS.OR.325 Aeronautical Charts** **GENERAL** Aeronautical charts should be produced in accordance with the specifications contained in ICAO Annex 4, in its 11th edition of July 2009.	Transposed.

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a) *Base map:* The base map should be an outline map of the area adapted from existing material with general details. Graticules, topography and other details should be as simple as possible Political subdivisions should be shown and identified. It should be produced in one colour.	---	Not transposed as such. However, this paragraph is covered by AMC1 AIS.OR.325
b) *Sheet size and scale:* The overall dimensions should be 210 mm × 297 mm. If a larger map is required, it should be folded to conform to this size. A uniform scale should be used for all charts produced as a series and other charts where practicable.	---	Not transposed as such. However, this paragraph is covered by AMC1 AIS.OR.325
c) *Title and marginal notes*: The title should be shown on the top border and should be as short and simple as possible.	---	Not transposed as such. However, this paragraph is covered by AMC1 AIS.OR.325
d) *Colours:* The number of colours used should be kept to a minimum. If more than one colour is used, the colours should offer adequate contrast.	---	Not transposed as such. However, this paragraph is covered by AMC1 AIS.OR.325
e) *Symbols:* Symbols should conform, where practicable, to the ICAO Chart symbols shown in Annex 4, Appendix 2. The basic, general purpose symbols for AIP index maps are a filled circle ●and an empty circle ○. Except	---	Not transposed as such. However, this paragraph is covered by AMC1

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when the symbols used are self-explanatory, a legend should be provided. For details for which no ICAO symbol has been provided, any appropriate symbol may be chosen provided it does not conflict with an ICAO symbol.		AIS.OR.325
5.2.1.3 Specifications for AIP Amendments	---	---
5.2.1.3.1 The AIP shall be amended or re-issued at such regular intervals as necessary to ensure the information contained in the AIP is complete and up to date.	**AIS.OR.310 AIP Amendments** An aeronautical information services provider shall: **(b)** ensure that the AIP is amended or re-issued at such regular intervals as necessary to ensure the information is complete and up to date.	Transposed. But based on Annex 15 6.3.1.1 (it is duplicated in the PANS-AIM)
5.2.1.3.2 Operationally significant changes to the AIP shall be published in accordance with AIRAC procedures and shall be clearly identified by the acronym — AIRAC.	**AIS.TR.310 AIP Amendments** **(a)** Any operationally significant changes to the AIP shall be issued under AIRAC and clearly identified as such.	Transposed.
5.2.1.3.2 When a State has established the regular interval or publication dates for its AIP Amendments, these intervals or publication dates shall be included in the AIP, Part 1 — General (GEN).	---	Not transposed as it is already covered in AIS.TR.310(g) transposing PANS-AIM 6.2.2.1)
5.2.1.3.3 New or revised information contained in the AIP shall be identified.	---	This paragraph is covered by AIS.TR.310 (a)
5.2.1.3.4 Each AIP Amendment shall be allocated a serial number, which shall be consecutive.	**AIS.TR.310 AIP Amendments** **(b)** Each AIP Amendment shall be allocated a serial	Transposed.

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	number, which shall be consecutive.	
5.2.1.3.5 Each AIP Amendment shall contain a publication date. 5.2.1.3.6 Each AIRAC AIP Amendment shall contain an effective date.	**AIS.TR.310 AIP Amendments** **(f)** Each AIP Amendment page, including the cover sheet, shall: (2) contain a publication date and/or an effective date when applicable.	Transposed.
5.2.1.3.6.1 When an effective time other than 0000 UTC is used, the effective time shall also be indicated.	**AMC1 AIS.TR.310(f)(2) AIP Amendments** EFFECTIVE TIME When an effective time other than 0000 UTC is used, the effective time should also be indicated.	Transposed.
5.2.1.3.7 When an AIP Amendment is issued, it shall include references to the serial number of the AIP Supplement or NOTAM which have been incorporated into the amendment.	**AIS.TR.310 AIP Amendments** **(c)** When an AIP Amendment is issued, it shall include references to the serial number of the NOTAM which have been incorporated into the amendment. **AIS.TR.315 AIP Supplements** **(c)** Each AIP Supplement shall be allocated a serial number which shall be consecutive and based on the calendar year.	Transposed.
5.2.1.3.8 A brief indication of the subjects affected by the amendment shall be given on the AIP Amendment cover sheet.	---	This paragraph is not transposed as reference is made to ICAO Doc 8126 which already covers this explanatory material.
5.2.1.3.9 Each amendment shall include a checklist	**AIS.TR.310 AIP Amendments**	Transposed.

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giving the current date of each loose-leaf page in the AIP, and shall provide a recapitulation of any outstanding manuscript corrections. The checklist shall carry both the page number and date.	**(e)** Each AIP amendment shall: (1) include a checklist giving the current date of each loose-leaf page in the AIP, and the checklist shall carry both the page number and date; and (2) provide a recapitulation of any outstanding manuscript corrections.	
5.2.1.4 Specifications for AIP Supplements	---	---
Note.— Since the AIP is subject to frequent change, provisions exist for its continual updating. In addition, changes of a temporary nature affecting the contents of an AIP are often required to cater for unexpected circumstances or, in some cases, planned modifications to a service/facility. The purpose of an AIP Supplement is to bring to the attention of users both temporary changes of long duration (three months or longer) and information of short duration containing extensive text or graphics which affect one or more parts of the AIP.	**GM1 AIS.TR.315 AIP Supplements** TEMPORARY CHANGES **(a)** Since the AIP is subject to frequent change, provisions exist for its continual updating. In addition, changes of a temporary nature affecting the contents of an AIP are often required to cater for unexpected circumstances or, in some cases, planned modifications to a service/facility. **(b)** The purpose of an AIP Supplement is to bring to the attention of users both temporary changes of long duration (three months or longer) and information of short duration containing extensive text or graphics which affect one or more parts of the AIP.	Transposed.
5.2.1.4.1 Each AIP Supplement shall be allocated a serial number which shall be consecutive and based on the calendar year (e.g. 2/13).	**AIS.TR.315 AIP Supplements** **(c)** Each AIP supplement shall be allocated a serial number which shall be consecutive and based on the calendar year.	Transposed.

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Note.— Guidance material on the use of AIP Supplements together with examples of such use is contained in the Aeronautical Information Services Manual (Doc 8126).	---	Reference to ICAO Doc 8126 is made in the explanatory note to the AMC/GM document and applies to the relevant paragraphs, so that there is no need to repeat it for all the related provisions.
5.2.1.4.2 Whenever an AIP Supplement is issued as a replacement of a NOTAM, a reference to the series and number of the NOTAM shall be included.	**AIS.TR.315 AIP Supplements** **(d)** Whenever an AIP supplement is issued as a replacement of a NOTAM, a reference to the series and number of the NOTAM shall be included.	Transposed.
5.2.1.4.3 A checklist of valid AIP Supplements shall be issued at intervals of not more than one month as part of the checklist of NOTAM ~~required at 5.1.4.2~~ and with distribution as for the AIP Supplements.	**AIS.TR.315 AIP Supplements** **(e)** A checklist of valid AIP supplements shall be issued at intervals of not more than one month as part of the checklist of NOTAM and with distribution as for the AIP supplements.	Transposed.
5.2.2 Aeronautical Information Circulars	**AIS.TR.320 Aeronautical Information Circular (AIC)**	Transposed.
5.2.2.1 An AIC shall be provided whenever it is desirable to promulgate:	**(b)** The AIC shall be provided whenever it is desirable to promulgate:	Transposed.
1) forecasts of important changes in the air navigation procedures, services and facilities provided;	(1) forecasts of important changes in the air navigation procedures, services and facilities provided;	Transposed.
2) forecasts of implementation of new navigational systems;	(2) forecasts of implementation of new navigational systems;	Transposed.

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3) significant information arising from aircraft accident/incident investigation which has a bearing on flight safety;	(3) significant information arising from aircraft accident/incident investigation which has a bearing on flight safety;	Transposed.
4) information on regulations relating to the safeguarding of international civil aviation against acts of unlawful interference;	(4) information on regulations relating to the safeguarding of international civil aviation against acts of unlawful interference;	Transposed.
5) advice on medical matters of special interest to pilots;	(5) advice on medical matters of special interest to pilots;	Transposed.
6) warnings to pilots concerning the avoidance of physical hazards;	(6) warnings to pilots concerning the avoidance of physical hazards;	Transposed.
7) effect of certain weather phenomena on aircraft operations;	(7) effect of certain weather phenomena on aircraft operations;	Transposed.
8) information on new hazards affecting aircraft handling techniques;	(8) information on new hazards affecting aircraft handling techniques;	Transposed.
9) regulations relating to the carriage of restricted articles by air;	(9) regulations relating to the carriage of restricted articles by air;	Transposed.
10) reference to the requirements of, and publication of changes in, national legislation;	(10) reference to the requirements of, and publication of changes in, national legislation;	Transposed.
11) aircrew licensing arrangements;	(11) aircrew licensing arrangements;	Transposed.
12) training of aviation personnel;	(12) training of aviation personnel;	Transposed.

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13) application of, or exemption from, requirements in national legislation;	(13) application of, or exemption from, requirements in national legislation;	Transposed.
14) advice on the use and maintenance of specific types of equipment;	(14) advice on the use and maintenance of specific types of equipment;	Transposed.
15) actual or planned availability of new or revised editions of aeronautical charts;	(15) actual or planned availability of new or revised editions of aeronautical charts;	Transposed.
16) carriage of communication equipment;	(16) carriage of communication equipment;	Transposed.
17) explanatory information relating to noise abatement;	(17) explanatory information relating to noise abatement;	Transposed.
18) selected airworthiness directives;	(18) selected airworthiness directives;	Transposed.
19) changes in NOTAM series or distribution, new editions of AIP or major changes in their contents, coverage or format;	(19) changes in NOTAM series or distribution, new editions of AIP or major changes in their contents, coverage or format;	Transposed.
20) advance information on the snow plan (see 5.2.2.2);	(20) advance information on the snow plan;	Transposed.
21) other information of a similar nature.	(21) other information of a similar nature.	Transposed.
5.2.2.2 The snow plan issued under AD 1.2.2 of the AIP shall be supplemented by seasonal information, to be issued well in advance of the beginning of each winter — not less than one month before the normal onset of winter conditions and shall contain information such as	**GM2 AIS.TR.320(d) AIC** The snow plan issued under AD 1.2.2 of the AIP may contain information such as that listed below:	Transposed.

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that listed below:		
a) a list of aerodromes/heliports where snow slush, ice or frost clearance is expected to be performed during the coming winter: [text from AMDT 39]	(a) a list of aerodromes/heliports where snow clearance is expected to be performed during the coming winter:	Transposed.
*1) in accordance with the runway and taxiway systems; or	(1) in accordance with the runway and taxiway systems; or	Transposed.
*2) planned snow clearing, deviating from the runway system (length, width and number of runways, affected taxiways and aprons or portions thereof);	(2) planned snow clearing, deviating from the runway system (length, width and number of runways, affected taxiways and aprons or portions thereof);	Transposed.
*b) information concerning any centre designated to coordinate information on the current state of progress of clearance and on the current state of runways, taxiways and aprons;	(b) information concerning any centre designated to coordinate information on the current state of progress of clearance and on the current state of runways, taxiways and aprons;	Transposed.
c) a division of the aerodromes/heliports into SNOWTAM distribution lists in order to avoid excessive NOTAM distribution;	(c) a division of the aerodromes/heliports into SNOWTAM distribution lists in order to avoid excessive NOTAM distribution;	Transposed.
*d) an indication, as necessary, of minor changes to the standing snow plan;	(d) an indication, as necessary, of minor changes to the standing snow plan;	Transposed.
*e) a descriptive list of clearance equipment;	(e) a descriptive list of clearance equipment; and	Transposed.
*f) a listing of what will be considered as the minimum	(f) a listing of what will be considered as the	Transposed.

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critical snow bank to be reported at each aerodrome/heliport at which reporting will commence.	minimum critical snow bank to be reported at each aerodrome/heliport at which reporting will commence.	
5.2.2.3 The originating State shall select the AIC that are to be given international distribution.	---	Not transposed. The requirement is put on the States.
5.2.2.4 States shall give AIC selected for international distribution the same distribution as for the AIP.	**AIS.TR.320 Aeronautical Information Circular (AIC)** **(e)** When the AIC is selected by the originating State for international distribution, it shall have the same distribution as the AIP.	Transposed.
5.2.2.5 Distribution of AIC on a national basis is left to the discretion of the originating State concerned.		This paragraph is not transposed as reference is made to ICAO Doc 8126 which already covers this explanatory material.
5.2.2.6 Each AIC shall be allocated a serial number which shall be consecutive and based on the calendar year.	**AIS.TR.320 Aeronautical Information Circular (AIC)** **(f)** Each AIC shall be allocated a serial number which shall be consecutive and based on the calendar year.	Transposed.
Note 1.— Since AIC information is often effective for long periods and requires little amendment, it will usually be found that AIC can, if necessary, remain outstanding for several years without inconvenience. A review and re-issue on a yearly basis is however advisable.	---	This paragraph is not transposed as reference is made to ICAO Doc 8126 which already covers this explanatory material.
5.2.2.7 In the event that AIC are provided in more than one series, each series shall be separately identified by a	**AIS.TR.320 Aeronautical Information Circular (AIC)** **(g)** In the event that AIC are provided in more than	Transposed.

ICAO PANS-AIM (new proposed amendment)	*NPA Text*	*Justification*
letter (A 2/02, B 4/02, etc.).	one series, each series shall be separately identified by a letter.	
5.2.2.8 A checklist of AIC currently in force shall be issued at least once a year, with distribution as for the AIC.	**AIS.TR.320 Aeronautical Information Circular (AIC)** **(h)** A checklist of AIC currently in force shall be issued at least once a year, with distribution as for the AIC.	Transposed.
5.2.2.9 A checklist of AIC provided internationally shall be included in the NOTAM Checklist.	**AIS.TR.320 Aeronautical Information Circular (AIC)** **(i)** A checklist of AIC provided internationally shall be included in the NOTAM Checklist.	Transposed.
5.2.3 Printed products	---	---
5.2.3.1 Printed AIP	---	---
5.2.3.1.1 When the AIP is issued as a printed volume, it should be published in looseleaf form unless the complete publication is reissued at frequent intervals.	**GM2 AIS.TR.305(a) Aeronautical information publication (AIP)** FORM OF AIP When the AIP is issued as a printed volume, it is published in loose-leaf form unless the complete publication is reissued at frequent intervals.	Transposed.
5.2.3.1.2 Each AIP issued as a printed volume and each page of an AIP issued in loose-leaf form shall be so annotated as to indicate clearly:	**AIS.TR.305 Aeronautical information publication (AIP)** **(k)** Each AIP issued as a printed volume and each page of an AIP issued in loose-leaf form shall be annotated as to indicate clearly:	Transposed.

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a) the identity of the Aeronautical Information Publication;	---	Not transposed. It is not considered relevant.
b) the territory covered and subdivisions when necessary;	(1) the territory covered and subdivisions when necessary;	Transposed.
c) the identification of the issuing State and producing organization (authority);	(2) the identification of the issuing State or the joint issuing States and producing organization (authority);	Transposed. Amended to cover 5.2.3.1.3 below with 'joint issuing States'
d) page numbers/chart titles;	(3) page numbers/chart titles;	Transposed.
5.2.3.1.3 The issuing State or the joint issuing States shall be clearly indicated on the cover and in the table of contents.	---	Transposed. This paragraph is covered by (k)(2) above.
5.2.3.1.4 The normal method of amendment of the printed volume AIP shall be by means of replacement sheets.	**AIS.TR.305(m) Aeronautical information publication (AIP)** The method of amendment of the printed volume AIP is by means of replacement sheets.	Transposed.
5.2.3.1.5 New or revised information shall 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.	**AIS.TR.310 AIP Amendments** **(f)** Each AIP Amendment page, including the cover sheet, shall: (1) be identified by an annotation against it in the margin.	The first sentence is transposed. The second sentence is not transposed as it is covered in Doc 8126 which already covers this explanatory material.

ICAO PANS-AIM (new proposed amendment)	*NPA Text*	*Justification*
5.2.3.1.6 Each AIP amendment page, including the cover sheet, shall contain a publication date and, when applicable, an effective date.	**AIS.TR.310 AIP Amendments** (f) Each AIP Amendment page, including the cover sheet, shall: (2) contain a publication date and/or an effective date when applicable.	Transposed.
5.2.3.1.7 If it is necessary by reason of bulk or for convenience, to publish an AIP in two or more parts or volumes, each of them will indicate that the remainder of the information is to be found in the other part(s) or volume(s).	**GM1 AIS.TR.305(a) Aeronautical information publication (AIP)** PRINTED AIP **(a)** If it is necessary by reason of bulk or for convenience, to publish an AIP in two or more parts or volumes, each of them will indicate that the remainder of the information is to be found in the other part(s) or volume(s).	Transposed.
5.2.3.1.8 When the AIP is provided in more than one volume, each volume shall include: — Preface — Record of AIP Amendments — Record of AIP Supplements — Checklist of AIP pages — List of current hand amendments	**(b)** When the AIP is provided in more than one volume, each volume should include: (1) a preface; (2) a record of AIP amendments; (3) a record of AIP supplements; (4) a checklist of AIP pages; and (5) a list of current hand amendments.	Transposed.
5.2.3.1.9 When the AIP is published as one volume, the	**(c)** When the AIP is published as one volume, the	Transposed.

ICAO PANS-AIM (new proposed amendment)	*NPA Text*	*Justification*
above-mentioned subsections appear only in Part 1 — GEN and the annotation "not applicable" shall be entered against each of these subsections in Parts 2 and 3.	above-mentioned subsections should appear only in Part 1 — GEN and the annotation 'not applicable' should be entered against each of these subsections in Parts 2 and 3.	
5.2.3.1.10 A system of page numbering adaptable to the addition or deletion of sheets should be adopted. The page number should include: — an identification of the part of the AIP; — the section; and — 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).	**AMC1 AIS.TR.305(a) Aeronautical information publication (AIP)** PRINTED AIP A system of page numbering adaptable to the addition or deletion of sheets should be adopted. The page number should include: (a) an identification of the part of the AIP; (b) the section; and (c) 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).	Transposed.
5.2.3.1.11 A checklist giving the current date of each page in the AIP shall be reissued frequently to assist the user in maintaining a current publication.	---	Not transposed as such, but reflected throughout the relevant rules.
5.2.3.1.12 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.	---	This paragraph is not transposed as reference is made to ICAO Doc 8126 which already covers this explanatory material.

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5.2.3.1.13 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.	**AMC1 AIS.OR.325 Aeronautical Charts** **GENERAL** Aeronautical charts should be produced in accordance with the specifications contained in ICAO Annex 4, in its 11th edition of July 2009.	Transposed.
5.2.3.1.14 Maps and charts included in the AIP should be paginated in the same manner as other material.		Transposed. It is covered by AMC1 AIS.OR.325.
5.2.3.1.15 AIP Supplement pages should be coloured in order to be conspicuous, preferably in yellow.	---	This paragraph is not transposed as reference is made to ICAO Doc 8126 which already covers this explanatory material.
5.2.3.1.16 AIP Supplement pages should be kept as the first item in the AIP parts.	---	This paragraph is not transposed as reference is made to ICAO Doc 8126 which already covers this explanatory material.
Note – As alternate 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.	---	This paragraph is not transposed as reference is made to ICAO Doc 8126 which already covers this explanatory material.

ICAO PANS-AIM (new proposed amendment)	*NPA Text*	*Justification*
5.2.3.1.17 Each AIP Supplement page shall show a publication date. 5.2.3.1.18 Each AIRAC AIP Supplement page shall show a publication date and an effective date.	**AIS.TR.315 AIP Supplements** **(f)** Each AIP supplement page shall show a publication date. Each AIRAC AIP supplement page shall show a publication date and an effective date.	Transposed.
5.2.3.2 Printed AIC	---	---
5.2.3.2.1 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.	**GM1 AIS.TR.320(a) AIC** PRINTED AIC **(a)** 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.	Transposed.
5.2.3.2.2 It is recommended that AIC be colour coded by subject where there are sufficient circulars in force to warrant such identification, e.g.: a) white — administrative; b) yellow — ATC; c) pink — safety; d) mauve — danger area map; and e) green — maps/charts.	**(b)** It is recommended that AIC be colour coded by subject where there are sufficient circulars in force to warrant such identification, e.g.: (1) white — administrative; (2) yellow — ATC; (3) pink — safety; (4) mauve — danger area map; and (5) green — maps/charts.	Transposed.
5.2.4 Electronic AIP (eAIP)	---	---
5.2.4.1 The AIP, AIP Amendment, AIP Supplement and AIC should also be published in a format that allows for	**AIS.TR.305 Aeronautical information publication (AIP)**	Transposed.

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displaying on a computer screen and printing on paper.	(a) The AIP, AIP amendments and AIP supplements shall be provided on paper and/or as an electronic document 'electronic AIP' (eAIP) that allows for displaying on computer screen and printing on paper. **AIS.TR.320 Aeronautical Information Circular (AIC)** (a) The AIC shall be provided on paper and/or as part of the electronic document 'electronic AIP' (eAIP) that allows for displaying on computer screen and printing on paper.	
Note 1.— This composite electronic document is named "Electronic AIP" (eAIP) and may be based on a format that allows for digital data exchange.		Not transposed. It is considered to be self-explanatory.
Note 2.— Guidance material for the production and provision of the eAIP is contained in Doc 8126.	---	Reference to ICAO Doc 8126 is made in the explanatory note to the AMC/GM document and applies to the relevant paragraphs, so that there is no need to repeat it for all the related provisions.
5.2.4.2 When provided, the information content of the eAIP and the structure of chapters, sections and sub-sections shall follow the content and structure of the paper AIP. The eAIP shall include files that allow for printing a paper AIP.	**AIS.TR.305 Aeronautical information publication (AIP)** **(l)** When provided, the information content of the eAIP and the structure of chapters, sections and sub-sections shall follow the content and structure of the paper AIP.	Transposed.
5.2.4.3 New or revised information shall be identified	**AIS.TR.310 AIP Amendments**	Transposed.

ICAO PANS-AIM (new proposed amendment)	NPA Text	Justification
either by an annotation against it in the margin or by a mechanism that allows comparing the new/revised information with the previous one.	**(f)** Each AIP amendment page, including the cover sheet, shall: (1) be identified by an annotation against it in the margin; and	
5.2.4.4 When provided, the eAIP should be available on a physical distribution medium (CD, DVD, etc.) and/or online on the Internet.	**AMC2 AIS.TR.305(a) Aeronautical information publication (AIP)** ELECTRONIC AIP When provided, the eAIP should be available on a physical distribution medium, such as cd, dvd, etc. and/or online on the internet.	Transposed.
Note.— Guidance material on the use of the Internet is contained in Guidelines on the Use of the Public Internet for Aeronautical Applications (Doc 9855).		Not transposed. It is not considered necessary in the context of the rules.
5.2.5 NOTAM	**---**	---
5.2.5.1 General specifications	---	---
5.2.5.1.1 Except as otherwise provided in 5.2.5.1.5 and 5.2.5.1.6, each NOTAM shall contain the information in the order shown in the NOTAM Format in Appendix 4.	**AIS.TR.330 NOTAM** **(a)** Except as provided for in AIS.TR.330(d) and AIS.TR.330(e), each NOTAM shall contain the information in the order shown in the NOTAM Format in Appendix 2.	Transposed.
Note.— Additional procedures covering the reporting of runway surface conditions is contained in PANS-Aerodromes (Doc 9981).	---	Not transposed. It is not considered necessary in the context of the rules.

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Note.— Detailed guidance material covering NOTAM, SNOWTAM, ASHTAM and PIB production is contained in Doc 8126.	---	Reference to ICAO Doc 8126 is made in the explanatory note to the AMC/GM document and applies to the relevant paragraphs, so that there is no need to repeat it for all the related provisions.
5.2.5.1.2 NOTAM text shall be composed of the significations/uniform abbreviated phraseology assigned to the ICAO NOTAM Code complemented by ICAO abbreviations, indicators, identifiers, designators, callsigns, frequencies, figures and plain language.	**(b)** NOTAM text shall be composed of the significations/uniform abbreviated phraseology assigned to the ICAO NOTAM Code complemented by ICAO abbreviations, indicators, identifiers, designators, call signs, frequencies, figures and plain language.	Transposed.
Note.— The ICAO NOTAM Code together with significations/uniform abbreviated phraseology, and ICAO Abbreviations are those contained in the PANS-ABC (Doc 8400).	**GM1 AIS.TR.330(b) NOTAM** NOTAM CODE The ICAO NOTAM Code together with significations/uniform abbreviated phraseology, and ICAO Abbreviations are those contained in the PANS-ABC (Doc 8400).	Transposed.
5.2.5.1.3 All NOTAM shall be issued in English language. 5.2.5.1.4 If necessary for domestic users, NOTAM may additionally be issued in national language.	**AIS.TR.330 NOTAM** **(c)** All NOTAM shall be issued in English language. If necessary for domestic users, NOTAM may additionally be issued in national language.	Transposed.
5.2.5.1.5 Information concerning snow, slush, ice, frost, standing water, or water associated with snow, slush, ice or frost on the movement area shall be disseminated by means of SNOWTAM, and contain the information in the order shown in the SNOWTAM Format in Appendix 5.	**AIS.TR.330 NOTAM** **(d)** Information concerning snow, slush, ice, frost, standing water, or water associated with snow, slush, ice or frost on the movement area shall be disseminated by means of SNOWTAM, and shall	Transposed.

ICAO PANS-AIM (new proposed amendment)	*NPA Text*	*Justification*
[text from AMDT 39]	contain the information in the order shown in the SNOWTAM Format in Appendix 3.	
Note.— The origin and order of the information is a result of assessment processes and procedures prescribed in PANS-Aerodromes (Doc 9981). [text from AMDT 39]	---	Not transposed.
5.2.5.1.6 Information concerning an operationally significant change in volcanic activity, a volcanic eruption and/or volcanic ash cloud shall, when reported by means of an ASHTAM, contain the information in the order shown in the ASHTAM Format in Appendix 6.	**AIS.TR.330 NOTAM** **(e)** Information concerning an operationally significant change in volcanic activity, a volcanic eruption and/or volcanic ash cloud shall, when reported by means of an ASHTAM, contain the information in the order shown in the ASHTAM Format in Appendix 4.	Transposed.
5.2.5.1.7 When errors occur in a NOTAM, a NOTAM with a new number to replace the erroneous NOTAM shall be issued or the erroneous NOTAM shall be cancelled and a new NOTAM issued.	**AIS.TR.330 NOTAM** **(f)** When errors occur in a NOTAM, a NOTAM with a new number to replace the erroneous NOTAM shall be issued or the erroneous NOTAM shall be cancelled and a new NOTAM issued.	Transposed.
5.2.5.1.8 When a NOTAM is issued which cancels or replaces a previous NOTAM, the series and number of the previous NOTAM shall be indicated.	**AIS.TR.330 NOTAM** **(g)** When a NOTAM is issued that cancels or replaces a previous NOTAM: (1) the series and number of the previous NOTAM shall be indicated; and	Transposed.

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ICAO PANS-AIM (new proposed amendment)	*NPA Text*	*Justification*
5.2.5.1.8.1 The series, location indicator and subject of both NOTAM shall be the same.	(2) the series, location indicator and subject of both NOTAM shall be the same.	Transposed.
5.2.5.1.9 Only one NOTAM shall be cancelled or replaced by a NOTAM.	**AIS.TR.330 NOTAM** **(h)** Only one NOTAM shall be cancelled or replaced by a NOTAM.	Transposed.
5.2.5.1.10 Each NOTAM shall deal with only one subject and one condition of the subject.	**AIS.TR.330 NOTAM** **(i)** Each NOTAM shall deal with only one subject and one condition of the subject.	Transposed.
Note.— Guidance concerning the combination of a subject and a condition of the subject in accordance with the NOTAM Selection Criteria is contained in the Aeronautical Information Services Manual (Doc 8126).	--	Reference to ICAO Doc 8126 is made in the explanatory note to the AMC/GM document and applies to the relevant paragraphs, so that there is no need to repeat it for all the related provisions.
5.2.5.1.11 Each NOTAM shall be as brief as possible and so compiled that its meaning is clear without the need to refer to another document.	**AIS.TR.330 NOTAM** **(j)** Each NOTAM shall be as brief as possible and compiled so that its meaning is clear without the need to refer to another document.	Transposed.
5.2.5.1.12 Each NOTAM shall be transmitted as a single telecommunication message.	**AIS.TR.330 NOTAM** **(k)** Each NOTAM shall be transmitted as a single telecommunication message.	Transposed.
5.2.5.1.13 A NOTAM containing permanent or temporary information of long duration shall carry appropriate AIP or AIP Supplement references.	**AIS.TR.330 NOTAM** **(l)** A NOTAM containing permanent or temporary information of long duration shall carry appropriate AIP or AIP Supplement references.	Transposed.

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ICAO PANS-AIM (new proposed amendment)	*NPA Text*	*Justification*
5.2.5.1.14 Location indicators included in the text of a NOTAM shall be those contained in Location Indicators (Doc 7910). 5.2.5.1.14.1 In no case shall a curtailed form of such indicators be used.	**AIS.TR.330 NOTAM** **(m)** Location indicators included in the text of a NOTAM shall be those contained in ICAO Doc 7910 (Location Indicators). In no case shall a curtailed form of such indicators be used.	Transposed.
5.2.5.1.15 Where no ICAO location indicator is assigned to the location, its place name shall be entered in plain language, spelt in conformity with local usage, transliterated, when necessary, into the ISO Basic-Latin alphabet.	**AIS.TR.330 NOTAM** **(n)** Where no ICAO location indicator is assigned to the location, its place name shall be entered in plain language, spelt in conformity with local usage, transliterated, when necessary, into the ISO Basic-Latin alphabet.	Transposed.
5.2.5.2 NOTAM number and series allocation	---	---
5.2.5.2.1 The NOTAM Office shall allocate to each NOTAM a series identified by a letter and a four-digit number followed by a stroke and a two-digit number for the year. The four-digit number shall be consecutive and based on the calendar year.	**AIS.TR.330 NOTAM** **(o)** To each NOTAM shall be allocated a series identified by a letter and a four-digit number followed by a stroke and a two-digit number for the year. The four-digit number shall be consecutive and based on the calendar year.	Transposed.
5.2.5.2.2 Letters A to Z, with the exception of I, should be used to identify a NOTAM series.	---	This paragraph is not transposed as reference is made to ICAO Doc 8126 which already covers this explanatory material.
5.2.5.2.3 All NOTAM shall be divided in series based on subject, traffic or location or a combination thereof,	**AIS.TR.330 NOTAM** **(p)** All NOTAM shall be divided in series based on	Transposed.

ICAO PANS-AIM (new proposed amendment)	*NPA Text*	*Justification*
depending on end-user needs. NOTAM for aerodromes allowing international air traffic shall be issued in international NOTAM series.	subject, traffic or location or a combination thereof, depending on end-user needs. NOTAM for aerodromes allowing international air traffic shall be issued in international NOTAM series.	
5.2.5.2.4 If NOTAM is issued in both English and national language, the NOTAM series shall be organised so that the national language series are equivalents of the English language series in terms of content and numbering.	**AIS.TR.330 NOTAM** **(q)** If NOTAM are issued in both English and national language, the NOTAM series shall be organised so that the national language series are equivalents of the English language series in terms of content and numbering.	Transposed.
5.2.5.2.5 The content and geographical coverage of each NOTAM series shall be stated in detail in the AIP, GEN 3.	**AIS.TR.330 NOTAM** **(r)** The content and geographical coverage of each NOTAM series shall be stated in detail in the AIP, GEN 3.	Transposed.
5.2.5.2.6 Series allocation shall be monitored and, if required, appropriate measures shall be taken to assure that no series reaches the maximum possible number of issued NOTAM before the end of a calendar year.	**AIS.TR.330 NOTAM** **(w)** Series allocation shall be monitored and, if required, appropriate measures shall be taken to assure that no series reaches the maximum possible number of issued NOTAM before the end of a calendar year.	Transposed.
5.2.5.3 NOTAM Checklist	---	---
5.2.5.3.1 A checklist of valid NOTAM shall be issued as a checklist NOTAM at intervals of not more than one month.	**AIS.TR.330 NOTAM** **(s)** A checklist of valid NOTAM shall be regularly provided.	Transposed.

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Note.— Omitting a NOTAM from the checklist does not cancel a NOTAM.	---	This paragraph is not transposed as reference is made to ICAO Doc 8126 which already covers this explanatory material.
5.2.5.3.2 One checklist NOTAM shall be issued for each series.	**AIS.TR.330 NOTAM** **(t)** One checklist NOTAM shall be issued for each series.	Transposed.
5.2.5.3.3 A checklist NOTAM shall refer to the latest AIP Amendments, AIP Supplements, data sets and at least the internationally distributed AIC, and, when it is selected, include the checklist of AIP Supplements.	**AIS.TR.330 NOTAM** **(u)** A checklist NOTAM shall also refer to the latest AIP Amendments, AIP Supplements, data sets and at least the internationally distributed AIC. **GM1 AIS.TR.330(v) NOTAM** CHECKLIST The checklist NOTAM may include the checklist of AIP SUPP	Transposed.
5.2.5.3.4 A checklist NOTAM shall have the same distribution as the actual message series to which they refer and shall be clearly identified as checklist.	**AIS.TR.330 NOTAM** **(v)** A checklist NOTAM shall have the same distribution as the actual message series to which they refer and shall be clearly identified as checklist.	Transposed.
5.3 Digital Data	---	---
5.3.1 General provisions	**---**	--
5.3.1.1 The ISO 19100 series of standards for geographic information shall be used as a reference framework.	**GM1 AIS.TR.335(a) General** ISO SERIES	Transposed

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	(a) The ISO 19100 series of standards for geographic information may be used as a reference framework.	
Note.— This is intended to facilitate and support the use and exchange of digital data sets between data providers and data users.	**(b)** […] This is intended to facilitate and support the use and exchange of digital data sets between data providers and data users.	Transposed.
5.3.1.2 A description of the available digital data sets shall be provided in the form of data product specification on which basis air navigation users will be able to evaluate the products and determine whether they fulfil the requirements for their intended use (application).	**AIS.TR.335(a) General** **(b)** A description of the available digital data sets shall be provided in the form of data product specification. **GM1 AIS.TR.335(b) General** DESCRIPTION OF AVAILABLE DATA SET **(a)** The data product specification enables air navigation users to evaluate the products and determine whether they fulfil the requirements for their intended use (application).	Transposed.
Note.— ISO Standard 19131 specifies the requirements and outline of data product specifications for geographic information.	**AMC1 AIS.TR.335(a) General** ISO SERIES **GM1 AIS.TR.335(a) General** ISO SERIES **(b)** ISO Standard 19131 specifies the requirements and outline of data product specifications for geographic information. […]	Transposed.
Note.— This may include an overview, specification	**GM1 AIS.TR.335(b) General**	Transposed.

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scope, data product identification, data content and structure, reference system, data quality, data capture, data maintenance, data portrayal, data product delivery, additional information, and metadata.	DESCRIPTION OF AVAILABLE DATA SET **(b)** This may include an overview, specification scope, data product identification, data content and structure, reference system, data quality, data capture, data maintenance, data portrayal, data product delivery, additional information, and metadata.	
5.3.1.3 Globally interoperable aeronautical information exchange models and data exchange models shall be used for the provision of data sets.	—	This paragraph is covered under AIS.OR.205 and applies to digital data set as well.
Note.— *Guidance on the aeronautical information and data e xchange models may be found in the Aeronautical Information Services Manual (Doc 8126).*		Reference to ICAO Doc 8126 is made in the explanatory note to the AMC/GM document and applies to the relevant paragraphs, so that there is no need to repeat it for all the related provisions.
5.3.1.4 The aeronautical information model used should encompass the aeronautical data and aeronautical information to be exchanged.	**AMC1 AIS.TR.210 Exchange of aeronautical data and aeronautical information** EXCHANGE MODELS **(a)** The aeronautical information model used should encompass the aeronautical data and aeronautical information to be exchanged.	Transposed.
5.3.1.5 The aeronautical information model used should:	**(b)** The aeronautical information model used should:	Transposed.
a) use the Unified Modelling Language (UML) to describe the aeronautical information features and their	(1) use the Unified Modelling Language (UML) to describe the aeronautical information features and	Transposed.

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properties, associations and data types;	their properties, associations and data types;	
b) include data value constraints and data verification rules;	(2) include data value constraints and data verification rules;	Transposed.
c) include provisions for metadata as specified in 5.3.2; and	(3) include provisions for metadata; and	Transposed.
d) include a temporality model to enable capturing the evolution of the properties of an aeronautical information feature during its life cycle.	(4) include a temporality model to enable capturing the evolution of the properties of an aeronautical information feature during its life cycle.	Transposed.
5.3.1.6 The aeronautical data exchange model used should:	**(c)** The aeronautical data exchange model used should:	Transposed.
a) apply a commonly used data encoding format;	(1) apply a commonly used data encoding format;	Transposed.
b) cover all the classes, attributes, data types and associations of the aeronautical information model detailed in 3.3.1.5; and	(2) cover all the classes, attributes, data types and associations of the aeronautical information model; and	Transposed.
c) provide an extension mechanism by which groups of users can extend the properties of existing features and add new features which do not adversely affect global standardization.	(3) provide an extension mechanism by which groups of users can extend the properties of existing features and add new features which do not adversely affect global standardization.	Transposed.
Note 1.—*The intent of using a commonly used data encoding format is to ensure interoperability of aeronautical data exchange between agencies and*	**GM1 AIS.TR.210 Exchange of aeronautical data and information** EXCHANGE ENABLING	Transposed.

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organizations involved in the data processing chain.	**(a)** The intent of using a commonly used data encoding format is to ensure interoperability of aeronautical data exchange between agencies and organizations involved in the data processing chain.	
Note 2.—*Examples of commonly used data encoding formats include Extensible Markup Language (XML), Geography Markup Language (GML), and JavaScript Object Notation (JSON).*	**(b)** Examples of commonly used data encoding formats include Extensible Markup Language (XML), Geography Markup Language (GML), and JavaScript Object Notation (JSON).	Transposed.
5.3.2 Metadata	---	---
5.3.2.1 Each data set shall include the following minimal set of metadata:	**AIS.TR.340 Metadata requirements** The minimum metadata for each data set shall include:	Transposed.
a) the name of the organizations or entities providing the data set;	(a) the name of the organizations or entities providing the data set;	Transposed.
b) the date and time when the data set was provided	(b) the date and time when the data set was provided;	Transposed.
c) validity of the data set	(c) validity of the data set;	Transposed.
d) any limitations with regard to the use of the data set	(d) any limitations with regard to the use of the data set.	Transposed.
5.3.3 Data sets	---	---

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Note.— A data subject may appear in multiple data sets.	**GM1 AIS.OR.335(a) General** DATA SET A data subject may appear in multiple data sets.	Transposed.
5.3.3.1 Aeronautical (AIP) data set	---	---
Note. - *The purpose of the Aeronautical (AIP) data set is to support the initial transition of the ATM domain towards the use of digital data sets instead of paper products. Therefore, its scope is defined considering the likelihood that the data contained in this set is actually being used in digital format by service providers, ATC and IFR/VFR airspace users.*	**GM1 AIS.OR.340 AIP data set** PURPOSE The purpose of the AIP data set is to support the initial transition of the ATM domain towards the use of digital data sets instead of paper products. Therefore, its scope is defined considering the likelihood that the data contained in this set is actually being used in digital format by service providers, ATC and IFR/VFR airspace users.	Transposed.
5.3.3.1.1 The AIP Data sub-Set shall include data about the following subjects, with the properties indicated in brackets being included as a minimum (if applicable): a. ATS Airspace (type, name, lateral limits, vertical limits, class of airspace) b. Special Activity Airspace (type, name, lateral limits, vertical limits, restriction, activation) c. Route (identifier prefix, flight rules, designator, …) d. Route segment (navigation specification, startpoint, endpoint, track, distance, upper limit, lower limit, MEA, MOCA, direction of cruising level, reverse direction of cruising level, required navigation performance)	**AIS.TR.345 AIP data set** **(a)** The AIP data set shall include data about the following subjects, with the properties indicated being included, if applicable: [table]	Transposed. The elements from a. to k. are transposed as such in a table for easy reading, but the table is not reproduced here for purpose of format issue.

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e. Waypoint - enroute (reporting requirement, identification, location, formation) f. Aerodrome/Heliport (location indicator, name, designator IATA, served city, certified ICAO, certification date, certification expiration date, control type, field elevation, reference temperature, magnetic variation, airport reference point) g. Runway (designator, nominal length, nominal width, surface type, strength) h. Runway Direction (designator, true bearing, threshold, TORA, TODA, ASDA, LDA, rejected TODA) i. FATO (designation, length, width, threshold point,...) j. TLOF (designator, centre point, length, width, surface type) k. Radio navigation Aid (type. identification, name, aerodrome served, hours of operation, magnetic variation, frequency/channel, position, elevation, magnetic bearing, true bearing, zero bearing direction,		
Note 1. - The description of the data subjects, their properties, data type and applicable data quality requirements is provided in Appendix 1).	---	Transposed. It is now included in the introduction of the data catalogue.
Note 2. – The Aeronautical (AIP) Data-set includes relevant AIP Amendment and SUP information.	**GM1 AIS.TR.345(a) AIP data set** CONTENT The AIP Data-set includes relevant AIP amendment and SUP information.	Transposed.
5.3.3.1.2 When a property is not defined for a particular	**AIS.TR.345 AIP data set**	Transposed.

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occurrence of the subjects listed in 5.3.3.1.1, the AIP data sub-set shall include an explicit "not applicable" indication.	**(b)** When a property is not defined for a particular occurrence of the subjects listed in (a), the AIP data sub-set shall include an explicit "not applicable" indication.	
5.3.3.2 Terrain and obstacle data sets	**GM2 to AIS.TR.350, AIS.TR.355, AIS.TR.360 Terrain and obstacle data** NAVIGATION APPLICATIONS	
Note.— Terrain and obstacle data are intended to be used in the following air navigation applications: *a) ground proximity warning system with forward looking terrain avoidance function and minimum safe altitude warning (MSAW) system;* *b) determination of contingency procedures for use in the event of an emergency during a missed approach or take-off;* *c) aircraft operating limitations analysis;* *d) instrument procedure design (including circling procedure);* *e) determination of en-route "drift-down" procedure and en-route emergency landing location;* *f) advanced surface movement guidance and control system (A-SMGCS); and g) aeronautical chart production and on-board databases.*	**(a)** Terrain and obstacle data are intended to be used in the following air navigation applications: (1) ground proximity warning system with forward looking terrain avoidance function and minimum safe altitude warning (MSAW) system; (2) determination of contingency procedures for use in the event of an emergency during a missed approach or take-off; (3) aircraft operating limitations analysis; (4) instrument procedure design (including circling procedure); (5) determination of en-route "drift-down" procedure and en-route emergency landing location; (6) (f) advanced surface movement guidance and control system (A-SMGCS); and g) aeronautical chart production and on-board databases.	Transposed.

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The data may also be used in other applications such as flight simulator and synthetic vision systems, and may assist in determining the height restriction or removal of obstacles that pose a hazard to air navigation.	**(b)** The data may also be used in other applications such as flight simulator and synthetic vision systems, and may assist in determining the height restriction or removal of obstacles that pose a hazard to air navigation.	Transposed.
5.3.3.2.1 Terrain data set	---	---
5.3.3.2.1.1 A terrain grid shall be angular or linear and shall be of regular or irregular shape.	**AIS.TR.355 Terrain data sets** **(b)** A terrain grid shall be angular or linear and shall be of regular or irregular shape.	Transposed.
Note.— In regions of higher latitudes, latitude grid spacing may be adjusted to maintain a constant linear density of measurement points.		This paragraph is not transposed as it is already covered by the ToD Manual and the ED-98 documents.
5.3.3.2.1.2 Sets of terrain data shall include spatial (position and elevation), thematic and temporal aspects for the surface of the Earth containing naturally occurring features such as mountains, hills, ridges, valleys, bodies of water, permanent ice and snow, and excluding obstacles. In practical terms, depending on the acquisition method used, this shall represent the continuous surface that exists at the bare Earth, the top of the canopy or something in-between, also known as “first reflective surface”.	**(c)** Sets of terrain data shall include spatial (position and elevation), thematic and temporal aspects for the surface of the Earth containing naturally occurring features, excluding obstacles.	The first sentence is transposed. The rest of the paragraph is not transposed as it is already covered by the ToD Manual and the ED-98 documents.
5.3.3.2.1.3 In terrain data sets, only one feature type, i.e. terrain, shall be provided. Feature attributes	**(d)** Only one feature type shall be provided.	Transposed. The Table A7-1 in Appendix 7 is transposed as

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describing terrain shall be those listed in Appendix 7, Table A7-1. The terrain feature attributes listed in Table A7-1 represent the minimum set of terrain attributes, and those annotated as mandatory shall be recorded in the terrain data set.	**(e)** The terrain feature attributes represent the minimum set of terrain attributes, and those annotated as mandatory shall be recorded in the terrain data set.	AMC1 AIS.TR.355(d) Terrain data set.
5.3.3.2.1.4 Terrain data for each area shall conform to the applicable numerical requirements in Appendix 1.		Transposed.
5.3.3.2.2 Obstacle data set	**AIS.TR.360 Obstacle data sets**	Transposed.
5.3.3.2.2.1 Obstacle data elements are features that shall be represented in the data sets by points, lines or polygons	**(a)** Obstacle data elements are features that shall be represented in the data sets by points, lines or polygons.	Transposed.
5.3.3.2.2.2 In an obstacle data set, all defined obstacle feature types shall be provided and each of them shall be described according to the list of mandatory attributes provided in Appendix 7, Table A7-2.	**(b)** All defined obstacle feature types shall be provided and each of them shall be described.	Transposed. The Table A7-2 in Appendix 7 is transposed as AMC1 AIS.TR.360(b) Obstacle data set.
Note.— By definition, obstacles can be fixed (permanent or temporary) or mobile. Specific attributes associated with mobile (feature operations) and temporary types of obstacles are annotated in Appendix 7, Table A7-4, as optional attributes. If these types of obstacles are to be provided in the data set, appropriate attributes describing such obstacles are also required.	---	This paragraph is not transposed as it is already covered by the ToD Manual and the ED-98 documents.
5.3.3.2.2.3 Obstacle data for each area shall conform to	---	Transposed. It is covered by the data catalogue.

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the applicable numerical requirements contained in Appendix 1.		
5.3.3.2.2.4 The obstacle data product specification, supported by geographical coordinates for each aerodrome included within the dataset, shall describe the following areas: — Areas 2a, 2b, 2c, 2d; — the take-off flight path area; and — the obstacle limitation surfaces.	**(e)** The obstacle data product specification, supported by geographical coordinates for each aerodrome included within the dataset, shall describe the following areas: (1) areas 2a, 2b, 2c and 2d; (2) the take-off flight path area; and (3) the obstacle limitation surfaces.	Transposed.
Note.— Area 4 terrain data and Area 2 obstacle data are normally sufficient to support the production of the Precision Approach Terrain Chart — ICAO. When more detailed obstacle data are required for Area 4, these may be provided in accordance with the Area 4 obstacle data requirements specified in Appendix 7, Table A7-2. Guidance on appropriate obstacles for this chart is given in the Aeronautical Chart Manual *(Doc 8697).*	---	Not transposed as it is already covered by the ToD Manual and ED-98 document.
5.3.3.3 Aerodrome mapping data sets	---	---
Note 1.— Aerodrome mapping data include aerodrome geographic information that supports applications which improve the user's situational awareness or supplements surface navigation, thereby increasing safety margins and operational efficiency. Aerodrome mapping data sets with appropriate data element accuracy support	**GM1 to AIS.TR.350, AIS.TR.355, AIS.TR.360 Terrain and obstacle data** REFERENCES **(b)** In addition, the EUROCAE Document ED-98C (October 2015) provides guidance for data gathering by data originators, for data processing by data	This paragraph is not transposed as such. This Note contains elements that are included in the ED-98 documents, which is referred to in the related guidance material.

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requirements for collaborative decision making, common situational awareness, and aerodrome guidance applications are intended to be used, among others, in the following air navigation applications:	integrators, for implementation by system designers, and for end use by the aviation community (e.g. air carriers, air traffic services, procedure designers).	
a) position and route awareness including moving maps with own ship position, surface guidance and navigation (such as A-SMGCS); *b) traffic awareness including surveillance and runway incursion detection and alerting;* *c) facilitation of aerodrome-related aeronautical information, including NOTAM;* *d) resource and aerodrome facility management; and* *e) aeronautical chart production.*	---	This paragraph is not transposed as such as it is covered by the GM above. This Note contains elements that are included in the ED-98 documents, which is referred to in the related guidance material.
The data may also be used in other applications such as training/flight simulator and synthetic vision systems.	---	Same as above.
Note 1.— Aerodrome mapping data are organized and arranged in aerodrome mapping databases (AMDBs) for ease of electronic storage and usage by appropriate applications.	---	Same as above.
Note. 2 — The exact content of the aerodrome mapping data sets is defined in EUROCAE ED99 / RTCA DO 272.	---	Same as above.
Note 3. — Metadata elements applicable to aerodrome	**GM2 AIS.TR.365(a) Aerodrome mapping data sets**	Transposed.

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mapping data are contained in RTCA Document DO-291B and European Organization for Civil Aviation Equipment (EUROCAE) Document ED-119B — Interchange Standards for Terrain, Obstacle, and Aerodrome Mapping Data.	METADATA Metadata elements applicable to aerodrome mapping data are contained in EUROCAE Document ED-119C 'Interchange standards for terrain, obstacle and aerodrome mapping data', October 2015.	
5.3.3.3.1 Aerodrome mapping data — requirements for provision	---	---
5.3.3.3.1.1 Aerodrome mapping data should be supported by electronic terrain and obstacle data for Area 3 in order to ensure consistency and quality of all geographical data related to the aerodrome.	**GM1 AIS.TR.365(a) Aerodrome mapping data sets** ADDITIONAL DATA **(a)** Aerodrome mapping data may be supported by electronic terrain and obstacle data for area 3 in order to ensure consistency and quality of all geographical data related to the aerodrome.	Transposed.
Note 1.— Accuracy and integrity requirements for aerodrome mapping data are contained in Annex 14, Volume I, Appendix 5.	---	This Note is not considered relevant to transpose. The relevant reference is currently Regulation 139/2014.
Note 2.— Electronic terrain and obstacle data pertaining to Area 3 and aerodrome mapping data may be originated using common acquisition techniques and managed within a single geographic information system (GIS).	**GM2 AIS.TR.365(a) Aerodrome mapping data sets** COMMON ACQUISITION TECHNIQUES Electronic terrain and obstacle data pertaining to area 3 and aerodrome mapping data may be originated using common acquisition techniques and managed within a single geographic information system (GIS).	Transposed.

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Note 3.— Supporting material with respect to the processing of electronic terrain and obstacle data and aerodrome mapping data is contained in RTCA Document DO-200A and European Organization for Civil Aviation Equipment (EUROCAE) Document ED-76 — Standards for Processing Aeronautical Data.	**GM1 AIS.TR.365 Aerodrome mapping data sets** COMPLEMENTARY GUIDANCE Further information concerning minimum requirements and reference material applicable to the content, origination, publication, and updating of aerodrome mapping information may be found in EUROCAE Documents ED-99D 'User requirement for aerodrome mapping information', October 2015, and ED-119C 'Interchange standards for terrain, obstacle and aerodrome mapping data', October 2015.	Transposed with reference to Eurocae ED-99.
5.3.3.3.2 Aerodrome mapping data product specification		---
5.3.3.3.2.1 The ISO 19100 series of standards for geographic information shall be used as a reference framework.	**AIS.TR. 365 Aerodrome mapping data sets** **(b)** Standards for geographic information shall be used as a reference framework.	Transposed. The reference to the ISO number is contained in AMC.
Note.— This is intended to facilitate and support the use and exchange of aerodrome mapping data between data providers and data users.	**GM1 AIS.TR.335(a) General** ISO SERIES **(b)** […] This is intended to facilitate and support the use and exchange of digital data sets between data providers and data users.	Transposed.
5.3.3.3.2.2 Aerodrome mapping data products shall be described following the ISO 19131 data product specification standard.	**AIS.TR. 365 Aerodrome mapping data sets** **(c)** Aerodrome mapping data products shall be described following the relevant data product specification standard.	Transposed. The ISO number reference is contained in AMC.

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Note.— This includes an overview, specification scope, data product identification, data content and structure, reference system, data quality, data capture, data maintenance, data portrayal, data product delivery, additional information, and metadata.	**GM1 AIS.TR.335(b) General** DESCRIPTION OF AVAILABLE DATA SET **(b)** This may include an overview, specification scope, data product identification, data content and structure, reference system, data quality, data capture, data maintenance, data portrayal, data product delivery, additional information, and metadata.	Transposed.
5.3.3.3.3 Aerodrome mapping database — data set content and structure	---	---
5.3.3.3.2.1 The content and structure of aerodrome mapping data sets shall be defined in terms of an application schema and a feature catalogue.	**AIS.TR. 365 Aerodrome mapping data sets** **(d)** The content and structure of aerodrome mapping data sets shall be defined in terms of an application schema and a feature catalogue.	Transposed.
Note.— ISO Standard 19109 contains rules for application schema while ISO Standard 19110 describes the feature cataloguing methodology for geographic information.	**GM1 AIS.TR.365(d) Aerodrome mapping data sets** ISO REFERENCE ISO Standard 19109 contains rules for application schema while ISO Standard 19110 describes the feature cataloguing methodology for geographic information.	Transposed.
5.3.3.4 Instrument flight procedure design data set	---	---
Note - The purpose of the Instrument flight procedure data set is to support the initial transition of the ATM domain towards the use of digital data sets instead of	**GM1 AIS.OR.340 AIP data set** PURPOSE The purpose of the AIP data set is to support the	Transposed.

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paper products. Therefore, its scope is defined considering the likelihood that the data contained in this set is actually being used in digital format by service providers, ATC and IFR/VFR airspace users.	initial transition of the ATM domain towards the use of digital data sets instead of paper products. Therefore, its scope is defined considering the likelihood that the data contained in this set is actually being used in digital format by service providers, air traffic control (ATC) and instrument flight rules (IFR)/visual flight rules (VFR) airspace users.	
5.3.3.4.1 The Instrument flight procedure design data set shall include data about the following data subjects, with the properties indicated in brackets being included as a minimum (if applicable): a. Procedure (all properties) b. Procedure Segment (all properties) c. Final Approach Segment (all properties) d. Procedure Fix (all properties) e. Procedure Holding (all properties) f. Helicopter Procedure Specifics (all properties)	**AIS.TR.370 Instrument flight procedure data sets** **(b)** The Instrument flight procedure design data set shall include data about the following subjects, including all of their properties: (1) Procedure (2) Procedure Segment (3) Final Approach Segment (4) Procedure Fix (5) Procedure Holding (6) Helicopter Procedure Specifics	Transposed.
Note1.— The description of the data subjects, their properties, data type and applicable data quality requirements is provided in Appendix 1.	**GM2 AIS.TR.345(a) AIP data set** CONTENT The description of the data subjects, their properties, data type and applicable data quality requirements is provided in the Data Catalogue contained in Appendix 1 to Annex III to the Regulation.	Transposed.
Note2.— The Instrument Flight Procedure data set	---	Not transposed. This Note is not considered

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should also cover the data publication requirements contained in Doc 8168, PANS-OPS, etc.		necessary to transpose.
5.4 Distribution Services	---	---
5.4.1 General	---	---
5.4.1.1 Distribution to the next intended user will differ in the delivery method applied which may either be:	**GM1 AIS.OR.400(b) Distribution services** DISTIBUTION OF AIP PRODUCTS **(a)** Distribution to the next intended user will differ in the delivery method applied which may either be:	Transposed.
Physical distribution. The means by which aeronautical data and aeronautical information distribution is achieved through the delivery of a physical package, such as postal services; or	(1) physical distribution — the means by which aeronautical data and aeronautical information distribution is achieved through the delivery of a physical package, such as postal services; or	Transposed.
Direct electronic distribution. The means by which aeronautical data and aeronautical information distribution is achieved automatically through the use of a direct electronic connection between the AIS and the next intended user.	(2) direct electronic distribution — the means by which aeronautical data and aeronautical information distribution is achieved automatically through the use of a direct electronic connection between the AIS and the next intended user.	Transposed.
5.4.1.2 Different delivery methods and data media may require different procedures to ensure the required data quality.	**(b)** Different delivery methods and data media may require different procedures to ensure the required data quality.	Transposed.
Note.— Further guidance on digital dataset distribution can be found in the Document - ICAO SWIM Concept -	**(c)** Further guidance on digital dataset distribution can be found in the ICAO Doc 10039 (Manual on	Transposed.

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Doc 10039	system wide information management (SWIM) concept).	
5.4.1.3. A checklist of the available data sets, including their effective and publication dates, shall be made available to allow the users to ensure that current data is being used.	**AIS.TR.335 General** **(c)** A checklist of the available data sets, including their effective and publication dates, shall be made available to allow the users to ensure that current data is being used.	Transposed.
5.4.1.4 The checklist of data sets shall be made available through the same distribution mechanism as used for the data sets.	**AIS.TR.335 General** **(d)** The checklist of data sets shall be made available through the same distribution mechanism as used for the data sets.	Transposed.
5.4.2 NOTAM distribution	---	---
5.4.2.1 An aeronautical information service shall arrange, as necessary, to satisfy operational requirements for the issuance and receipt of NOTAM distributed by telecommunication.	**AIS.OR.400 Distribution services** An aeronautical information services provider shall: […] **(e)** arrange, as necessary, the issuance and receipt of NOTAM distributed by telecommunication to satisfy operational requirements.	Transposed.
5.4.2.2 International exchange of NOTAM shall take place only as mutually agreed between the international NOTAM offices and/or multinational NOTAM Processing Units concerned.	**AIS.OR.400 Distribution services** An aeronautical information services provider shall: **(d)** ensure the exchange of NOTAM between international NOTAM offices and/or multinational NOTAM Processing Units concerned; and	Transposed.

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Note.— Arrangements may be made for direct exchange of SNOWTAM (see Appendix 5) between aerodromes/heliports.	**GM1 AIS.OR.400(d) Distribution of services** SNOWTAM Arrangements may be made for direct exchange of SNOWTAM between aerodromes/heliports.	Transposed.
5.4.2.3 The international exchange of ASHTAM (see 5.1.4.1.5), and NOTAM where States continue to use NOTAM for distribution of information on volcanic activity, shall include volcanic ash advisory centres and the centres designated by regional air navigation agreement for the operation of AFS satellite distribution systems (satellite distribution system for information relating to air navigation (SADIS) and international satellite communications system (ISCS)), and shall take account of the requirements of long-range operations.	**AIS.TR.400 Distribution services** **(a)** The international exchange of ASHTAM, and NOTAM where States continue to use NOTAM for distribution of information on volcanic activity, shall include volcanic ash advisory centres and the world area forecast centres, and shall take account of the requirements of long-range operations.	Transposed.
5.4.2.4 The exchange of NOTAM between international NOTAM offices and/or multinational NOTAM Processing Units shall, as far as practicable, cover the needs of operations personnel including flight crew members.	**AMC1 AIS.TR.400 Distribution services** The exchange of NOTAM between international NOTAM offices and/or multinational NOTAM Processing Units should cover the needs of operations personnel including flight crew members.	Transposed.
5.4.2.5 A predetermined distribution system for NOTAM transmitted on the AFS in accordance with Annex 15, 6.3.2.3 shall be used whenever possible, subject to the requirements of 5.4.3.3.	**AIS.TR.400 Distribution services** **(b)** A predetermined distribution system for NOTAM transmitted on the AFS shall be used whenever possible.	Transposed.
5.4.2.6 The originating State shall upon request grant	**(c)** Distribution of NOTAM series other than those	Transposed.

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distribution of NOTAM series other than those distributed internationally.	distributed internationally shall be granted upon request.	
5.5 Pre-flight information services	---	---
5.5.1 Geographic coverage for pre-flight information services should be determined and periodically reviewed. In general the coverage zone should be limited to the FIR within which the aerodrome/heliport is located, the FIR(s) adjacent thereto, and all air route or portion of route flown without an intermediate landing, originating at the aerodrome/heliport and extending beyond the FIR(s) mentioned.	**GM1 AIS.OR.405(b) Pre-flight information services** INFORMATION OF OPERATIONAL SIGNIFICANCE **(b)** Geographic coverage for pre-flight information services should be determined and periodically reviewed. In general, the coverage zone should be limited to the flight information region (FIR) within which the aerodrome/heliport is located, the FIR(s) adjacent thereto, and all air route or portion of route flown without an intermediate landing, originating at the aerodrome/heliport and extending beyond the FIR(s) mentioned.	Transposed.
5.5.4 Although Miscellaneous NOTAM is regarded not subject for a briefing but available on request, all NOTAM shall be provided for briefing by default and that content reduction should be at user's discretion.	**AIS.TR.405 Pre-flight information services** **(e)** All NOTAM shall be made available for briefing by default and content reduction filtering shall be at user's discretion.	Transposed.
5.5.5 Automated pre-flight information systems shall be used to make aeronautical data and aeronautical information available to operations personnel including flight crew members for self-briefing, flight planning and flight information service purposes. The aeronautical data and aeronautical information made available shall comply with the provisions of Annex 15.	**AIS.TR.405 Pre-flight information services** **(a)** Automated pre-flight information systems shall be used to make aeronautical data and aeronautical information available to operations personnel, including flight crew members, for self-briefing, flight planning and flight information service purposes.	Transposed. The last sentence is not considered necessary.

ICAO PANS-AIM (new proposed amendment)	*NPA Text*	*Justification*
5.5.6 Self-briefing facilities of an automated pre-flight information system shall provide access to operations personnel, including flight crew members and other aeronautical personnel concerned,–for consultation as necessary with the aeronautical information service by telephone or other suitable telecommunications means. The human/machine interface of such facilities shall ensure easy access in a guided manner to all relevant information/data.	**(b)** The human–machine interface of such facilities shall ensure easy access in a guided manner to all relevant information/data. **(c)** Self-briefing facilities of an automated pre-flight information system shall provide access for consultation as necessary with the aeronautical information service by telephone or other suitable telecommunications means.	Transposed.
5.5.7 Automated pre-flight information systems for the supply of aeronautical data and aeronautical information for self-briefing, flight planning and flight information service shall:	**(d)** Automated pre-flight information systems for the supply of aeronautical data and aeronautical information for self-briefing, flight planning and flight information service shall:	Transposed.
a) provide for continuous and timely updating of the system database and monitoring of the validity and quality of the aeronautical data stored;	(1) provide for continuous and timely updating of the system database and monitoring of the validity and quality of the aeronautical data stored;	Transposed.
b) permit access to the system by operations personnel, including flight crew members, aeronautical personnel concerned and other aeronautical users through suitable telecommunications means;	(2) permit access to the system by operations personnel including flight crew members, aeronautical personnel concerned and other aeronautical users through suitable telecommunications means;	Transposed.
c) ensure provision, in paper copy form, of the aeronautical data and aeronautical information accessed, as required;	(3) ensure provision, in paper copy form, of the aeronautical data and aeronautical information accessed, as required;	Transposed.

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d) use access and interrogation procedures based on abbreviated plain language and ICAO location indicators, as appropriate, or based on a menu-driven user interface or other appropriate mechanism as agreed between the civil aviation authority and operator concerned; and	(4) use access and interrogation procedures based on abbreviated plain language and ICAO location indicators, as appropriate, or based on a menu-driven user interface or other appropriate mechanism as agreed between the civil aviation authority and operator concerned; and	Transposed.
e) provide for rapid response to a user request for information.	(5) provide for rapid response to a user request for information.	Transposed.
Note.— ICAO abbreviations and codes and location indicators are given respectively in the Procedures for Air Navigation Services — ICAO Abbreviations and Codes (*PANS-ABC, Doc 8400*) *and* Location Indicators (*Doc 7910*).	---	Transposed. *NOTE - Both ICAO Doc referred to in the PANS-AIM are transposed in other provisions but are not reproduced here. For instance please see: GM1 AIS.TR.330(b) NOTAM*
5.5.8 Automated pre-flight information systems providing a harmonized, common point of access by operations personnel, including flight crew members and other aeronautical personnel concerned, to aeronautical information in accordance with Annex 15 and meteorological information in accordance with Annex 3 — Meteorological Service for International Air Navigation, should be established by an agreement between the civil aviation authority or the agency to which the authority to provide service has been delegated in accordance with Annex 15 2.1.1 c) and the relevant meteorological authority.	**GM1 AIS.TR.405(a) Pre-flight information services** AUTOMATION **(a)** Automated pre-flight information systems providing a harmonised, common point of access by operations personnel, including flight crew members and other aeronautical personnel concerned, to aeronautical information and meteorological information should be established by an agreement between the competent authority for civil aviation or service provider and the competent authority for meteorological services or service provider.	Transposed.

ICAO PANS-AIM (new proposed amendment)	*NPA Text*	*Justification*
5.5.9 Where automated pre-flight information systems are used to provide the harmonized, common point of access by operations personnel, including flight crew members and other aeronautical personnel concerned, to aeronautical data, aeronautical information and meteorological information, the civil aviation authority or the agency to which the authority to provide service has been delegated in accordance with Annex 15 2.1.1 c) shall remain responsible for the quality and timeliness of the aeronautical data and aeronautical information provided by means of such a system.	**(b)** Where automated pre-flight information systems are used to provide the harmonised, common point of access by operations personnel, including flight crew members and other aeronautical personnel concerned, to aeronautical data, aeronautical information and meteorological information, the competent authority for civil aviation or the service provider to which the authority to provide service has been delegated, remain responsible for the quality and timeliness of the aeronautical data and aeronautical information provided by means of such a system.	Transposed.
Note.— The meteorological authority concerned remains responsible for the quality of the meteorological information provided by means of such a system in accordance with Annex 3.	**(c)** The meteorological service provider concerned remains responsible for the quality of the meteorological information provided by means of such a system in accordance with Part-MET.	Transposed.
CHAPTER 6 - AERONAUTICAL INFORMATION UPDATES	---	---
6.1 Aeronautical Information Regulation and Control (AIRAC)	---	---
6.1.1 Information provided under the AIRAC system and published in paper copy or made available on physical media shall be distributed by the AIS at least 42 days in advance of the effective date.	**AIS.TR.505 AIRAC** **(a)** Information provided under the AIRAC system and published in paper copy or made available on physical media shall be distributed at least 42 days in advance of the effective date.	Transposed.

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6.1.2 When information has not been submitted by the AIRAC date, a NIL notification shall be distributed by NOTAM or other suitable means, not later than one cycle before the AIRAC effective date concerned.	**(b)** When information has not been submitted by the AIRAC date, a NIL notification shall be distributed by NOTAM or other suitable means, not later than one cycle before the AIRAC effective date concerned.	Transposed.
6.2 Aeronautical Information Product updates	**---**	---
6.2.1 The same update cycle shall be applied to AIP Amendments, the Aeronautical (AIP) data set and the Instrument Flight Procedures data set in order to ensure the coherence of the data items that appear in multiple aeronautical information products.	**AIS.TR.500 General** The same update AIRAC cycle shall be applied to the AIP, the AIP amendments, the AIP data set and the instrument flight procedure data sets in order to ensure the coherence of the data that appear in multiple aeronautical information products.	Transposed.
6.2.2 Specifications for AIP updates	---	---
6.2.2.1 The AIP Amendment regular interval shall be specified in the AIP, Part 1 — General (GEN).	**AIS.TR.310 AIP Amendments** **(g)** The AIP Amendment regular interval shall be specified in the AIP, Part 1 — General (GEN).	Transposed.
Note.— Guidance material on the establishment of intervals between publication dates of AIP Amendments is contained in the Aeronautical Information Services Manual (Doc 8126).	---	Reference to ICAO Doc 8126 is made in the explanatory note to the AMC/GM document and applies to the relevant paragraphs, so that there is no need to repeat it for all the related provisions.
6.2.2.2 When an AIP Amendment will not be published at the established regular interval or publication date, a NIL notification shall be originated and distributed by the	---	This paragraph is already covered by AIS.TR.505(b) above.

ICAO PANS-AIM (new proposed amendment)	*NPA Text*	*Justification*
NOTAM checklist.		
6.2.2.3 Recourse to hand amendments or annotations shall be kept to the minimum.	**AIS.TR.310 AIP Amendments** **(h)** Recourse to hand amendments or hand annotations shall be kept to the minimum; the normal method of amendment shall be by re-issuing or by replacement of pages.	Transposed. The second sentence is added from the current ICAO Annex 15 in 4.2.9.
6.2.2.4 When the AIP is provided in more than one volume, each volume should include separate amendment services.	---	This paragraph is not transposed as reference is made to ICAO Doc 8126 which already covers this explanatory material.
6.2.3 Specifications for AIP Supplements		---
6.2.3.1 When an error occurs in an AIP Supplement or when the period of validity of an AIP Supplement is changed, a new AIP Supplement shall be published as a replacement.	**AIS.TR.315 AIP Supplements** **(g)** When there is not sufficient time for the distribution of an AIP Supplement, a NOTAM shall be issued.	Transposed.
Note 1.— The requirements for NOTAM apply when time constraints do not allow sufficient time for the distribution of an AIP Supplement.	---	Not transposed.
Note 2.— Guidance material on the use of AIP Supplements together with examples of such use is contained in the Aeronautical Information Services Manual (Doc 8126).	---	Reference to ICAO Doc 8126 is made in the explanatory note to the AMC/GM document and applies to the relevant paragraphs, so that there is no need to repeat it for all the related provisions.

ICAO PANS-AIM (new proposed amendment)	*NPA Text*	*Justification*
6.2.4 Specifications for NOTAM	---	---
6.2.4.1 NOTAM should 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.	**AIS.TR.510 NOTAM updates** **(a)** NOTAM shall 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.	Transposed.
6.2.4.2 NOTAM notifying unserviceability of aids to air navigation, facilities or communication services shall give an estimate of the period of unserviceability or the time at which restoration of service is expected.	**(b)** NOTAM notifying unserviceability of aids to air navigation, facilities or communication services shall give an estimate of the period of unserviceability or the time at which restoration of service is expected.	Transposed.
6.2.4.3 At least seven days' advance notice should be given of the activation of established danger, restricted or prohibited areas and of activities requiring temporary airspace restrictions other than for emergency operations.	**AMC1 AIS.TR.510(a) NOTAM Updates** ADVANCE NOTICE **(a)** At least seven days' advance notice should be given of the activation of established danger, restricted or prohibited areas and of activities requiring temporary airspace restrictions other than for emergency operations.	Transposed.
6.2.4.4 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.	**(b)** 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.	Transposed.
Note.— Whenever possible, at least 24 hours' advance	**GM1 AIS.TR.510(b) NOTAM Updates**	Transposed.

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notice is desirable, to permit timely completion of the notification process and to facilitate airspace utilization planning.	ADVANCE NOTICE Whenever possible, at least 24 hours' advance notice is desirable, to permit timely completion of the notification process and to facilitate airspace utilisation planning.	
6.2.4.5 Within three months from the issuing of a Permanent NOTAM, the information contained in the NOTAM shall be included in the Aeronautical Information Products affected.	**AIS.TR.510 NOTAM updates** **(c)** Within three months from the issuing of a permanent NOTAM, the information contained in the NOTAM shall be included in the aeronautical information products affected.	Transposed.
6.2.4.6 Within three months from the issuing of a temporary NOTAM of long duration, the information contained in the NOTAM shall be included in an AIP Supplement.	**AIS.TR.510 NOTAM updates** **(d)** Within three months from the issuing of a temporary NOTAM of long duration, the information contained in the NOTAM shall be included in an AIP supplement.	Transposed.
6.2.4.7 When a NOTAM with estimated end of validity unexpectedly exceeds the three-month period, a replacement NOTAM shall be issued, unless the condition is expected to last for a further period of more than three months; in this case an AIP Supplement shall be issued.	**AIS.TR.510 NOTAM updates** **(e)** When a NOTAM with estimated end of validity unexpectedly exceeds the three-month period, a replacement NOTAM shall be issued unless the condition is expected to last for a further period of more than three months; in this case, an AIP supplement shall be issued.	Transposed.
6.2.4.8 A "Trigger" NOTAM shall give a brief description of the content, the effective date and time, and the reference number of the amendment, datasets or	**AIS.TR.510 NOTAM updates** **(f)** A 'Trigger' NOTAM shall give a brief description of the content, the effective date and time, and the	Transposed.

ICAO PANS-AIM (new proposed amendment)	NPA Text	Justification
supplement.	reference number of the amendment, datasets or supplement.	
6.2.4.9 A "Trigger" NOTAM shall come into force on the same effective date and time as the AIP amendment or supplement.	**AIS.TR.510 NOTAM updates** **(g)** A 'Trigger' NOTAM shall come into force on the same effective date and time as the AIP amendment or supplement.	Transposed.
6.2.4.10 In the case of an AIP Amendment, a "Trigger" NOTAM shall remain valid for a period of fourteen days.	**AIS.TR.510 NOTAM updates** **(h)** In the case of an AIP Amendment, a "Trigger" NOTAM shall remain valid for a period of fourteen days.	Transposed.
6.2.4.11 In the case of an AIP Supplement that is valid for less than fourteen days, the "Trigger" NOTAM shall remain valid for the complete validity period of the AIP Supplement.	**AIS.TR.510 NOTAM updates** **(i)** In the case of an AIP supplement that is valid for less than fourteen days, the 'Trigger' NOTAM shall remain valid for the complete validity period of the AIP supplement.	Transposed.
6.2.4.12 In the case of an AIP Supplement that is valid for fourteen days or more, the "Trigger" NOTAM shall remain valid for at least fourteen days.	**AIS.TR.510 NOTAM updates** **(j)** In the case of an AIP supplement that is valid for fourteen days or more, the 'Trigger' NOTAM shall remain valid for at least fourteen days.	Transposed.
Note.— Guidance material for the origination of NOTAM announcing the existence of AIRAC AIP Amendments or AIP Supplements ("Trigger NOTAM") is contained in the Aeronautical Information Services Manual (Doc 8126).	---	Reference to ICAO Doc 8126 is made in the explanatory note to the AMC/GM document and applies to the relevant paragraphs, so that there is no need to repeat it for all the related provisions.

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6.2.5 Specifications for digital data updates	---	---
6.2.5.1 The update interval for the Aeronautical (AIP) data set and Instrument Flight Procedures data sets shall be specified in data product specification.	**AIS.TR.515 Digital data updates** **(a)** The update interval for the AIP data set and the instrument flight procedure data sets shall be specified in data product specification.	Transposed.
6.2.5.2 Data sets that have been made available in advance (according to the AIRAC cycle) shall be updated with the non-AIRAC changes that occurred in between the publication and the effective date.	**(b)** Data sets that have been made available in advance, according to the AIRAC cycle, shall be updated with the non-AIRAC changes that occurred in between the publication and the effective date.	Transposed.
APPENDIX 1. AERONAUTICAL DATA CATALOGUE	**Appendix 1 to Annex III (ATM/ANS.OR)**	Transposed.
APPENDIX 2. INFORMATION ABOUT NATIONAL AND LOCAL REGULATION, SERVICE AND PROCEDURES	**Appendix 1 to Annex III (ATM/ANS.OR)**	Transposed.
APPENDIX 3. CONTENTS OF THE AERONAUTICAL INFORMATION PUBLICATION (AIP)	**Appendix 1 to Annex VI (Part-AIS)**	Transposed.
APPENDIX 4. NOTAM FORMAT	**Appendix 2 to Annex VI (Part-AIS)**	Transposed.
APPENDIX 5. SNOWTAM FORMAT	**Appendix 3 to Annex VI (Part-AIS)**	Transposed.
APPENDIX 6. ASHTAM FORMAT	**Appendix 4 to Annex VI (Part-AIS)**	Transposed.
APPENDIX 7. TERRAIN AND OBSTACLE ATTRIBUTES PROVISION REQUIREMENTS	**AMC1 AIS.TR.355(d) Terrain data set** **AMC1 AIS.TR.360(b) Obstacle data set**	Transposed.

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	— END —	