

**SUMMARY OF RESPONSES (SOR)
DOCUMENT FOR THE**

***Draft EUROCONTROL Specification for the
Origination of Aeronautical Data***

Formal Consultation 2 February – 27 April 2012

DOCUMENT CONTROL

DOCUMENT CHANGE RECORD

The following table records the complete history of the successive editions of the present document.

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0.1	01-06-12	Creation of Draft SOR	All
0.2		Incorporation of additional clarifications received from Stakeholders.	All
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1. INTRODUCTION

1.1 GENERAL

The European Organisation for the Safety of Air Navigation (EUROCONTROL) Specification for the Origination of Aeronautical Data (hereinafter referred to as the DO Spec) has been developed to complement 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. It specifies how all functions that originate data¹ aeronautical data/information may meet the data quality requirements of Commission Regulation (EU) 73/2010. As such, it forms a possible Means of Compliance (MoC)² to Articles 6(4) and 6(6) of Commission Regulation (EU) 73/2010 that may be adopted by a State.

In addition, the Specification, once released, is intended to be used as a manual for originators of all aeronautical data, replacing the original EUROCONTROL Standard Document 007-97 "Surveying of Navigation Facilities", whilst addressing a wider scope than previously addressed. The Specification would then also be proposed to the International Civil Aviation Organisation (ICAO) as it may serve as input for an updated ICAO Doc 9674, The World Geodetic System 1984 (WGS-84) Manual.

Commission Regulation (EU) 73/2010 has been introduced by the European Union (EU) as part of the Single European Sky (SES) initiative. Its intention is to improve the quality of aeronautical data/information made available by States, such that both current and future navigation are supported.

This need has primarily been driven by a long-standing acknowledgement that it was unlikely that the data quality requirements laid down by the International Civil Aviation Organisation (ICAO) were being met. In particular, those related to integrity.

Commission Regulation (EU) 73/2010 introduces high-level performance requirements, in the form of provisions, which place controls on the processes applied to aeronautical data/information, including the origination, handling and publication phases. Through this approach, the integrity of aeronautical data/information is assured by demonstrating that the processes applied give the required degree of assurance that the data will not be adversely affected.

Nonetheless, maintaining data with the required degree of integrity is only part of the solution. If data is not originated correctly, the resultant erroneous data will be processed so as to ensure the necessary level of integrity. In essence, the system becomes one of "rubbish in, rubbish out", with a high-degree of assurance that the rubbish will not be altered.

To address this, Commission Regulation (EU) 73/2010 includes provisions which are specifically intended to be met by those involved in both requesting the origination of data and in the origination of the requested aeronautical data.

¹ Data Origination is defined to be the act of creating 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 [Commission Regulation (EU) 73/2010 Article 3 item 20].

² Where the DO Spec is referred to as a MoC throughout this document, it is fully acknowledged that it provides a possible MoC and that implementation of the DO Spec by parties is optional.

1.2 SCOPE OF CONSULTATION

As required by the EUROCONTROL Regulatory and Advisory Framework (ERAF), the draft DO Spec was circulated for formal consultation between 2 February and 27 April 2012. The EUROCONTROL Notice of Proposed Rule-Making (ENPRM) process is being used to support the development of this Specification, this consultation being one stage of this process. The formal consultation allows all States, Stakeholders and interested parties to express their formal views on the draft EUROCONTROL Specification.

The consultation documentation comprised the draft DO Spec and a Consultation Response Sheet. In the Response Sheet, the addressees were asked to express their formal view on the draft DO Spec. Copies were sent directly to the following:

- Civil and Military regulatory authorities and key Air Traffic Service (ATS) providers of each EUROCONTROL Member State;
- Regulatory authorities of States' observers at the Provisional Council;
- European Commission (EC), European Civil Aviation Conference (ECAC), Federal Aviation Administration (FAA), International Civil Aviation Organisation (ICAO), North Atlantic Treaty Organisation (NATO);
- International Organisations having observer status at the Provisional Council;
- Key trade and professional associations having observer status at the Provisional Council;
- Chairmen of the following bodies:
 - Air Navigation Services Board (ANSB);
 - Civil & Military Interface Standing Committee (CMIC);
 - Enlarged Committee and Observers;
 - Performance Review Commission (PRC);
 - Safety Regulation Commission (SRC).

The documentation was also made available through existing working arrangements and to members of the public via the ENPRM website.

1.3 PURPOSE AND STRUCTURE OF DOCUMENT

The purpose of this Summary of Responses (SOR) document is to provide a consolidation of the main comments received as part of the formal consultation activity, as well as to provide EUROCONTROL's proposed responses to, and disposal of, those comments.

This final version of the SOR has been published following the review of the draft SOR, released after a Stakeholder Consultation Workshop on 27 September 2012 to discuss the outcome of the consultation. This final version of the SOR will be published on the EUROCONTROL ENPRM website. On the basis of this final version of the SOR, the draft DO Spec will be amended and released.

The responses section (Section 2) of the document is structured as follows:

- General Response – providing a general analysis of the comments received;
- Consolidated Comments and Responses – summarising the comments made and providing the associated responses and actions to be taken. Reference should be made to this section as the rationale for the disposition given to the comments in Annex B is provided here.

Two annexes are provided within the document, as follows:

- Annex A contains a list of those Stakeholders that provided comments on the draft DO Spec;
- Annex B provides a table containing all of the comments provided by Stakeholders, the proposed 'disposal' by EUROCONTROL and cross-references to the sections where the detailed responses to the comments are found within the main body of the document.

2. OUTCOME OF THE FORMAL CONSULTATION

2.1 INTRODUCTION

2.1.1 *Review of Comments*

The review of comments was carried out by a Review Group, which was established as an Agency working group to address the comments received. The Review Group comprised Agency staff and external experts in the Aeronautical Information Management (AIM), survey, procedure design, navigation and regulatory domains.

2.1.2 *Overall Response*

As a result of this consultation, a total of 35 separate written submissions were received from Stakeholders, totalling 471 individual comments. Two of these submissions were submitted after the consultation period had formally closed. EUROCONTROL has, nevertheless, taken these into account within this SOR. Moreover, five identical submissions from Air Navigation Service Providers (ANSPs), each comprising two individual comments, were submitted as the joint Functional Airspace Block Europe Central (FABEC) position "*On behalf of the FABEC ANSPs*". Many of the FABEC ANSPs also submitted additional responses on behalf of their individual organisations. Therefore, for the purposes of this consultation, the five joint FABEC submissions have been accepted as one joint FABEC submission comprising two individual comments. In addition, one Ministry of Transport, Building and Urban Development referred to the submission of the ANSP of the same State in its response. In this case, for the purposes of this consultation, the 65 comments from the ANSP have been accounted for once under a joint submission. Consequently, 30 submissions totalling 398 individual comments are included within the statistics set out below.

No responses to the consultation were received from Aircraft Operators, Airspace User or other organisations.

The general response was evenly distributed with half considering the draft DO Spec to be acceptable and half considering it to be unacceptable. Of those that thought it was acceptable, 10 Stakeholders thought that it could also be improved with amendments. 14 Stakeholders stated that the draft Specification would need to be amended before it would be acceptable, and one industry Stakeholder felt that it would not be acceptable under any circumstances.

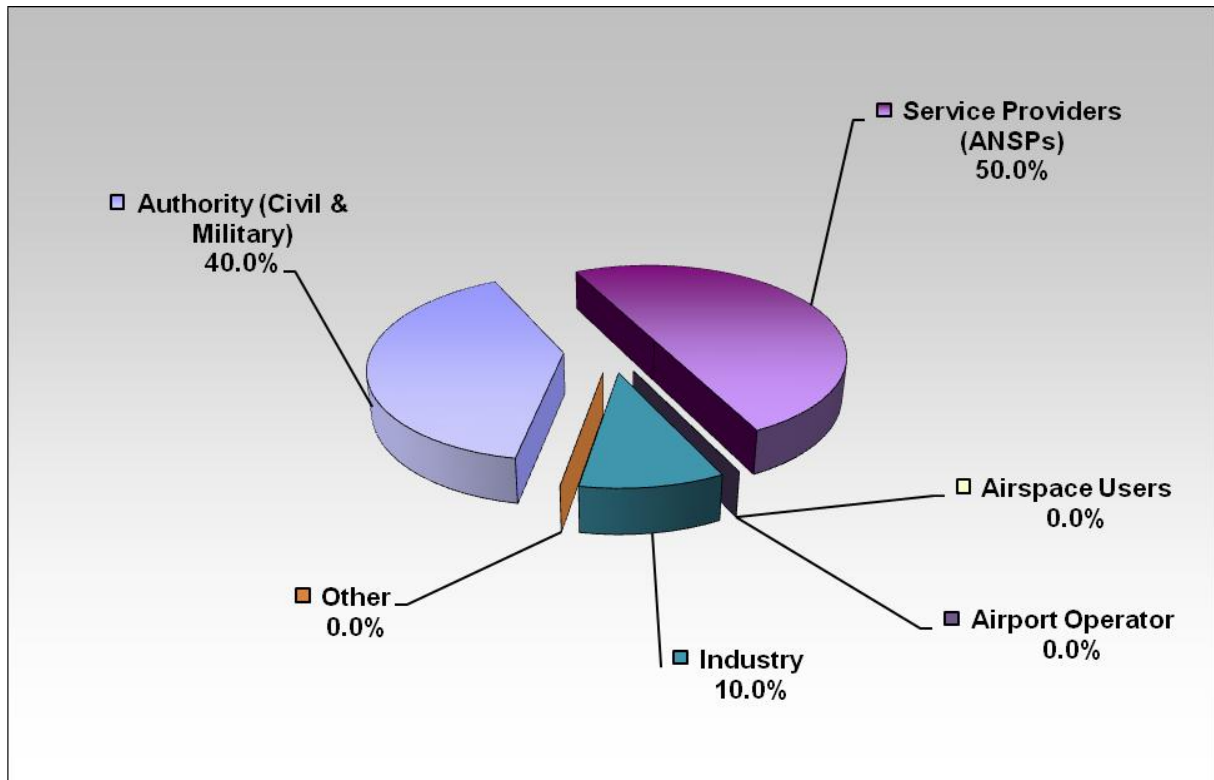
The number of responses from each category of Stakeholder is shown in the table below.

ENPRM/12-001
Draft DO Spec (DO)
Comments Received By Stakeholder Category

	A	B	C	D	Total by Stakeholder	%
Authority (Civil & Military)	3	4	5	0	12	40.0%
Service Providers (ANSPs)	2	5	8	0	15	50.0%
Airspace Users	0	0	0	0	0	0.0%
Airport Operator	0	0	0	0	0	0.0%
Industry	0	1	1	1	3	10.0%
Other	0	0	0	0	0	0.0%
Total Received Comments by Category	5	10	14	1	30	100%
Percentage (%)	16.7%	33.3%	46.7%	3.3%	100%	

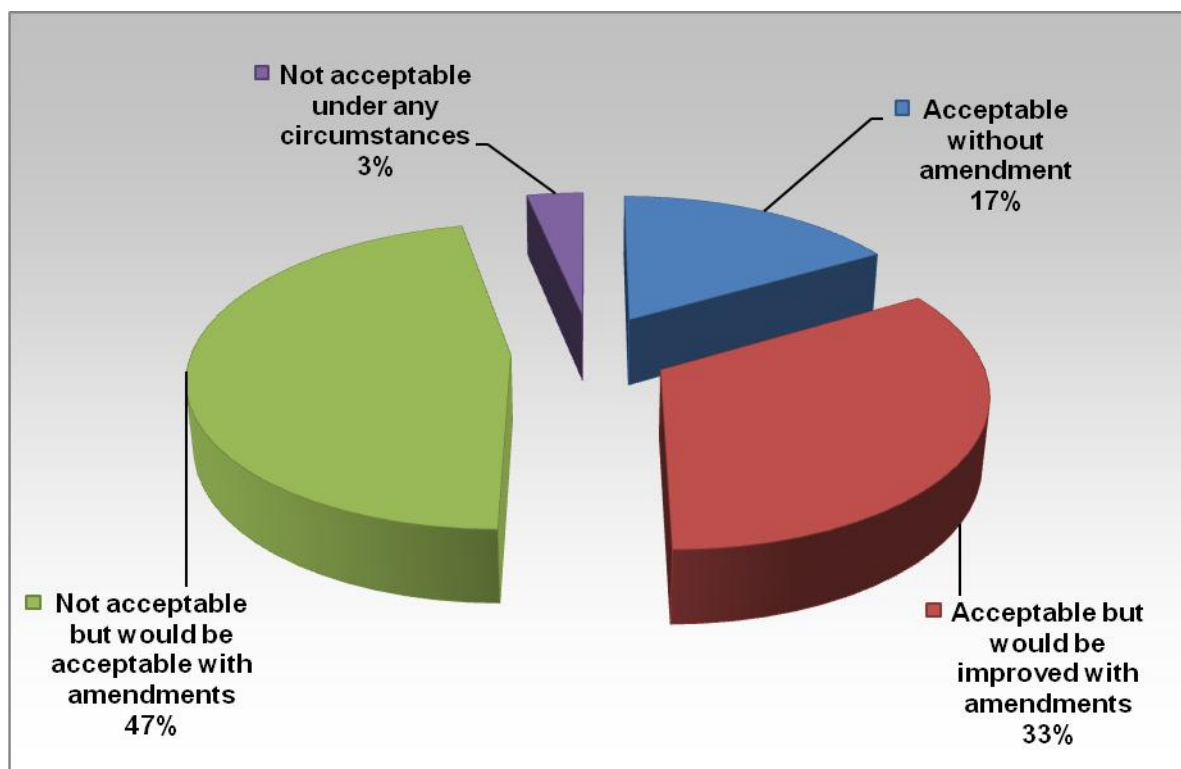
A = Acceptable without amendment
B = Acceptable but would be improved with amendments
C = Not acceptable but would be acceptable with amendments
D = Not acceptable under any circumstances

The distribution of the Stakeholders that submitted comments during the consultation period is shown in the chart below.



It is anticipated that through the consultation undertaken by the Stakeholders, other relevant origination functions, for example, procedure design, airspace design, etc. have been included, ensuring that the input of data originators is obtained.

The breakdown of the overall general responses about the draft Specification is shown in the chart below.



2.2 SPECIFIC RESPONSES

2.2.1 Introduction

This section summarises the issues arising from the consultation on the contents of the draft DO Spec. Other comments, including those of a supportive nature, those correcting minor spelling or grammatical errors, those which result in rewording to improve the clarity of the text, those outside of the scope of the draft DO Spec, those considered to be minor issues and/or those not requiring a response have not been included for the sake of brevity. However, all comments submitted are included verbatim in the table at Annex B.

The section is broken down into two main sub-sections: 'Key Issues' and 'Other Issues'.

The comments included under the first sub-section are those that were seen to represent the 'main' issues arising from the consultation.

The second section summarises other comments received, which, whilst still recognising their importance, were seen as less critical to further development of the draft DO Spec.

EUROCONTROL responses to both sets of comments are provided.

2.2.2 Key Issues

2.2.2.1 EUROCONTROL's Role in the Development of Means of Compliance

Comments

It was stated that EUROCONTROL was not the right body to write MoC for a topic where the complete data chain is covered and that a MoC on this topic could only be introduced by a European Standards Organisation (ESO). Only that mechanism guaranteed the involvement of all considered parties. It was further argued that EUROCONTROL should avoid raising the

impression that the draft DO Spec could be a MoC to Commission Regulation (EU) 73/2010 without a proper consultation of the document through an ESO with all the parties involved.

With regards to the units responsible for the development of the draft DO Spec, it was requested that these were reviewed in light of the role of the European Aviation Safety Agency (EASA).

Response

The Aeronautical Data Quality Implementing Rule (ADQ IR) mandate required that the EUROCONTROL Final Report identify those specifications necessary to provide MoC with the ADQ IR. A list of possible MoC was subsequently presented to the Industry Consultation Body (ICB)/Interoperability(IOP) Sub-Group and the opinion of the ICB#21 expressed to the Single Sky Committee (SSC) was that Community Specifications (CS) should be developed in due course. See 2.2.2.2 for further details. Due to a number of issues within the SSC working arrangements, adoption of Commission Regulation (EU) 73/2010 was delayed and the decision to launch CS mandates was never made. It was, however, clear that the EC was prepared to rely upon the specifications developed by EUROCONTROL.

The draft DO Spec is a EUROCONTROL Specification and will be owned and maintained by EUROCONTROL on behalf of its Member States. It has been created and offered as a possible way of meeting relevant provisions of Commission Regulation (EU) 73/2010. It is not for EUROCONTROL to decide whether or not a specification should be developed by the ESOs; this is a matter for the ESOs or the EC who may issue an appropriate CS mandate. EUROCONTROL's development of the DO Spec recognises the urgent need of the regulated parties to have access to Means of Compliance and further recognises that appropriate material and developments, providing a basis for the DO Spec, already existed in EUROCONTROL. In addition, EUROCONTROL recognised that it had the expertise and working arrangements necessary to develop the DO Spec.

Action

None.

2.2.2.2 Scope and Function of the Specification

Comments

Although it was understood that the draft DO Spec had a dual purpose as a possible means of compliance to the Commission Regulation (EU) 73/2010 and as Guidance Material for data capture at the source, it was felt that both these elements should be clearly distinguished inside the document or, preferably, split into two separate documents, typically one with possible MoC and the other with guidance material. It was raised by a number of Stakeholders that having the possible MoC and other material in the same document, even if split into two parts, may lead to regulators questioning why non-MoC requirements (mandatory as well as optional) had not been implemented and that therefore the distinction between “hard” and “soft” law would become blurred. Having two types of mandatory requirements (possible MoC and non-MoC) in a single document was considered confusing and the distinction between the two types was unclear. If the document was split into two parts then it was believed that Part 1 should contain only mandatory requirements and Part 2, the optional requirements and guidance material. It was felt that the title of the document was misleading given its dual purpose. Some Stakeholders felt that explanatory material had no place in a MoC.

Some Stakeholders thought that the draft DO Spec was ambiguous in providing optional requirements. Whilst some Stakeholders believed there were too many mandatory

requirements in the draft DO Spec, one Stakeholder believed that the draft DO Spec should contain more mandatory requirements, to ensure that practices are harmonised and the same standards of data origination are achieved across States. One Stakeholder expressed concern that the draft DO Spec lacked maturity and it was therefore considered unacceptable as a result.

Many Stakeholders expressed concern that the draft DO Spec went well beyond the scope of Commission Regulation (EU) 73/2010 and it was argued that this additional material should be removed or it would result in additional workload without being justified by the regulation. It was felt that the definition of “End to End” as from originator to Aeronautical Information Services (AIS) production, in Chapter 1.7, reinforces the assumption that the scope does not extend to downstream analysis and research functions.

Some Stakeholders felt that the draft DO Spec was vast, complex, too stringent and over-prescriptive, particularly in regard to Commission Regulation (EU) 73/2010. It was argued that the normative section should be amalgamated with Annex B conformity material. Where objectives exist that are covered by either the EUROCONTROL Specification for Data Quality Requirements or the EUROCONTROL Specification for Data Assurance Levels objectives, these should be clearly marked, increasing readability and reducing the length. It was considered that Annexes F to I do not need to be included and references to the relevant standards could be made instead.

Some Stakeholders questioned why the draft DO Spec claimed to provide a possible MoC with Article 6(5) of Commission Regulation (EU) 73/2010.

Many Stakeholders questioned whether the draft DO Spec could provide a MoC for Commission Regulation (EU) 73/2010. It was stated that such a Specification could only provide technical support to a manufacturer’s Declaration of Suitability for Use and could not, therefore, be a MoC in its own right.

It was questioned whether the draft DO Spec falls under the scope of and is a Community Specification in regard to Regulation 552/2004 Article 4 b) and thus a response to a Commission mandate or not. If not, it may be disputed whether the draft DO Spec could be referred to as MoC to Regulation 552/2004 to be used to gain presumption of conformity with the regulation.

Some Stakeholders did not agree with the claim that a demonstration of conformity with the draft DO Spec will bring about a presumption of conformity to the regulatory provisions for which the Specification has been formally recognised as a MoC.

Response

A EUROCONTROL specification can provide part or all of a MoC but it may also include recommendations and guidance, as long as those requirements which are identified as offering a possible MoC are clearly identified through the conformity material. Many EUROCONTROL Specifications serve a dual purpose and therefore contain material that goes beyond that of a MoC. Those requirements that are specific MoC to the relevant articles of a regulation would be explicitly identified as such in order to alert the reader. It is believed that the use of the word ‘normative’ in the DO Spec is misleading as it implies that conformance with these requirements is then mandatory, whereas they provide a possible MoC which may be adopted.

In the case of this draft DO Spec, and as identified in its introduction, it was written to be:

- a possible MoC to Articles 6(4) and 6(6) of Commission Regulation (EU) 73/2010 that may be adopted by a State; and
- to be used as a manual for originators of all aeronautical data, replacing and extending the original scope of EUROCONTROL Document 007-97 "Surveying of Navigation Facilities". In providing this guidance material, it was assumed that surveyors using this Specification already have in-depth knowledge of survey but that they need guidance on surveying aeronautical facilities.

It should also be noted that this Specification will be offered to ICAO as a possible basis for the update of the ICAO Doc 9674, The WGS-84 Manual. This course of action is considered appropriate as ICAO Doc 9674 was developed from a previous release of the EUROCONTROL Document 007-97. Taking into consideration the aim of replacing EUROCONTROL Document 007-97, the majority of the material included in the Annexes of the draft DO Spec is considered essential to provide the necessary level of guidance and support to the users of the document, and will be the primary source of this material for users. Reference to the existing EUROCONTROL Document 007-97 is not considered appropriate given the intention to replace it. In the context of SES, the adoption of the DO Spec is voluntary, including its mandatory requirements, however, it was considered to be of concern that this principle was not clear in the draft DO Spec.

Those requirements that are specific MoC to the relevant Articles of Commission Regulation (EU) 73/2010 are referred to in Annex C, "Traceability to Regulatory Provisions", however, it is acknowledged that these references could be more explicit. It is also accepted that clarification is needed in Section 1.7 in line with the comments provided.

EUROCONTROL recognises that the DO Spec is considered to be very comprehensive but it is difficult for EUROCONTROL to identify the areas that are perceived as "over specified". Enabling the underlying concept of the SES interoperability Regulation, namely to move progressively towards digital data supply, some subjects must be more extensively elaborated than others in order to clearly define how the MoC would achieve the intentions of certain Articles of Commission Regulation (EU) 73/2010.

In order to maintain the usability and readability of the draft DO Spec, it is important to retain a stable structure and, therefore, not to move the non-mandatory requirements either to an Annex to the Specification or to a separate document. If this separation was implemented, it is believed that overlapping material would result. One possibility in the future could be that a survey manual is derived as an extract from the Specification but this would create two separate but linked documents which would need to be maintained, bringing an additional maintenance burden for both States and EUROCONTROL. A similar issue would arise should Annex B and the normative material be amalgamated. The structure of the document will be reviewed in the light of Stakeholder comments with a view to enhancing the distinction between possible MoC and non-MoC requirements. It is important for harmonisation purposes and optimum data acquisition, that not all non-MoC requirements are optional, however, these will be minimised as far as possible.

The repetition of requirements from other EUROCONTROL Specifications is intended to ensure that a coherent set of material is produced whilst keeping to a minimum the number of documents that the user must refer to. Through such an approach, the requirements are placed in context, where necessary. However, it is agreed that there is a need to review the repeated requirements from other EUROCONTROL Specifications, to ensure that a consistent approach is applied. See 2.2.2.3 for further details.

The current DO Spec Annexes are considered essential to provide the necessary level of guidance and support to the users of the document.

With regards to the level of immaturity, EUROCONTROL is not in a position to apply any improvements to the Specification in response to such a general comment and it would appreciate the submission of concrete proposals to explicitly identify what is perceived as immature and how it should be addressed.

It is acknowledged that it was a mistake to state that the draft DO Spec provides a possible MoC for Article 6(5) Commission Regulation (EU) 73/2010.

The ADQ IR mandate required that the EUROCONTROL Final Report identify those specifications necessary to provide MoC with the ADQ IR. This list of MoC was subsequently presented to the ICB/IOP and the opinion of the ICB#21 expressed to the SSC was that Community Specifications should be developed in due course. In taking the initiative to start early drafting of Specifications, EUROCONTROL took particular account of specific requests from Stakeholders to ensure the timely provision of specifications, knowing that lead-times of around two years before implementation dates would have to be considered. The Civil Air Navigation Services Organisation (CANSO) position to the ICB also supported early developments by requiring that recognised MoC be available by the time the associated Implementing Rule was approved by the SSC. In practice, however, MoC cannot normally be completed until the final draft of the regulation is accepted. States must take the necessary steps to achieve compliance with Commission Regulation (EU) 73/2010, and EUROCONTROL's actions were designed to ensure that Stakeholders could access specifications that would provide MoC to Commission Regulation (EU) 73/2010 and, therefore, assist with timely implementation. It is for this reason that specific references to show how the requirements provide MoC to the Commission Regulation (EU) 73/2010 were included in the draft Specification.

The draft DO Spec is being developed in accordance with the adapted ENPRM process, which has been designed to satisfy the requirements of rule-making within the EU context. It has been used extensively and successfully in developing SES Implementing Rules and EUROCONTROL Specifications.

As a possible MoC, it is fully accepted that parties may choose whether or not to implement this draft DO Spec. However, it is possible that the regulatory functions within a State could determine that the DO Spec is the MoC for the State, therefore resulting in the application of the DO Spec becoming mandatory.

It is agreed that the claim "that a demonstration of conformity with the draft DO Spec would bring about a presumption of conformity to the regulatory provisions for which the Specification has been formally recognised as a Means of Compliance" is misleading.

Action

In order to more clearly document the dual purpose of the Specification, Chapter 1 of the draft DO Spec will be refined. It will be made explicitly clear that the draft DO Spec contains both mandatory requirements and guidance material. The word 'normative' will be removed from the DO Spec as this is considered misleading. The requirements not forming MoC with Articles 6(4) and 6(6) of Commission Regulation (EU) 73/2010 shall be clearly distinguished from those that do. Annex C will be fully reviewed and updated to ensure that the requirements providing a possible MoC are clearly identified and are as limited in number as possible whilst still providing sufficient conformity.

The structure and presentation of the document will be reviewed with a view to identifying the best way of clearly presenting a possible MoC and complementary guidance (non-MoC), both of which need to be included but in a manner that allows them to be clearly distinguished. The use of two parts will be considered with all technical requirements

contained in Part 2, with Part 1 being the possible MoC and purely referencing to the applicable requirements in Part 2 that need to be implemented. The revised document will be distributed for further Stakeholder review but will not be subject to further formal consultation under the ENPRM process.

All sections of the draft DO Spec will be reviewed and any sections confirmed as not being appropriate for the document will be deleted.

Clarification of “End to End” will be provided in Chapter 1.7.

The repeated requirements from other EUROCONTROL Specifications will be reviewed to determine if their inclusion in the draft DO Spec is warranted.

Reference to Article 6(5) in the draft DO Spec will be removed as it only provides a possible MoC to Articles 6(4) and 6(6) of Commission Regulation (EU) 73/2010.

The claim concerning DO Spec “presumption of conformity to the regulatory provisions” will be deleted.

2.2.2.3 References to and Relationship with Other Documentation

Comments

Some Stakeholders expressed concern and questioned the need for the repetition of the contents of standards / documents referred to in Commission Regulation (EU) 73/2010. In addition, this included the repetition of requirements in other MoC. They stated that the draft DO Spec should not refer to standards which are outside the scope of Commission Regulation (EU) 73/2010. Some Stakeholders also questioned the need for repetition of some of the content of Commission Regulation (EU) 73/2010 in Chapter 1 as this may result in Stakeholders not referring to the subject regulation itself

Some Stakeholders stated that the references to other documentation had to be made more specific in order to include all the necessary requirements for data origination in one clear and “easy to follow” document. Concern was expressed that some requirements referred directly to the superordinate Commission Regulation (EU) 73/2010 and that the identification of the concrete action needed only resided in the notes.

It was felt that if the draft DO Spec needed to refer out to other documentation then it was not suitable as a MoC for data origination.

It was raised that the EUROCONTROL Specifications developed to support Commission Regulation (EU) 73/2010 should provide a homogeneous collection of guidance material. In order to provide this, the draft DO Spec needed to be aligned with the EUROCONTROL Specification for Data Assurance Levels and the EUROCONTROL Specification for Data Quality Requirements. It was raised that based on recent discussions in the frame of the ADQ Regulators Working Group (ARWG), a new version of the EUROCONTROL Specification for Data Quality Requirements should be released shortly, with some modifications to the Harmonised list, in particular regarding the “State Responsibility” items. Therefore, the draft DO Spec needed to be reviewed to ensure consistency with the latest amendments to the EUROCONTROL Specification for Data Quality Requirements.

Some Stakeholders highlighted that there was some duplication in the Data Product Specification chapter of the draft DO Spec with the EUROCONTROL Specification for Data Assurance Levels’ objectives.

It was requested that references to the EUROCONTROL Document 007-97 “Surveying of Navigation Facilities” and ICAO Doc 9674 to be removed.

It was requested to add references to other standards from some requirements in the draft DO Spec.

Some Stakeholders argued that the requirements related to the application of the EUROCONTROL Terrain and Obstacle Data Manual should be optional.

Some Stakeholders believed that making the International Organization for Standardization (ISO) 19100 standards mandatory was too burdensome for small organisations, in particular, to be compliant with ISO 19111. It was stated that these organisations would not have the resources available to gain compliance with ISO 19111. It was requested that an alternative to ISO 19111 is proposed in the draft DO Spec. A phased approach was suggested: first, implementation of an ISO 9000 quality management system and then, in a second phase transfer to a more sophisticated quality management system. Similar comments were raised with the regards to the burden associated with compliance to ISO 19115 and ISO 19114. It was also stated that the requirements relating to quality reporting provided a level of detail that was not included within the ISO 9001 standard. Further, it should also not be assumed that all parties have an ISO 9001 Quality Management System (QMS). Concern was raised about the effort needed for Stakeholders to monitor changes to the ISO 19100 standards.

Response

The following policy was applied to the referencing of external documentation in this Specification:

- *Where a small amount of text is referenced, this was to be included in the Specification. This would ensure that a coherent set of material is produced whilst keeping to a minimum the number of documents that the user must refer to. Through such application, it helps to ensure that the requirements are placed in context, where necessary.*
- *Where substantial amounts of text are referred to, only a reference is given to the relevant section of the referenced source.*

It is not proposed to change this methodology as it is considered that the readability and usability of the Specification would be reduced as a result. However, it is noted that finding the right balance is indeed a challenge. Creating Specifications needs to avoid reinventing the wheel, however, relevant material needs to be compiled into a common structure so as to provide a good and consistent source of MoC for Stakeholders and provide sufficient information for those not familiar with Commission Regulation (EU) 73/2010. This implies the integration of requirements from other sources whilst avoiding multiple external references. In addition, with regards to the content of Chapter 1 of the Specification, it is good practice to provide a certain level of introductory text for the users of this Specification as not all users are fully familiar with the content of Commission Regulation (EU) 73/2010.

It is agreed that there is a need to review, in particular, the repeated requirements from the EUROCONTROL Specification for Data Assurance Levels. It is also agreed that the Data Set Specification and Tools and Software Chapters are not appropriate for the draft DO Spec.

The EUROCONTROL Specification for Data Assurance Levels addresses the use of a Data Product Specification as one means of forming a formal arrangement and does not cover in detail its application. No duplication is, therefore, seen between the DO Spec and the EUROCONTROL Specification for Data Assurance Levels in this regard.

All references to other documents will be reviewed to ensure their conformance with the policy outlined above. It is agreed that not all references are as specific as they should be and, therefore, the references provided will be amended to be as specific as possible. With regards to comments raised regarding the referencing of standards outside the scope of Commission Regulation (EU) 73/2010, it is considered that the dual purpose of the draft DO Spec requires this. See section 2.2.2.1 for more information.

It is agreed that the draft DO Spec should be aligned with the other EUROCONTROL Specifications. When this Specification was written and finalised, the EUROCONTROL Specification for Data Assurance Levels was still under final development. Therefore, it was aligned with the EUROCONTROL Specification for Data Assurance Levels available at that time. It is recognised that the EUROCONTROL Specification for Data Assurance Levels has now been published and, as a result of the changes made to it during its final development, all references to the EUROCONTROL Specification for Data Assurance Levels need to be reviewed and, where necessary, updated.

References to the EUROCONTROL Specification for Data Quality Requirements also need to be reviewed in the light of the changes made. It should be noted that the draft DO Spec requirements cannot link explicitly to other Specifications as MoC. This is the reason that references to them are contained in notes only. Notes are used in the draft DO Spec to provide information on the application of other EUROCONTROL Specifications which may provide a MoC to Commission Regulation (EU) 73/2010. Such references are used to assist the reader in establishing the link to other specifications, however, the referenced requirements do not, in themselves, fall within the scope of the draft DO Spec.

Reference to ICAO Doc 9674 will be removed from the draft DO Spec before its release. However, at this stage of development, it was considered important to reference it as it explains part of the approach and also indicates how this document would further be exploited, notably in relation to interactions with ICAO. The role the earlier EUROCONTROL Document 007-97 played in relation to this draft DO Spec is important and its role for future updates of global ICAO documentation is considered essential. Therefore, reference to EUROCONTROL Document 007-97 will remain.

With regards to references to ICAO Annexes, the introduction to the draft DO Spec will be updated to reflect that where requirements indicate that a particular ICAO Annex “shall apply” that this means that the Standards contained within the particular ICAO Annex shall be implemented by the State. Where a State has filed a difference, the course of action defined by the difference would be applied. Recommended Practices within the ICAO Annexes would remain at this status and are not mandated by the draft DO Spec. In light of this approach, all references to ICAO Annexes within the draft DO Spec will be reviewed and, where necessary, updated.

Many requirements of the draft DO Spec are based on requirements from a wide range of documents. It would be inappropriate to document the links for each and every case. Further, the data quality requirements referred to should, in accordance with Article 6(1) of Commission Regulation 73/2010, cover a wider ranging set of data items than those included in ICAO Annex 4 and ICAO Annex 15 and may be established by the State as being more stringent than required by ICAO. As a result, reference to these documents from a number of the requirements would be inappropriate.

It is agreed that the requirements related to the application of the EUROCONTROL Terrain and Obstacle Data Manual should be optional. Nonetheless, the requirements for terrain and obstacle data remain an open issue which is being discussed outside the scope of Commission Regulation (EU) 73/2010. As such, it is not possible to be more explicit at this time.

The ISO 19111 is not a quality management system. This document simply standardises the way co-ordinates values are documented / used. Commission Regulation (EU) 73/2010 requires the use of ISO 19118, which, in turn, requires the application of other ISO 19100 standards which includes ISO 19111. Furthermore, Commission Regulation (EU) 73/2010 has a requirement for ISO 19115. ISO 19114 is referred to by other standards that are included within the Commission Regulation (EU) 73/2010 and is not considered to be overly onerous and is needed to support the quality reporting included with ISO 19115. With regards to the quality reporting requirements, these provide a level of detail that is not included within the ISO 9001 standard. Further, it should also not be assumed that all relevant parties have / will have an ISO 9001 QMS as there is no requirement for them to do so. One of the activities of the EUROCONTROL ADQ Support Cell is to ensure that Commission Regulation (EU) 73/2010 is in line with other standards and this will also include monitoring of changes to the ISO 19100 series of standards.

Action

All references to other documents in the draft DO Spec will be reviewed to check their conformance with the policy for the referencing of external documentation to ensure the policy is consistently applied. The references provided will be made as specific as possible.

The repeated requirements from the EUROCONTROL Specification for Data Assurance Levels will be reviewed to determine if their inclusion in the draft DO Spec is warranted. The chapters on Data Set Specification and Tools and Software will be deleted.

The introductory chapters of the draft DO Spec will be reviewed and duplicated text that is not considered to be necessary to establish the context of the specification will be removed.

The association of the draft DO Spec with the other EUROCONTROL Specifications will be reviewed to ensure that the set of documents presents a consistent set of Specifications. The references to the other Specifications will be reviewed to ensure these are up-to-date.

The introductory text to the draft DO Spec will be updated to reflect that where requirements indicate that a particular ICAO Annex "shall apply" that this means that the Standards contained within the particular ICAO Annex shall be implemented by the State. Where a State has filed a difference, the course of action defined by the difference would be applied. It will also be acknowledged that Recommended Practices contained in ICAO Annexes referred to remain at this status and are not elevated to a Standard by this referencing.

Reference to ICAO Doc 9674 will be removed.

Requirements related to the application of the EUROCONTROL Terrain and Obstacle Data Manual shall be made optional.

The EUROCONTROL ADQ Support Cell will monitor changes to the ISO 19100 series of standards and ensure that Stakeholders are made aware of changes.

2.2.2.4 Data Quality Requirements

Comments

It was stated that the draft DO Spec does not clarify how the accuracy requirements for calculated or derived data can be met. It was stated that as the draft DO Spec is intended as guidance for surveying, the data requirements (accuracy, resolution) of the areas/navaids should be included. It was questioned whether data quality requirements from the

EUROCONTROL Specification for Data Quality Requirements are repeated in the draft DO Spec.

It was highlighted that requirements for data origination should take into account the criticality of the onboard function using data: the more critical the application, the more stringent the applicable capture rules should be. Concern was expressed that imposing very stringent rules for data origination could prevent airframers implementing such functions due to additional costs. Providing stringent capture rules for data fed into highly critical functions (e.g. aircraft guidance) was understood; however, it was argued that it would be detrimental for safety to require the same level of stringency for data used by non-critical functions.

Some Stakeholders raised that the references to “data quality requirements” in the draft DO Spec needed to be consistent with the EUROCONTROL Specification for Data Quality Requirements.

The correctness of the accuracy requirements for survey control stations was questioned. In addition, the requirement related to re-measurement of the survey control station if the newly computed position and published position differed by 50mm was questioned.

Response

In developing the draft DO Spec, the assumption has been applied that the surveyor using it would already have an in-depth knowledge of survey but that he/she would need guidance on surveying aeronautical facilities. Therefore, it is assumed that estimating the accuracy of derived data is already a standard task for a surveyor is not only aviation-related and does not need further elaboration.

The data quality requirements for areas/navaids have not been included so as to avoid duplication with the content of the EUROCONTROL Specification for Data Quality Requirements or any other set of data quality requirements established by the Member State in accordance with Article 6(1) of Commission Regulation (EU) 73/2010. The draft DO Spec is not considered to repeat data quality requirements from the EUROCONTROL Specification for Data Quality Requirements, however the draft DO Spec will be reviewed to ensure that this is the case.

The draft DO Spec is related to the origination of data that meets these defined quality requirements. It is the establishment of these data quality requirements which must consider the applications in which the data would be used. The subsequent maintenance of the integrity of this data (i.e. ‘routine’, ‘essential’, ‘critical’) is addressed under a separate specification (EUROCONTROL Specification for Data Assurance Levels).

It is acknowledged that references to “data quality requirements”, and in particular “DQR”, in the draft DO Spec have resulted in confusion with the EUROCONTROL Specification for Data Quality Requirements.

The most stringent accuracy requirements for the survey control stations are, according to the ICAO Standards and Recommended Practices (SARPs), 0.5m and for height 0.25m. Given the accuracy requirement of 10 cm needed to support the most stringent accuracy requirements, the threshold given for re-measurement where the position values differ is not considered to be overly-prescriptive.

Action

To address how the accuracy requirements for derived data may be met, a reference will be made to ‘Evaluation of Measurement Data - Guide to the Expression of Uncertainty in

Measurement' (JCGM 100:2008) as it provides material on how to determine the uncertainty of a measurement. In addition, a note will be added to the Scope Chapter of the draft DO Spec, highlighting that it is assumed that surveyors using the Specification already have an in-depth knowledge of survey.

The draft DO Spec will be reviewed to identify if there is any duplication of data quality requirements from the EUROCONTROL Specification for Data Quality Requirements, in order to eliminate this.

A clarification will be added to the draft DO Spec to highlight that it is related to the origination of data commensurate with its defined data quality requirements.

The text related to "data quality requirements" will be reviewed to eliminate any ambiguity and confusion with the EUROCONTROL Specification for Data Quality Requirements. In addition, the abbreviation "DQR" will be removed from the draft DO Spec.

2.2.2.5 Reference Systems

Comments

Some Stakeholders highlighted the benefits of the use of local reference systems and projections, in particular Lambert 2008.

Some Stakeholders felt that the draft DO Spec caused confusion for users as it uses the term "shall" in combination with WGS-84, the European Terrestrial Reference Frame (ETRF) 89 and the International Terrestrial Reference Frame (ITRF) 2000. It was proposed that only one reference system should be referred to in the main body and the use of other systems should be part of guidance material in an Appendix. Some Stakeholders raised that Commission Regulation (EU) 73/2010 had established that the horizontal reference system to be applied is WGS-84 and so there was no need to specify any further requirements in relation to ITRF. Concern was raised about the availability of transformation parameters from ETRF to WGS-84, and the lack of ADQ-compliant software to assist in datum transformations.

It was raised that the Infrastructure for Spatial Information in the European Community (INSPIRE) directive required the use of ETRF89 as a datum for spatial data sets. It would be a benefit for all parties if there was a common datum for both spatial data sets and for the publication of aviation information. Since EUROCONTROL and ICAO use ITRF 2000, and INSPIRE uses ETRF 89, this meant that it is necessary to perform a transformation between these datums. It was proposed that it would be more practical to operate in one datum after the survey is conducted. Therefore, it was recommended that in the draft DO Spec that, either the storage of data in two different datums or the transformation of data each time it is to be published, were the preferred approaches to handling the transformation of coordinates. The referencing to INSPIRE and ETRF, as a result, was questioned.

It was felt by some Stakeholders that the information on horizontal and vertical reference systems is too detailed and is difficult to understand. It was proposed that this information could be better provided in separate survey guidance material.

Some Stakeholders raised that the draft DO Spec does not address that a common geoid model shall be used.

It was proposed that making a geoid model other than the Earth Gravitational Model (EGM)-96 available in compliance with ISO 19111 should only be required if the accuracy of the data falls outside of the tolerance.

In addition, some Stakeholders raised that the chapter on vertical reference systems contains redundant requirements and that information about the geoid model should be recorded in the Aeronautical Information Publication (AIP) rather than in metadata.

Response

The draft DO Spec does not exclude the use of local systems for data origination and specifically mentions their use in 2.3.4.8. However, they may only be used when transformations are known to allow the resulting data to be published in a manner compliant with Commission Regulation (EU) 73/2010 which calls for WGS-84 to be used for publication. Whilst Commission Regulation (EU) 73/2010 has established that the horizontal reference system for publication is to be WGS-84 only, it is common for other references systems to be used during origination and transformations applied later for publication. Indeed a number of States have insisted on the ability to originate data in local systems as the use of local systems normally results in data with a better accuracy than that required by ICAO. EUROCONTROL is not the correct body to provide transformation parameters. A link is provided in the DO Spec to the EUREF website where these are provided. The provision of tools by EUROCONTROL was prohibited by Provisional Council and industry solutions should be sought by Stakeholders.

The draft DO Spec uses a single “shall” statement which relates to the publication provision for the horizontal reference system. A note provides a reference to a requirement from another regulation (INSPIRE) which the draft DO Spec needed to consider during the development of its requirements. This note has been provided as a result of Stakeholders’ requests to consider INSPIRE when collecting data so that more than one purpose can be served during the collection.

It is agreed that a recommendation, at the national level, to store data in one datum only would be beneficial. It is also proposed that a note is included in the draft DO Spec warning of the possible issues associated with transforming data twice, i.e., the datum the data was originated with (e.g. Datum 1) should be recorded so that if the co-ordinate is transformed to Datum 2 for publication and then Datum 2 is updated in the future to Datum 3, the transformation of the co-ordinate to Datum 3 is carried out directly from Datum 1 and not via Datum 2.

The draft DO Spec forms guidance material for surveyors so it is considered that technically detailed material is appropriate for this specification. See section 2.2.2.1 for further information.

It is agreed that there is an omission in the draft DO Spec and that a common geoid model needs to be stipulated.

It is agreed that with respect to a single data set, making it compliant with ISO 19111 is of little value. In the light of an international or even global data set, such transformation is needed and because ICAO SARPs currently require EGM-96 to be used as the geoid model and not EGM-2008, the requirements are all aligned to EGM-96. ICAO Annex 15 (Para 3.7.2.3) states "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)."

It is agreed that the requirements related to vertical reference systems will be reviewed to eliminate redundancy. Information about the geoid model should be contained in the AIP and in metadata as this is a requirement of Commission Regulation (EU) 73/2010. There is, therefore, a necessity for the data from which the AIP is prepared to have this information available. See section 2.2.2.6 for further information.

Action

A recommendation will be added to the draft DO Spec to address the storage of data in one datum at a national level. A note will also be added to the draft DO Spec to highlight the potential issues associated with double transformation.

A requirement to indicate the geoid model publication requirement (EGM-96) will be added to the draft DO Spec.

The requirements related to the vertical reference system will be reviewed and amended to remove any redundancy.

2.2.2.6 Metadata

Comments

Some Stakeholders argued that the reference systems should be recorded as metadata for each data set. They considered that to record them as metadata for each coordinate pair in a data set would result in unnecessary, repeated information and therefore in an unnecessarily larger amount of data. It was highlighted that in existing data interchange formats, e.g. as specified in the European Organisation for Civil Aviation Equipment's (EUROCAE) ED-119B, the horizontal reference frame is provided as metadata for the whole data set.

It was raised that the format for metadata to be used for the aviation industry is still in discussion in the Open Geospatial Consortium (OGC). As a consequence, providing metadata in a format not based on the ISO 19115 standard should be authorised.

It was stated that the recording of the methods employed to calculate or derive data exceeded Commission Regulation (EU) 73/2010 and that the implementation of this requirement would result in additional cost and effort for existing software which is already declared as being compliant with Commission Regulation (EU) 73/2010.

Some Stakeholders raised that the recording of additional observations or surveying, such as weather, in the metadata is too stringent.

It was raised that with regards to the reporting of all survey work undertaken in metadata, it was not entirely clear what "all survey work undertaken" meant.

It was raised that some of the requirements for metadata for survey go beyond Commission Regulation (EU) 73/2010.

Response

It is agreed that the metadata for the data set should record the reference systems used. However, the draft DO Spec should address the fact that all data in a data set may not be originated using the same reference systems. The concepts of metadata publication in the Aeronautical Information Exchange Model (AIXM) also allow the publication of such information on a data level.

Commission Regulation 73/2010 requires the application of ISO 19115. The work of the OGC is to prepare an aviation profile of this standard. It is not, therefore, considered appropriate to allow deviations from the application of ISO 19115.

It is not agreed that recording the methods employed to calculate or derive data exceeds Commission Regulation (EU) 73/2010 as Annex IV, Part C, item (b) requires "details of any functions applied if data has been subject to conversion/transformation".

The capture of additional observations in metadata is recommended as it can assist in the root cause analysis of any errors, particularly for airborne survey. The requirement is included as a recommendation only and, therefore, should it be considered as being overly prescriptive in some cases, would not need to be applied.

It is agreed that the meaning of "all survey work undertaken" needs to be clarified.

The requirements for metadata for survey are provided to elaborate, for survey, how the provisions of Commission Regulation (EU) 73/2010 relating to metadata and evidence for tools and software are met (links to Annex IV Part B and Annex V). As such, they are not considered to have gone beyond the scope of Commission Regulation (EU) 73/2010. The inclusion of these requirements addressed the request of the Data Assurance Level ad-hoc Group that they should be included in the draft DO Spec.

Action

A requirement will be added that the metadata for the data set shall contain the reference systems used. The current requirement will be amended to indicate where the origination was not performed in the same reference system, the reference systems shall be included at the data level.

Justification will be added to the draft DO Spec for the capture of additional observations in metadata.

The meaning of "all survey work undertaken" will be clarified to address that the processing used in survey will be captured. A note will be added for what processes are typically covered (preparation, survey, post-processing, feature-extraction).

2.2.2.7 Units of Measurement

Comments

Some Stakeholders raised concern that Commission Regulation (EU) 73/2010 was not the appropriate tool to ensure that publications in Europe are in line with ICAO Annex 5 in the area of measurement units. While the intention to migrate to the International System of Units (SI) units was fully understood, SI units are not widely used in aviation and onboard equipment is not in line with this requirement. It was argued that the requirement for SI units to be used needed to be based on pan-European consensus supported by appropriate safety and cost benefit analysis.

It was raised that the requirements related to units of measurement were in conflict with each other and this should be resolved.

Some Stakeholders questioned the justification for the requirement to record or use kilometres or nautical miles for distances over 4,000 metres. It was stated that reference to this in the ICAO SARPs could not be found.

In the units of measurement requirements, it was proposed that Altitude (ALT) is added as an additional (and probably the most commonly used) vertical reference. It was raised that there was some incorrect terminology used with regards to the references for derived and calculated data.

Concern was raised that throughout military aviation, positions may be expressed in an alternate format: degrees, minutes and hundreds of minutes and suggested that a note is added to the units of measurement chapter to state "Note: - For special use purposes coordinates may be published in another format".

With regards to the vertical dimensions for airspace, it was raised that "Above Ground Level (AGL)" was not included and it was questioned whether this would mean that airspace can no longer be designed or developed with upper or lower limits in AGL.

Response

With regards to references to ICAO Annexes, the introduction to the draft DO Spec will be updated to reflect that where requirements indicate that a particular ICAO Annex "shall apply" that this means that the Standards contained within the particular ICAO Annex shall be implemented by the State. See 2.2.2.3 for further details. With regards to the specific application of SI units, the draft DO Spec has been developed to comply with ICAO Annex 5. For those Stakeholder's that consider the units of measurement reflected in this annex are not appropriate for aviation, it is considered that contact be made with ICAO directly.

In reviewing the requirements related to units of measurement, no conflict was detected. In some cases, two options are possible but one is the preferred option and this is reflected in the requirements.

The use of kilometres or nautical miles for distances over 4,000 metres is addressed in ICAO Annex 5. 4,000m is the distance specified by ICAO Annex 5 [Table 3-4 Note a)] as the differentiation between short and long distances.

With regards to ALT, altitude is used in relation to another reference and it is these references that are being provided in the units of measurement chapter, for example, Flight Level (FL) 220 or 9,000 above Mean Sea Level (MSL). It is, therefore, not considered appropriate to add ALT to the list provided in 2.2.2.4.10. It is agreed that the terminology used with regards to the references for calculated and derived data is misleading.

No note is required to take account of the military use of degrees, minutes and thousands of minutes as the requirement allows the publication of information to the resolution required by the data quality requirements. In the example provided for Military data, the data quality requirement would simply reflect their needs.

It is agreed that vertical dimensions of airspace should also be able to be defined with reference to AGL.

Action

The introduction to the draft DO Spec will be updated to reflect that where requirements indicate that a particular ICAO Annex "shall apply" that this means that the Standards contained within the particular ICAO Annex shall be implemented by the State. See 2.2.2.3 for further details.

In relation to the vertical references for calculated and derived data, the requirement shall be amended to state that "In accordance with ICAO, all elevation, altitudes and heights shall be expressed in relation to one of the following references:"

The requirement will be amended to allow the vertical dimensions of airspace to also be described with reference to AGL.

2.2.2.8 Validation and Verification

Comments

Many Stakeholders raised concerns about requirements for independent verification as this is a very costly process that is considered too stringent for all origination, modification and withdrawals, including translation.

In addition, it was raised that the draft DO Spec does not account for the fact that independent verification may be carried out by means other than through the utilisation of different personnel to those involved in the origination of the data.

Some Stakeholders argued that the requirements related to verification and validation were too vague in some cases and specifying who, what, when and how this is performed would be beneficial. To support this, some Stakeholders requested that further guidance is developed for validation and verification. It was raised that it was difficult to validate data if it is not clear what was requested to be provided in the first place.

It was stated that the compliance of data validation and verification processes is defined in the EUROCONTROL Specification for Data Assurance Levels and requires a huge amount of work to demonstrate compliance to these Articles and that this will result in delays in the such systems becoming operational. A "simplified" procedure for the checking of compliance of data validation and verification processes for data origination against these Articles of Commission Regulation (EU) 73/2010 was requested.

The definitions of and application of validation and verification processes with regards to procedure design were questioned. It was stated that data suppliers for procedure design should be forwarding verified, not validated data. Designers should be validating all data received, regardless of who supplied the data and whether or not the supplier also performed a validation. The "final check" of the procedure design is a validation, not verification. The original procedure designer verifies the procedure, the person who checks the procedure design is the validator.

Response

It is agreed that independent verification is too stringent for all data and that verification should be dependent on the criticality of the data in question.

It is agreed that different means of performing independent verification exist.

Whilst the desire for guidance material related to validation and verification is well understood, in practical terms it has been concluded that it is not possible to provide this. The requirements are intended to be applied within the overall process (Commission Regulation (EU) 73/2010 applies a process approach). Therefore, the point at which the validation takes place will vary from State-to-State. For example, the surveyor may do this in some cases, whilst an Aerodrome Authority is responsible in other cases. This means that it is not possible to specify when/who. The "what" is the derived data and must be applied to the data in question. The "how", again, is dependent upon the data in question and different States have different approaches. For example, a physical flight may be used to confirm a minimum obstacle clearance in some cases, whilst simulation may be used in others if the quality of terrain and obstacle data available permits it. It is agreed that understanding the data origination request is important in validating data. Therefore, a recommendation will be added to the draft DO Spec that information regarding the data origination request is recorded as metadata.

If there is a formal arrangement in place between the data supplier and the procedure designer (i.e. the data supplier guarantees the accuracy and integrity of the supplied data.) then the validation task for the designer may be reduced. Validation is the activity whereby a data element is checked as having a value that is fully applicable to the identity given to the data element, or a set of data elements that is checked as being acceptable for their purpose. Verification is the activity whereby the current value of a data element is checked against the value originally supplied. Verification is a process for checking the integrity of a data element whereby the data element is compared to another source, either from a different process or from a different point in the same process. While verification cannot ensure that the data is correct, it can be effective at ensuring that the data has not been corrupted by the data process. So, both designer and checker perform both verification and validation.

Action

References to verification shall be amended to take into account the criticality of the data in question. Only for data with a 'critical' data integrity level shall independent verification be required.

The definition of independent verification in the draft DO Spec shall be amended to take account of different means of achieving this.

A recommendation will be added to the draft DO Spec that information regarding the data origination request is recorded as metadata.

2.2.2.9 Survey Principles and Requirements

Comments

With regards to traditional measurement for survey data with a 'critical' data integrity level, it was suggested that a minimum number of measurements should be specified in the draft DO Spec.

Some Stakeholders expressed concern about the use of Universal Transverse Mercator (UTM) when a planar co-ordinate system is used in data origination.

It was highlighted that several European countries have National Geodetic Control Networks in place which fulfil all the requirements in the draft DO Spec. These networks provide services for Real Time Kinematic (RTK) measurements based on the virtual reference concept. It was stated that in the frame of aeronautical data origination, the use of such a service should also be explicitly allowed.

It was raised that for the Ground-Based Augmentation System (GBAS), the GBAS reference point needs to be transmitted to users, and several other points need to be surveyed according to ICAO documents. The transmit antenna location itself has no navigation relevance. It was stated that the material needs to be updated to be aligned with the ICAO requirements related to GBAS.

With regards to the requirements for checking the collinearity of the runway, it was believed that the requirement was too stringent and that the method of improving collinearity should be determined by the State.

It was stated that the section related to derived threshold co-ordinates, along with Annex L that it refers to, should be rewritten and explained in more detail as it not understandable.

It was recommended that where curved and compound curved sections of movement area(s) and stand(s) are concerned, the collection of more data points as opposed to the stated language as "at least two additional points" and "sufficient points". With the advent of systems such as Surface Movement Guidance and Ground Control and supporting databases such as Airport Mapping Database, more data collected for system support is considered much better than minimal data which is implied.

It was requested that in the Airborne Laser Scanning (ALS) guidance material in Annex K, reference should be made to the EUROCONTROL Terrain and Obstacle Data Manual or the tilt angle for the sensor should be specified.

Some Stakeholders requested the addition of mandatory requirements to the material contained in the Annexes.

Response

The number of additional measurements that are needed for survey data with a 'critical' data integrity level depends on the actual circumstances (layout, distances, measurements). It is expected that professional surveyors will perform the survey and are capable of determining the number of observation needed on an ad-hoc basis.

It is agreed that the requirement for the use of UTM when a planar co-ordinate system is used in data origination should be amended such that UTM is only provided as an example.

It is agreed that some States have National Geodetic Control Networks in place which fulfil all the requirements and which provide services for RTK measurements which, in the frame of aeronautical data origination, should also be allowed. A note to this effect will be added.

It is agreed that the requirements related to GBAS need to be compliant with the ICAO SARPs related to GBAS and this will be ensured.

Given the importance of the runway threshold, measuring two additional points per runway is not considered to be overly prescriptive.

It is agreed that the method of calculation for derived threshold co-ordinates in Annex L is difficult to understand. The figure for deriving threshold co-ordinates in Annex L was taken from the original EUROCONTROL Document 007-97 and is included in ICAO Doc 9674. However, after consulting several experts, no justification to maintain this material within the draft DO Spec was found.

It may be that the requirements for curved and compound curved sections of movement area(s) and stand(s), are a legacy of the EUROCONTROL Survey Standards 007-97 and will be reviewed for correctness.

It is not possible to define a tilt angle for ALS. The adequate tilting angle depends on various settings and the feature to be surveyed (for example, ICAO Annex 15 Chapter 10 Area 1 compared with Areas 2 and 3). The radiometric calibration, as recommended in 2.3.1.2.3 (DO-SVY-070), can help ensure that the chosen settings match the data requirements and circumstances.

The guidance material in the Annexes is to support the requirements contained in the main body of the draft DO Spec. As a result, mandatory requirements shall not be placed in the Annexes.

Action

The requirement related to the use of UTM when a planar co-ordinate system is used will be amended to state that it should be based on ETRF, such as UTM.

A note will be added to address that some States have National Geodetic Control Networks which provide services for RTK measurements and the use of such a service is allowed in data origination.

The changes proposed by the Stakeholder related to the points needs to be surveyed for GBAS will be included in the draft DO Spec.

Annex L and any references to it will be deleted.

The requirements related to curved and compound curved sections of movement area(s) and stand(s) will be reviewed.

2.2.2.10 Conformity Material

Comments

Some Stakeholders requested that in the Conformity Material in Annex B, that a column be included showing which Stakeholders each conformity feature applies to. Stakeholders may include aerodrome operators, survey providers, national mapping authorities, geodetic authorities, software manufacturers, ANSP, regulator, etc. The assignment of the conformity features to roles was also proposed.

Response

Whilst the advantages of this are understood, it is not believed to be feasible given the number of different configurations / responsibilities in States, and it is likely that this will be for the National Supervisory Authority to determine at a national level, and could result in almost every requirement having its own role. However, consideration will be given to the assignment of conformity features to high-level, generic roles.

Action

Review Conformity Material in Annex B to assess whether it is feasible to assign conformity features to high-level, generic roles.

2.2.2.11 Description of Airport and Heliport Facilities

Comments

Some Stakeholders raised that some of the diagrams in Annex I do not accurately show which point should be surveyed and it was recommended that a zoomed picture is added to clearly indicate the point which should be surveyed (begin/middle/end of line).

It was highlighted by some Stakeholders that different ICAO SARPs identify different survey positions for the same facility and this needs to be reflected in the DO Spec, either by updating the diagrams and guidance or by describing the ambiguities so that these can be eliminated. It was raised that one Civil Aviation Authority has agreed with ICAO on the exact location of the surveyed point of thresholds and this should be reflected in the DO Spec.

It was highlighted by some Stakeholders that guidance for Instrument Landing System (ILS) end-fire antenna systems and GBAS was not included in Annex I.

Response

It is agreed that some of the diagrams in Annex I would benefit from a zoomed in picture. The pictures will be reviewed to ensure that they accurately reflect the exact position to be surveyed, for example, the antenna centre, and that this is in line with the requirements in the main body of the DO Spec.

It is agreed that the runway threshold in ICAO Annex 14 is defined differently to the DO Spec: "The stripes of the threshold marking shall commence 6m from the threshold". The location of the threshold is on the centreline 6m before the runway strips or number markings. It is generally the end of the tarmac/concrete. It is agreed that a number of the diagrams in Annex I need to be updated as they show the thresholds in the wrong position or do not accurately reflect the exact position to be surveyed. Some liaison between the Navigation domain of EUROCONTROL and Stakeholders may be needed.

It is agreed that guidance for GBAS should be included in Annex I. ILS end-fire antenna systems are covered by 2.3.6.1.2 of the DO Spec.

Action

Zoomed in pictures will be included for some of the pictures in Annex I. The pictures will also be reviewed to ensure alignment with the requirements in the main body of the DO Spec.

Pictures and guidance to be reviewed and updated, where necessary, to correct survey positions or more accurately reflect the exact position to be surveyed. Liaison with relevant Stakeholders will be considered.

Guidance for GBAS, as proposed by one Stakeholder, will be included in Annex I.

2.2.3 Other Issues

2.2.3.1 Format of and Manner in which the Document is Written

Comments

It was believed that the phrasing and the English used in the draft DO Spec are often complicated and difficult to understand for non-native speakers. Therefore, it was requested that the whole document is reworked from a readability point of view.

It was highlighted that the format of the different EUROCONTROL Specifications should be harmonised as far as possible.

Response

In the main, it is felt that due to the technical complexity of certain areas of the draft DO Spec, readers who are not subject matter experts in these areas may have difficulty in understanding the text. However, it is believed that these areas are aimed at these experts and that the text is appropriate to their level of expertise. The material has been developed and reviewed by people with English as either their first or second language.

Whilst the basic structure of the EUROCONTROL Specifications is similar, it is agreed that they may not be identical and that the harmonisation of the format of the different

Specifications would be of benefit to the user. It should be noted, however, that the structure, terminology and content of an individual specification is very much dependent on its specific content and intended use and, therefore, needs to be customised for its domain.

Action

As part of the update of draft DO Spec, following the consultation process, the document will be reviewed once again and this will include the use of English.

The format of the draft DO Spec will be reviewed and changes applied, where appropriate, in order to bring harmonisation with other EUROCONTROL Specifications.

2.2.3.2 Terminology and Definitions

Comments

It was felt that as a result of the dual purpose of the draft DO Spec, the different terminology used by the different affected parties is not sufficiently covered in the Specification and may lead to misunderstandings (e.g. reliability, accuracy, tolerance, in the context of surveying and in comparison to the use of these words in other domains).

It was also felt that the definition of “shall” needed to be clarified more. It was suggested that the definition of “CM” requirements is incorrect. It was requested that the use of terms such as “objective“, “requirement“ etc. should be aligned with the phraseology of the other specifications in relation to Commission Regulation (EU) 73/2010. It was also requested that Chapter 2 refers to “objectives” and not to “requirements”.

It was requested that the terminology for “height”, “elevation”, “altitude” and “flight level” be made consistent with that of ICAO. Related to this, it was proposed that it was not necessary to explain aviation terminology, in particular “elevation”.

It was raised that the terms “tolerance”, “accuracy”, “precision” and “consistency” needed to be clarified or replaced. It was also highlighted that the terms “reliability of measurement” and “reliability of origination” needed to be clarified.

It was raised that the terms "Geodetic Control Network" and "Survey Control Stations" are mixed up in the draft DO Spec.

Response

It is agreed that the terminology used should be clarified as far as possible to account for the different users of the document.

The definition of "Shall" is applied in a common manner in all EUROCONTROL Specifications containing statements of requirement. The need for consistency is considered to be of paramount importance.

The definition of “CM” requirements is correct. CM relates to requirements that must be mandatorily implemented but only when another, optional requirement has been implemented.

The majority of specifications developed to act as MoC for Commission Regulation (EU) 73/2010 contain statements of requirement. Only the EUROCONTROL Specification for Data Assurance Levels contains objectives and this difference in wording was deliberately selected for that specific specification which outlines how the requirements for data quality

may be assured. The draft DO Spec is, therefore, consistent with the other specifications which have statements of requirement.

The definitions introduced for “height”, “elevation”, “altitude” and “flight level”, together with the note, follow ICAO convention (see also ICAO Annex 15, section 3.7.2.1). Height = Distance between a point and any surface (like obstacle height is the distance between the top of the obstacle and the surrounding terrain). Elevation = Distance between a point and the reference surface (ellipsoid, geoid). The term “elevation” encompasses the mentioned terms.

There is a confirmed need for terms to be defined, especially in the context of this draft DO Spec, which is to be used by surveyors who are not always aviation specialists.

It is agreed that the terms “tolerance” “accuracy”, “precision” and “consistency” need to be reviewed and clarified, where necessary.

It is agreed that the terms “reliability of measurement” and “reliability of origination” need to be clarified.

It is agreed that the terms "Geodetic Control Network" and "Survey Control Stations" need clarification.

Action

The terminology used will be reviewed and clarified as far as possible to account for the different users of the document.

Review and clarify the terms “tolerance”, “accuracy”, “precision” and “consistency”, where needed.

To better clarify the terms “reliability of measurement” and “reliability of origination”, text will be transferred from D.2.3 to a footnote ref. 2.3.4.3/4 and revised.

To clarify the terms "Geodetic Control Network" and "Survey Control Stations" , a note will be added to 2.3.5.1.1 explaining that a geodetic network is set up based on survey control stations and that the national geodetic reference network is based on EUREF to fulfil this requirement.

2.2.3.3 Charts

Comments

Some Stakeholders raised concerns about the inclusion of requirements related to charting in the draft DO Spec as it was felt that these were product-related.

Some Stakeholders raised that it was unclear whether the requirements related to charts symbols were to be considered as requirements, recommendations or optional requirements.

Response

It is agreed that requirements related to charting should not be included in the draft DO Spec as they relate to publication of data, not origination.

It is agreed that the requirements related to symbols could be clearer and that these should be reworded. However, this has been superseded by the fact that Chapter 2.2.5.8 will be deleted as a result of other comments.

Action

Chapter 2.2.5.8 related to charting will be deleted from the draft DO Spec.

2.2.3.4 Tolerances

Comments

With regards to spatial accuracy, the requirements for it to “*not be worse than the tolerance values*” was considered by some Stakeholders to be confusing, as is the example provided.

Response

It is agreed that the text related to accuracy and tolerances needs to be clarified.

Action

Information will be added that that tolerance = maximum deviation in mass data acquisition. The rows for data with a ‘critical’ data integrity level will be greyed out because it is assumed that multiple independent observations are made. The note will be changed so that the formulae are visible.

2.2.3.5 Data Models

Comments

Further clarification was requested for the data models which exist for the scope of the data of Commission Regulation (EU) 73/2010. In addition, the versions of the models should be identified as older versions do not meet all of the data set provisions.

It was highlighted that the only format endorsed by the draft DO Spec for the exchange of Aerodromes Mapping Data is ED-119A and that the AIXM format shall also be considered as meeting the provisions in Annex I of Commission Regulation (EU) 73/2010 Part A for Aerodrome Mapping Data sets.

It was raised that small airports will not be able to provide data in AIXM format in the foreseeable future due to the cost of acquisition of an AIXM-compliant Data Originator system. It was stated that as a consequence of this, it is important to allow the provision of data from data originators in a format which is not compliant with Article 5 of Commission Regulation (EU) 73/2010.

Response

Information about the available models is included in notes to the requirement for use of a common data set specification. It is agreed that the notes should be further clarified to reflect the current status of the models and to include version numbers. It should be noted that a decision has been made to delete the Data Set Specification chapter from the draft DO Spec and so the changes are superseded.

It is agreed that AIXM needs to be identified as a data model supporting aerodrome mapping data. This has been superseded by the decision to delete the Data Set Specification chapter from the draft DO Spec.

Commission Regulation (EU) 73/2010 contains specific provisions in Article 5 that are only applicable to ANSPs/AIS Providers. The remaining provisions are applicable to all parties. The DO Spec ensures compliance with the relevant provisions of Article 5, taking into consideration the obligations of the various parties.

Action

The Data Set Specification chapter will be deleted. Any other notes related to data models within the scope of the data of Commission Regulation (EU) 73/2010 will be further clarified and will include model version numbers.

2.2.3.6 Military Data

Comments

Some Stakeholders identified that draft DO Spec should offer alternates to primary standards, as it does sometimes for civil applications, to acknowledge and identify military requirements as Commission Regulation (EU) 73/2010 applies to military data where used by General Aviation Transportation (GAT). Therefore, for the benefit of GAT users of military data, they should be aware of military standards present in aeronautical documents.

It was stated that some national legal documents were signed by both the Ministry of Transport and Defense and already take into account the references and obligations written in Commission Regulation (EU) 73/2010. Therefore, it was felt that the draft DO Spec does not provide added value and a realistic MoC with Commission Regulation (EU) 73/2010. A complete revision of the proposal was requested, providing a truly pragmatic document, providing unique common material for all data originators and avoiding ambiguity.

With regards to the development of Standard Instrument Departures and Standard Instrument Arrivals, it was stated that military procedure designers have to comply with specific requirements. NATO Standardization Agreements (STANAGs) for procedure design and flight operation adopted ICAO naming convention, together with some specific unique requirements. It was questioned whether an alternative to ICAO Annex 11 was allowed here as a result.

Response

It is agreed that the relevant Military standards/documents need to be clearly identified and perhaps referenced, if appropriate. Stakeholders will be invited to provide support to this task.

The key regulated parties under Commission Regulation (EU) 73/2010 are civil organisations and therefore there are no direct obligations placed on the Military. It is acknowledged that a common understanding of appropriate standards would be beneficial.

Where procedures are published for civil use they should be developed in accordance with the quoted standards and not NATO STANAGs. The development of military procedures for use in Military AIPs is not addressed by the draft DO Spec.

Action

Those specific requirements of the draft DO Spec to which reference to military documentation may be made shall be identified, with the support of Stakeholders. As a result, the draft DO Spec will be amended, where relevant, to include these references and these standards/documents will, wherever possible, also be made available via the ADQ library.

2.2.3.7 Magnetic Variation

Comments

It was raised that there is a risk that "variation" and "declination" may be confused and it was requested that this risk is mitigated. It was proposed that "Station Declination" is changed to "Magnetic Offset" for a clearer definition.

It was raised that the date and annual rate of change of magnetic variation information is important and that the provision of this information should not be optional.

One area of concern was with regards to the repetition of requirements related to magnetic variation. It was stated that although the material was useful, it was questioned whether this was the most appropriate document for this material.

Response

It is disagreed that there is a risk associated with the terms "variation" and "declination" as both these terms are used in ICAO material.

It is accepted that the date and annual rate of change should be mandatory.

In addition, with regards to magnetic variation, this section does not simply repeat ICAO or Commission Regulation (EU) 73/2010 text but rather defines consequent requirements that should be met, thus translating provisions into a more specific requirement to be addressed by the regulated parties. The perceived repetition will ensure that the loop is closed with the EUROCONTROL Specification for Data Assurance Levels. However, it is agreed that the text will be reviewed.

Note: It is considered that if those requirements already existing elsewhere had been addressed by (all) parties in a consistent way then Commission Regulation (EU) 73/2010 would not have been needed. Now, compliance with ICAO Annex 15 will be assured through compliance with Commission Regulation (EU) 73/2010. The inclusion of material on magnetic variation in the draft DO Spec could be reviewed at a later stage if a more appropriate place for such material was identified but this may take the information out of context and result in DO Spec not providing for the full coverage of data intended.

Action

Change the requirement related to the provision of information about the date of measurement and annual rate of change of magnetic variation to become mandatory.

The material related to magnetic variation will be reviewed.

2.2.3.8 Geodesy

Comments

Some Stakeholders raised issues related to the definitions of geodesic distance and great circle.

It was raised that the chapter related to the determination of the local relationship between the known existing datum and ITRF did not contain information about the ITRF epoch and that this information was essential to provide correct co-ordinates.

Some Stakeholders stated that geodesic distances were not always appropriate for all distances and that planar distances were more appropriate for buildings, for example.

Response

It is agreed that the definitions of geodesic distance and great circle may be misleading and this will be addressed.

The chapter related to the determination of the local relationship between the known existing datum and ITRF is deliberately epoch-free to allow for a possible case that ICAO changes the epoch referenced.

It is agreed that geodetic distances are not appropriate for all distances and that guidance on this would be beneficial. EUROCONTROL will take this issue into account as input to further guidance material, but not for inclusion in the draft DO Spec so no action for the draft DO Spec is raised as a result.

Action

The definitions of geodesic distance and great circle will be reviewed and amended as necessary. It will be clarified that the section related to the determination of the local relationship between the known existing datum and ITRF is deliberately written to be “epoch-free”.

2.2.3.9 Withdrawn Data

Comments

It was raised that the requirements related to the retention of withdrawn data are only applicable to the AIS and not data originators.

It was stated that the requirement related to withdrawn data is too restrictive as some obstacle data (i.e. trees) is frequently updated. In order to avoid a database being cluttered with obsolete data, the Stakeholder suggested setting a minimum storage time for withdrawn data instead of mandating permanent storage.

Response

All parties to Commission Regulation (EU) 73/2010 (Article 9(2)) are required to maintain traceability for five years after data is no longer used.

It is accepted that the requirement related to the retention of withdrawn data is very stringent. However, the fact that data is retained for the five years is required by Commission Regulation (EU) 73/2010.

Action

A note will be added to the “withdrawn data” requirement to advise that the data is retained for a minimum of five years.

2.2.3.10 Survey Equipment

Comments

It was requested that a MoC for the calibration of survey equipment be included in the draft DO Spec. It was noted that no MoC for the calibration of survey equipment can be found in the EUROCONTROL Specification for Data Assurance Levels.

It was raised that the frequency (how often and at what intervals) of calibration is not mentioned in the draft DO Spec.

It was stated that the need to load reference points into survey equipment by digital data transfer is over-prescriptive and would have a significant impact on the equipment used for survey without evidence of equivalent added-value.

Response

It was agreed that the objectives for the calibration of survey equipment have been removed from the EUROCONTROL Specification for Data Assurance Levels. However, no MoC for the calibration of survey equipment can be provided as it is the manufacturer that usually provides an accuracy statement for an instrument and this statement is only valid for a limited time. After the expiration, a renewal is made through calibration i.e. measure well known points to determine the "correct" function of the sensors.

The frequency of calibration is determined by the manufacturer and must simply be valid at the time of survey. Often manufacturers will provide the instructions for calibration of their equipment and certify organisations to undertake that calibration.

The need to load reference points into survey equipment by digital data transfer is a requirement of Commission Regulation (EU) 73/2010 (Annex IV Part D, 6 (a)). It is expected that survey devices nowadays are able to store data digitally. As newly acquired measurements and co-ordinates are transferred back to the system digitally, it is expected that the transfer to the device is also digital. Therefore, this requirement is not considered to be over-prescriptive.

Action

None.

2.2.3.11 Formal Arrangements

Comments

It was raised that the draft DO Spec does not cover formal arrangements, as detailed in Annex IV, Part C of Commission Regulation (EU) 73/2010.

Response

Formal arrangements are not part of the draft DO Spec but they are specifically covered as part of the Data Assurance Level Specification. In addition, separate guidance material is being made available via the ADQ library.

Action

None.

2.2.3.12 Tools and Software

Comments

The need to transform data from ETRF to geocentric co-ordinates and to transform between different epochs was questioned. Potential difficulties are foreseen with the transformation from ETRF (EUREF89) to ITRF2000 as the draft DO Spec does not suggest any specific tool that can handle data sets containing many coordinates. There could therefore potentially be a safety issue if each State has to develop its own transformation routines. It was suggested that it would be very useful if EUROCONTROL could provide a tool that would easily manage transformation between ITRF and ETRF (EUREF) and other reference systems which may be required.

It was raised that the compliance of tools and software is defined in the Specification for Data Assurance Levels and requires a huge amount of work to demonstrate compliance with these objectives and that this may result in delays in such systems becoming operational. A “simplified” procedure for the checking of compliance of the tools and software to these articles of Commission Regulation (EU) 73/2010 was requested. Concern was raised about the need for research tools to be compliant with the tools and software provision of Commission Regulation (EU) 73/2010.

It was stated that the Tools and Software requirements were already specified by the EUROCONTROL Specification for Data Assurance Levels, and have nothing to do with providing the actual means for ‘data origination’ that this guidance should specify.

Response

It is not possible for EUROCONTROL to provide a transformation tool. The decision of the Stakeholder bodies that govern EUROCONTROL decreed that EUROCONTROL should no longer develop tools where industry does, or is able to, provide such tools. In fact, there are already a number of such commercial tools available.

The requirements for tools and software are part of Commission Regulation (EU) 73/2010. It is not possible for EUROCONTROL to provide a “simplified” procedure for checking compliance of tools and software. Only those tools and software that are used to support the origination, production, storage, handling, processing and transfer of aeronautical data and/or aeronautical information are covered by Commission Regulation (EU) 73/2010. Tools, including research tools, need to be assessed in the light of this, as it is not foreseen that data from a research tool would be used operationally.

It is agreed that it is not appropriate to include requirements for tools and software in the draft DO Spec.

Action

Delete Tools and Software chapter.

2.2.3.13 Training and Qualification – Surveyors

Comments

Concern was raised that without professional accreditation, surveyors would not be able to obtain liability insurance cover to use other third party survey data. It was requested that the requirement related to this was made mandatory.

It was argued that the recommendation on membership or affiliation with the Fédération Internationale des Géomètres or the International Society of Photogrammetry and Remote Sensing is redundant.

Response

The comment related to professional accreditation of surveyors reflects the situation in some States but is not universal across all States.

It is preferred to refer to a professional organisation and not to an accreditation by a State authority as this allows flexibility and encourages the application of international standardisation (simplifying international exchange).

Action

None.

2.2.3.14 Filing of Differences to ICAO

Comments

It was suggested that consideration be given to Commission Regulation (EU) 73/2010 whereby States may register 'differences' if only to address transitional issues to full compliance as there is no consideration of this fact in the draft DO Spec.

Some Stakeholders raised the need to address the possibility of filing differences to ICAO for charts.

Response

The filing of differences is covered in Commission Regulation (EU) 73/2010 itself and the matter formed part of the SSC discussions before adoption of the regulation. In essence, States shall no longer file differences to ICAO in order to circumnavigate the provisions of in Commission Regulation (EU) 73/2010.

It is agreed that it would be appropriate to address the filing of differences to ICAO for charts, however, this action has been superseded by the fact that the requirements related to charts will be deleted from the draft DO Spec.

Action

None.

2.2.3.15 Flight Procedure Design

Comments

It was argued that the requirement for runways for which instrument flight procedures are designed, to be protected by obstacle limitation surfaces which have the physical characteristics detailed in ICAO Annex 14, Volume 1 (Aerodromes), does not allow the possibility for national rules to be used if properly demonstrated and safety assessed to meet Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS) design criteria.

It was stated that ICAO Doc 9368 (Instrument Flight Procedures Construction Manual) has not been updated since 2002 and is not according to ICAO Doc 8168 criteria so reference to this should be deleted.

It was argued that mandating the designer to apply additional buffers without clearly specifying any criteria to be followed does not seem appropriate.

Response

The use of national design criteria is covered in 2.4.1.3 and 2.4.1.4 but this will be further clarified. Where requirements indicate that a particular ICAO Annex “shall apply”, this means that the Standards contained within the particular ICAO Annex shall be implemented by the State. Where a State has filed a difference, the course of action defined by the difference would be applied.

ICAO Doc 9368 is out of date but is still applicable for conventional procedures.

It is agreed that clarification can be made with regards to determining buffers, however, specifying criteria for these is not appropriate.

Action

The introductory text to the draft DO Spec will be updated to reflect that where requirements indicate that a particular ICAO Annex “shall apply” that this means that the Standards contained within the particular ICAO Annex shall be implemented by the State. Where a State has filed a difference, the course of action defined by the difference would be applied. It will also be acknowledged that Recommended Practices contained in ICAO Annexes referred to remain at this status and are not elevated to a Standard by this referencing. See 2.2.2.3 for further information about the application of Standards in ICAO Annexes where a State has not filed a difference.

Add a note regarding the status of ICAO Doc 9368.

Add a footnote to describe how buffers may be determined.

2.2.3.16 Request for Additional Guidance

Comments

It was requested that EUROCONTROL provides guidance on testing and auditing the requirements in the draft DO Spec.

It was stated that there is a lot of uncertainty as to what “direct electronic transmission” means.

More details were requested on the expected level of verification of compliance with the draft DO Spec or reference to guidance material in order to provide important support to an ANSP.

Response

The request to deliver further separate guidelines will have to be considered once the draft DO Spec is finalised. The requirements for this guidance need to be defined in conjunction with Stakeholders to ascertain and verify its underlying needs.

The uncertainty related to the meaning of “direct electronic transmission” is noted and guidance will be provided, probably through the ADQ Regulators Working Group or the Aeronautical Information Operations Sub-group (AIOPS). It should be noted that the ADQ Guide (section 8.2.1) already provides some initial guidance on this subject.

Audit planning guidance will not be provided in the draft DO Spec but, once again, may be addressed through the ADQ Regulators Working Group.

Action

None.

2.2.3.17 Data Maintenance

Comments

Concern was expressed regarding the amount of data that had to be maintained with a data item for its lifetime. It is believed that this would lead to an unmanageable amount of data for the AIS/AIM (e.g. data and intermediate data from laser scanning, photogrammetry, etc.). In addition, it would not be possible for the ANSP to use or check data, or its intermediate results, parameters, etc. since the appropriate tools and software are not available. Together with the data item, metadata will be delivered, which should provide sufficient information about interactions with the data. All additional information should remain with the party which performed the interaction or with its principal. The contractual relationship between a surveyor and principal should be taken into account when assigning the different duties to the different parties.

Some Stakeholders indicated that they considered the frequency of monitoring for changes to data with ‘critical’ and ‘essential’ data integrity levels to be too stringent. This includes the positions of survey control stations. Inclusion of text on the methods of monitoring for survey control stations was requested.

Response

It is agreed that the requirement for maintaining all information with a data item is too stringent.

The frequency of monitoring for changes to data with ‘critical’ and ‘essential’ data integrity levels is in line with Commission Regulation (EU) 73/2010 [Annex IV Part D (5)].

The method of monitoring of survey control stations depends on the monumentation. In some cases (see Appendix H.2.), it is not possible to detect a shift in the station by visual inspection only.

Action

The requirement related to maintaining information for the lifetime of a data item will be reworded to state that the information needs to be maintained at the point of origin and that only the metadata required by the formal arrangement is passed on.

Clarification will be added about the methods of monitoring of survey control station positions.

2.2.3.18 Noise Abatement Procedures

Comments

A number of Stakeholders raised concern about the inclusion of requirements related to noise abatement procedures in the draft DO Spec.

Response

It is agreed that there is a mistake in the inclusion of noise abatement procedures for aircraft in the draft DO Spec. It was intended that these requirements address aerodrome noise abatement (for inclusion in AD 2.12) procedures.

Action

The noise abatement procedures requirements will be amended to reflect aerodrome noise abatement procedures only.

ANNEX A LIST OF STAKEHOLDERS WHO PROVIDED COMMENTS TO THE FORMAL CONSULTATION

The Stakeholders who provided comments on the draft DO Spec are listed below³.

Country	Organisation	Contact Name
Austria (AT)	Austro Control	Joachim Bruja
Belgium (BE)	Belgian Civil Aviation Authority (Belgian CAA - Belgian Defense - NGI (Data Originator))	Erika Billen
Belgium (BE)	LATO (precision LAnding and Take-Off task force of EUROCONTROL NSG)	Andreas Lipp
FABEC	Belgocontrol	Johan Caroen
	DFS Deutsche Flugsicherung GmbH	Ralf Reiser
	Administration de la Navigation Aérienne (ANA)	Roland Reiser
	DSNA	Stéphane Dubet
	skyguide swiss air navigation services ltd	None provided
Czech Republic (CZ)	ANS CR	Marek Dočkal
Denmark (DK)	Naviar	Hans Holst
France (FR)	DGAC / DTA (Direction du Transport Aérien)	Cédric Tedesco
France (FR)	DSAE/DIRCAM	LCL Denis Ollier
France (FR)	DGAC/DSNA	Stéphane Dubet
France (FR)	AIRBUS	Joelle Monso
France (FR)	Thales Air Systems	Laurent Benguigui
Germany (DE)	AFSBw	Berthold Juraszczyk
Germany (DE)	DFS Deutsche Flugsicherung GmbH Bundesministerium für Verkehr, Bau und Stadtentwicklung	Ralf Reiser Nancy Sickert
Germany (DE)	Avitech AG	Britta Eilmus
Greece (GR)	Hellenic Civil Aviation Authority	Efstathios Barkis
Italy (IT)	AIS - ENAV S.p.A	Giulio Melilli
Latvia (LV)	Civilās aviācijas aģentūra	Andrejs Dudarevs
Netherlands (NL)	Ministry of Defence The Netherlands	Lt-Col John van Bommel
Norway (NO)	Civil Aviation Authority - Norway	Arne Lindberg
Norway (NO)	Avinor AS	Margaret Giffen

³ Only the comments submitted by Stakeholders who consented to the publication of their comments are included in Annex B.

Country	Organisation	Contact Name
Portugal	NAV Portugal, EPE	Isabel Mègre Pires
Romania (RO)	Romanian Civil Aeronautical Authority	Claudia Virlan
Spain (ES)	Aena	Javier Aldanondo Arnau
Sweden (SE)	Swedish Transport Agency	Morgan Sundell
Sweden (SE)	LFV	Gunilla Blank
Switzerland (CH)	skyguide, swiss air navigation services ltd	Roland Baumann (Marc Troller; Laurent Deletraz)
Ukraine (UA)	Ukrainian State Air Traffic Service Enterprise	Oleg Shvets
United Kingdom (GB)	UK Civil Aviation Authority	Rick Davidson
United Kingdom (GB)	NATS	Robert Westerberg
United States (US)	FAA/AIM	George P. Sempeles

ANNEX B TABLE OF RECEIVED COMMENTS

1. The following table details all the comments received as part of the draft DO Spec formal consultation and cross-refers each comment to an appropriate response within the Summary of Responses document.
2. The table headings are as follows:

ENPRM/12-001 Draft EUROCONTROL SPECIFICATION FOR THE ORIGINATION OF AERONAUTICAL DATA SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation

- a) The first column is a unique number given to the comment for the internal tracking of the original comments. As such, these numbers are not sequential.
- b) The second column cross-refers to the relevant paragraph number in the version of the draft DO Spec that was issued for formal consultation.
- c) The 'Comment', 'Reason(s) for Comment' and 'Proposed Change/Text' columns copy exactly the textual comments as provided in the Consultation Response Sheets.
- d) The 'Reference § No SOR' column cross-refers to the relevant section of the SOR.

Note - If a comment does not require a detailed response because a proposed change to the text in the draft Specification has been accepted, reference is just made in this column to the general remarks in paragraph 2.2.1 in the main body of the document.

- e) The 'Disposal' column provides information about the way the received comment was treated.
- f) The 'Organisation' column identifies the source of the comment.

ENPRM/12-001 Draft EUROCONTROL SPECIFICATION FOR THE ORIGINATION OF AERONAUTICAL DATA							
SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
458	Page VI Executive Summary	Why is Article 6 (5) included?	It is obvious, that there are no further requirements specified for this case. So any objective in this specification must go beyond the scope of 73/2010 and cause additional workload, without being justified by 73/2010.	Delete reference to Article 6 (5).	2.2.2.2	Accepted	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
459	Executive summary	It should be made clear at the outset that a Eurocontrol specification can only provide technical support to a manufacturer's DSU. They cannot be a MoC in their own right; hence this opening statement is misleading.	It is misleading to suggest that a technical specification is a Means of Compliance to the IOP regulation.	...are used, most notably, -as a possible Means of Compliance (MoC) as a technical support to a manufacturer's DSU to assist compliance to specific Single European Sky (SES) regulatory material	2.2.2.2	Partially Accepted [Partially, in so far that we develop possible means of compliance. Subsequently, parties may choose to utilise the specification or not. Also it is not impossible that a further recognition process may be applied].	United Kingdom, UK Civil Aviation Authority
1	General	The DO specification does not address and clarify how the accuracy requirements of calculated or declared data can be met.	It is unclear how to derive an accuracy for data that has been derived from surveyed and/or declared base data.		2.2.2.4	Accepted	Austria, Austro Control

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
2	General	The dissemination of military aeronautical data is encouraged. ADQ IR applies to military data where used by GAT. Military authorities strive to adopt civil standards for the sake of safety and efficiency. For the own good of GAT users of military data, they should be informed about typical military standards present in aeronautical documents. The Data Origination Specification should offer alternates to primary standards, like it does sometimes of civil applications, to acknowledge military requirements and identify them as such.			2.2.3.6	Accepted	Belgium, Belgian Civil Aviation Authority
3	General	The specification has to be read in conjunction with CR 73/2010 and the documents referred to therein. It is therefore not necessary to repeat the contents of standards / documents referred to in CR 73/2010. At the same time, the specification shall not refer to standards which are outside the scope of CR 73/2010.	The aim shall be to create guidance material which is homogenous without multiple designations of requirements. <ul style="list-style-type: none"> • A repetition of requirements stipulated in other specifications shall be avoided. • A repetition of requirements already expressed in the Implementing Rule on ADQ shall be avoided. • A repetition of requirements from other Eurocontrol Specifications in relation to ADQ shall be avoided. • A repetition of text from ICAO documents or any other standardisation documents shall be avoided. 	Remove repetitions, copies of text and duplications of requirements throughout the entire set of specifications in relation to ADQ.	2.2.2.3	Rejected	Belgium, Belgocontrol (FABEC) Germany, DFS Deutsche Flugsicherung GmbH (FABEC) Luxembourg, Administration de la Navigation Aérienne (ANA) Luxembourg (FABEC) France, DSNA (FABEC) Switzerland, skyguide swiss air navigation services ltd (FABEC)

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
9	General	The specification has to be read in conjunction with CR 73/2010 and the documents referred to therein. It is therefore not necessary to repeat the contents of standards / documents referred to in CR 73/2010. At the same time, the specification shall not refer to standards which are outside the scope of CR 73/2010.	Aim shall be to create guidance material that is homogenous without multiple designations of requirements. <ul style="list-style-type: none"> • A repetition of requirements stipulated in other specifications shall be avoided. • Do not repeat requirements already expressed in the Implementing Rule on ADQ. • Do not repeat requirements from other Eurocontrol Specifications in relation to ADQ. • Do not repeat text from ICAO documents or any other document. • Do not add references not mentioned in annex III of CR(UE) 73/2010 	Remove repetitions, copies of text and duplications of requirements over the whole set of specifications in relation to ADQ.	2.2.2.3	Rejected	France, DSAÉ/DIRCAM
13	General	The specification has to be read in conjunction with CR 73/2010 and the documents referred to therein. It is therefore not necessary to repeat the contents of standards / documents referred to in CR 73/2010. At the same time, the specification shall not refer to standards which are outside the scope of CR 73/2010.	The aim shall be to create guidance material which is homogenous without multiple designations of requirements. <ul style="list-style-type: none"> • A repetition of requirements stipulated in other specifications shall be avoided. • A repetition of requirements already expressed in the Implementing Rule on ADQ shall be avoided. • A repetition of requirements from other Eurocontrol Specifications in relation to ADQ shall be avoided. • A repetition of text from ICAO documents or any other standardisation documents shall be avoided. 	Remove repetitions, copies of text and duplications of requirements throughout the entire set of specifications in relation to ADQ.	2.2.2.3	Rejected	Germany, AFSBw

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
25	General	The specification has to be read in conjunction with CR 73/2010 and the documents referred to therein. It is therefore not necessary to repeat the contents of standards / documents referred to in CR 73/2010. At the same time, the specification shall not refer to standards which are outside the scope of CR 73/2010.	The aim shall be to create guidance material which is homogenous without multiple designations of requirements. <ul style="list-style-type: none"> • A repetition of requirements stipulated in other specifications shall be avoided. • A repetition of requirements already expressed in the Implementing Rule on ADQ shall be avoided. • A repetition of requirements from other Eurocontrol Specifications in relation to ADQ shall be avoided. • A repetition of text from ICAO documents or any other standardisation documents shall be avoided. 	Remove repetitions, copies of text and duplications of requirements throughout the entire set of specifications in relation to ADQ.	2.2.2.3	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
4	General	A general remark has to be made on the way the specification deals with related other documents that have to be considered in the context of data origination and the way the cross references are laid down in the specification. Paragraph 1.3.5 on page 13 states that other documents contain additional specifications related to data origination. Paragraph 2.3.6.10.1 (Obstacle data) on page 35 says: "The guidelines provided in the Eurocontrol Terrain and Obstacle Data Manual shall be followed for the origination of obstacle data". There are other examples of this kind of cross referencing.	The above mentioned explanations mean that the DO specification in itself cannot be considered as a sufficient means of compliance for data origination. The aim of the specification should be the collection of all necessary requirements for data origination in a clear, easy to follow way in one document. If cross references to other documentations have to be inserted, these references have to refer to specific sections of the reference material where the actual requirement is listed.	Remove general cross references to other documentations which have to be considered in the context of data origination. Use explicit links to specific sections of the related documents.	2.2.2.3	Accepted	Belgium, Belgocontrol (FABEC) Germany, DFS Deutsche Flugsicherung GmbH (FABEC) Luxembourg, Administration de la Navigation Aérienne (ANA) Luxembourg (FABEC) France, DSNA (FABEC) Switzerland, skyguide swiss air navigation services ltd (FABEC)

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
14	General	<p>A general remark has to be made on the way the specification deals with related other documents that have to be considered in the context of data origination and the way the cross references are laid down in the specification.</p> <p>Paragraph 1.3.5 on page 13 states that other documents contain additional specifications related to data origination.</p> <p>Paragraph 2.3.6.10.1 (Obstacle data) on page 35 says: "The guidelines provided in the Eurocontrol Terrain and Obstacle Data Manual shall be followed for the origination of obstacle data".</p> <p>There are other examples of this kind of cross referencing.</p>	<p>The above mentioned explanations mean that the DO specification in itself cannot be considered as a sufficient means of compliance for data origination.</p> <p>The aim of the specification should be the collection of all necessary requirements for data origination in a clear, easy to follow way in one document.</p> <p>If cross references to other documentations have to be inserted, these references have to refer to specific sections of the reference material where the actual requirement is listed.</p>	<p>Remove general cross references to other documentations which have to be considered in the context of data origination.</p> <p>Use explicit links to specific sections of the related documents.</p>	2.2.2.3	Accepted	Germany, AFSBw

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
27	General	A general remark has to be made on the way the specification deals with related other documents that have to be considered in the context of data origination and the way the cross references are laid down in the specification. Paragraph 1.3.5 on page 13 states that other documents contain additional specifications related to data origination. Paragraph 2.3.6.10.1 (Obstacle data) on page 35 says: "The guidelines provided in the Eurocontrol Terrain and Obstacle Data Manual shall be followed for the origination of obstacle data". There are other examples of this kind of cross referencing.	The above mentioned explanations mean that the DO specification in itself cannot be considered as a sufficient means of compliance for data origination. The aim of the specification should be the collection of all necessary requirements for data origination in a clear, easy to follow way in one document. If cross references to other documentation have to be inserted, these references have to refer to specific sections of the reference material where the actual requirement is listed.	Remove general cross references to other documentation which have to be considered in the context of data origination. Use explicit links to specific sections of the related documents.	2.2.2.3	Accepted	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
5	General	There is clear intention to get publications in Europe in line with ICAO Annex 5 in the area of measurement units. ADQ is not the appropriate tool to achieve this goal.	Intention to migrate to SI units is full understood; however we do not agree with the idea to assure compliance with ICAO Annex 5 through DO. SI units are not widely used in aviation and on board equipments are not in line with this requirement. It shall be based on pan-European consensus supported by appropriate safety and cost benefit analysis.	Delete requirements on publication of IS units of measurement or deliver sufficient supporting materials.	2.2.2.7 2.2.2.3	Rejected	Czech Republic, ANS CR

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#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
6	General comment, Title	Airbus understands that this document contains Acceptable Means of Compliance to the Commission regulation (EU) 73/2010, as well as Guidance Material for data capture at the source. Both parts have to be clearly distinguished inside the document (or, better, split into two separate documents, typically one with AMCs and the other one with GMs) and not mixed into requirements. Consequently, the title of the document "EUROCONTROL Specification for the Origination of Aeronautical Data" is misleading. Is the document a technical specification? Is the document an AMC as written in the 1.3.1 section? Is the document a GM?	Need for clarification and a better breakdown of the document.		2.2.2.2	Rejected	France, AIRBUS

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#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
7	General comment	<p>Data capture guidance rules should take into account the criticality of the onboard function using data: the more critical the application, the more stringent applicable capture rules should be.</p> <p>In particular, some functions improving safety of operations can be implemented in onboard systems, based on raw conservative checks or monitorings using coarse data (e.g. use a simplified runway vertical profile to monitor take-off performances). Imposing very stringent rules for data capturing, even for functions which misbehaviour has no safety impact, could prevent airframers to implement such functions (due to additional overcosts). Providing stringent capture rules for data feeding highly critical functions (e.g. aircraft guidance) clearly makes sense; however, it would be detrimental for safety to require the same level of stringency for data used by non-critical functions</p>	Need for clarification.		2.2.2.4	<p>Partially Accepted</p> <p>[DO Spec is related to the origination of data that meets defined quality requirements. Establishment of these data quality requirements will have considered the applications in which the data will be used. The maintenance of the integrity of this data (i.e. routine, essential, critical) is addressed under a separate specification (DAL Spec). Action: Add clarification to the document].</p>	France, AIRBUS

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8	General	The major part of our activity is covered by the 1st article, para 2 of (CE) N°549/2004, quoted in alinea (9) in the introducing considerations of CR(UE) 73/2010. Nevertheless, French military AIS, is involving to be compliant with most of requirements detailed in the CR(UE) 73/2010 working closely with civilian AIS from DGAC. Moreover, some national legal documents signed both by ministry of transport and Defense already take into account the references and obligations written in the CR(UE).	DO specifications do not provide an addition value to permit us to achieve the Moc's with CR(UE) in a realistic way.	Complete revision of the proposal elaborating a really pragmatic document providing unique common material to all data originators, avoiding ambiguousness.	2.2.3.6	Partially Accepted [It needs to be noted that the key regulated parties are civil organisations and there are no direct obligations allocated on Mil parties inside the ADQ IR. However, we need to work with relevant stakeholders to identify those standards].	France, DSAÉ/DIRCAM
10	General	DO specifications are either too stringent or only a compilation of existing regulatory documents (ICAO annexes, IR documents, and so on...).	Eurocontrol guidance materials provided are over- prescriptive in regard of the CR (UE) as already said in ENPRM 10/004 and 10/005 This must be done only if it provide some more precisions or guidance to the original document	Elaborate a really pragmatic and applicable guidance material.	2.2.2.3	Partially Accepted [The list of requirements that form this minimum will be reviewed so as to minimise it as far as appropriate].	France, DSAÉ/DIRCAM
11	General	Eurocontrol specifications for the Commission Regulation on Aeronautical Data Quality shall create a homogeneous collection of guidance material. The Data Origination Specification is not in line with the specifications on DAL and DQR.		Align all Eurocontrol specifications related to ADQ to create a homogeneous and realistic collection of guidance material.	2.2.2.3	Partially Accepted [The references and the association of this specification to the other ADQ related EUROCONTROL Specifications will be reviewed to ensure that the set of documents presents a consistent set of specifications].	France, DSAÉ/DIRCAM

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24	General	Eurocontrol creates five specifications for the Commission Regulation on Aeronautical Data Quality. These specifications should create a homogeneous collection of means of compliance. The Data Origination Specification is not in line with the specifications on DAL and DQR. Different specifications referring to one Commission Regulation shall be written in a harmonised manner. For DO, DAL and DQR this is not the case. Consistency has to be ensured and the duplication of requirements has to be strictly avoided.		Align all Eurocontrol specifications related to ADQ to create a homogeneous collection of means of compliance.	2.2.2.3	Partially Accepted [The references and the association of this specification to the other ADQ related EUROCONTROL Specifications will be reviewed to ensure that the set of documents presents a consistent set of specifications].	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
12	General	There are too several references quoted in this proposal. These references are already referenced in the ADQ IR.	Repeating requirements / objectives / statements which are already part of the ADQ IR is not the sense of a specification which shall serve as a MoC.	Delete any referencing material, which is already referenced in the ADQ IR as obligatory material.	2.2.2.3	Rejected	France, DSAÉ/DIRCAM
26	General	There are several references to ISO 19115; ISO 19115 is already referenced in the ADQ IR. E.g. 2.3.9.5.1, DO-SVY-1630, DO-SVY-1620, ...	Repeating requirements / objectives / statements which are already part of the ADQ IR is not the sense of a specification which shall serve as a MoC. ISO 19115 is referenced in Annex III, 15 and has to be fulfilled anyway.	Delete any referencing material, which is already referenced in the ADQ IR as obligatory material.	2.2.2.3	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
15	General	This are many cases in which the requirement is not definite e.g. 2.2.2.4.6 and 2.2.2.4.7	In a specification the requirements shall be more non-ambiguous.	Any non-mandatory material should be deleted from the specification.	2.2.2.2	Rejected	Germany, AFSBw

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16	All	The overall specification provides a view of over specified and will be difficult to achieve in practice. Whereby the importance of the correct origination of Aeronautical Data is well understood and needed it is hard to believe that a long, complicated, and detailed document will be able to achieve its goal. Also the specification in some cases goes beyond current ICAO provisions and this can not be done by a specification as a specification in the sense of MoC can only built on the related EU Regulation and the EU Regulation is built on the ICAO provision.	To achieve the goal to enhance aeronautical data quality at origination a clear, easy to understand and easy to handle specification is needed. The users of the specification must be able to work with it. The specification shall not go beyond the related EU Regulation in sense of requirements and must by in harmony with ICAO provisions.		2.2.2.2	Noted	Germany, Avitech AG
17	all	The phrasing and the English are often complicated and difficult to understand for not native speakers.	As majority of readers are not native speakers, easier English would likely result in better and easier understanding, reduce misinterpretation, and enhance safety.	Rework the whole text from readability point of view.	2.2.3.1	Noted	Germany, Avitech AG

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#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
23	General Page ii, Abstract Page vi, Executive Summary	<p>Abstract: This EUROCONTROL Specification provides details of requirements which should be met by when <u>originating aeronautical data</u> in order to comply with the identified provisions of the Commission regulation (EU) 73/2010 laying down requirements on the quality of aeronautical data and aeronautical information for the single European sky.</p> <p>Executive Summary: This Specification concerns the <u>origination of aeronautical data</u> and, therefore, specifically supports Article 6(4), (5) and (6) of Commission Regulation (EU) 73/2010. EUROCONTROL Specifications are used, most notably, as a possible Means of Compliance (MoC) to specific Single European Sky (SES) regulatory material.</p> <p>Eurocontrol is not the right body to write Means of Compliance for a topic where the complete data chain is covered. Article 2 (2) lists the parties where the regulation shall apply. These are besides ANSPs, <u>operators of IFR aerodromes and heliports, public or private entities for origination and provision of survey data, procedure design services, electronic terrain data and electronic obstacle data.</u></p>	<p>552/2004 Interoperability Regulation, Article 4 (1) b <i>Community specifications 1. In pursuit of the objective of this Regulation, Community specifications may be established. Such specifications may be: (a) European standards for systems or constituents, together with the relevant procedures, drawn up by the European standardisation bodies in cooperation with Eurocae, on a mandate from the Commission in accordance with article 6(4) of Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations (1) and pursuant to the general guidelines on cooperation between the Commission and the standardisation bodies signed on 13 November 1984; or (b) specifications drawn up by Eurocontrol on <u>matters of operational coordination between air navigation service providers</u>, in response to a request from the Commission in accordance with the procedure referred to in Article 5(2) of the framework Regulation.</i></p> <p>A MoC on this topic has to be produced by an ESO. Only this procedure guarantees the involvement of all considered parties. In addition the duplication of work for commenting on specifications for ANSPs is avoided</p>	<p>Avoid to raise the impression that this Eurocontrol Specification can be a MoC without a proper consultation of the document through an ESO with all parties involved.</p>	2.2.2.1	<p>Partially Accepted [Partially, in so far that we develop possible means of compliance. Subsequently, parties may choose to utilise the specification or not].</p>	<p>Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung</p>

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28	General	It is preferably stated whether this specification falls under the scope of and is a Community Specification in regard regulation 552/2004 Article 4 b) and thus a response to a commission mandate or not. If not, it might be disputed whether the specification could be referred to as Means of Compliance (MoC) to regulation 552/2004 or otherwise provide a presumption of conformity with the regulation.			2.2.2.2	Partially Accepted [Partially, in so far that we develop possible means of compliance. Subsequently, parties may choose to utilise the specification or not].	Sweden, LFV
29	General	This specification has the same level of immaturity as the DAL specs had one year ago. Although one of the author was part of the DAL spec ad-hoc drafting group it seems that no improvement made under great efforts to that document found there way into this spec. We are again at the same starting point as a year ago. This is not acceptable.	Immaturity of the document, poor readability, duplication of requirements of the IR, partially more stringent requirements than in the IR.		2.2.2.2 2.2.2.3 2.2.3.1	Noted	Switzerland, skyguide, swiss air navigation services ltd
30	general	The term "National administration" is used several times. Please specify what is meant (NSA, ANSP, Geodetic survey agency,...).	Vague term used.		2.2.1	Accepted	Switzerland, skyguide, swiss air navigation services ltd
31	General	As this document is intended as guidance for surveying, the data requirements (accuracy, resolution) of the areas/nav aids should be included.	Insufficient guidance of EC 73/2010		2.2.2.4	Rejected	Switzerland, skyguide, swiss air navigation services ltd

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32	General comment	The DO specification as presented appears to be vast, complex and very prescriptive.		The normative section should be amalgamated with Annex B conformity material, standards used should be directly mapped to each objective. Where objectives exist that are covered by either the DQR or DAL objectives these should be clearly marked, this would make for easy reading and cut down on paper. In addition, do the annexes F to I really need to be included, perhaps reference the relevant standard and specific aspects required.	2.2.2.2	Partially Accepted [The list of requirements that form this minimum will be reviewed so as to minimise it as far as appropriate].	United Kingdom, NATS
33	General comment	There appears to be no consideration for the fact that States have the opportunity to file differences to ICAO legislation.		Suggest that consideration be given to ADQ legislation whereby States may register 'differences' if only to address transitional issues to full compliance.	2.2.3.14	Rejected	United Kingdom, NATS
34	General comment	The document at no stage refers to maintaining temporal data.	Whilst there are rigid requirements placed upon the designer and surveyor for the provision of their data, there appears to be no guidance for updating data prior to survey. E.g. NOTAM in place from other sources (Aerodrome operators) used to describe new permanent information (new buildings/obstacles etc) in lieu of a new/revised survey report.		2.2.1	Accepted	United Kingdom, NATS
41	Page 1 1.1.1	"It specifies how all functions that originate aeronautical data/information may meet the data quality requirements of Commission Regulation (EU) 73/2010." What's the point to follow DO specifications if they do not provide proper guidelines to actually meet requirements?	One should expect that if the specifications outlined within the DO are being followed, all functions meet the specified quality requirements.	Text proposal: "It specifies how all functions that originate aeronautical data/information meet the data quality requirements of Commission Regulation (EU) 73/2010."	2.2.1	Accepted	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung

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35	1.1.3	„1.1.3 This Specification, once released, replaces the EUROCONTROL Survey Standard 007-097 (Edition 1). Note: The Specification would then also be proposed to ICAO as it may serve as input for an updated ICAO WGS-84 manual.“ This information is over-prescriptive.	The content of this paragraph is outside the scope of this specification.	Delete section 1.1.3.	2.2.2.3	Partially Accepted [Reference to the WGS-84 manual will be removed from the Spec before its release].	France, DSAÉ/DIRCAM
42	Page 1 Section 1.1.3	„1.1.3 This Specification, once released, replaces the EUROCONTROL Survey Standard 007-097 (Edition 1). Note: The Specification would then also be proposed to ICAO as it may serve as input for an updated ICAO WGS-84 manual.“ This information goes beyond the scope of this specification.	The content of this paragraph is outside the scope of this specification.	Delete section 1.1.3.	2.2.2.3	Partially Accepted [Reference to the WGS-84 manual will be removed from the Spec before its release].	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung

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45	1.1.3 p. 1	Paragraph 1.1.3 states that this specification is intended to replace EUROCONTROLS Survey Standard 007-097 (Edition 1). From our point of view a combination of a survey standard and means of compliance in one document (this specification) may not sufficiently cover the needs and expectations of the different affected parties. For instance the different terminology used by the different affected parties is not sufficiently covered in this document to avoid misunderstandings (e.g. reliability, accuracy, tolerance, in the context of surveying and in comparison to the usage of this words in other domains).	See comment above.	Provide guidance material for surveyors as data originators in separate documents (e.g. update the EUROCONTROL survey standard, which is mentioned in paragraph 1.1.3)	2.2.2.2 2.2.3.2	Rejected	Switzerland, skyguide, swiss air navigation services Ltd
36	Page 1, Section 1.2.2	"1.2.2. [...] In particular, this related to integrity, where the concept of the application of integrity to aeronautical data/information and, consequently, how to achieve it and demonstrate compliance, were not well understood". This is a presumption.	Statements in specifications shall be based on facts and not on presumptions.	Delete or re-write.	2.2.1	Accepted	Germany, AFSBw
43	Page 1 Section 1.2.2	„1.2.2 [...] In particular, this related to integrity, where the concept of the application of integrity to aeronautical data/information and, consequently, how to achieve it and to demonstrate compliance, were not well understood.“ This is a presumption.	Statements in specifications should be based on facts and not on presumptions.	Delete or re-write.	2.2.1	Accepted	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung

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#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
44	Page 1 - 2 Sections 1.2.3 – 1.2.8	These sections repeat the contents of CR 73/2010.	The specification has to be read in conjunction with CR 73/2010. It is therefore not necessary to repeat the contents of the CR.	Delete sections 1.2.3 – 1.2.8.	2.2.2.3	Partially Accepted [It is good practice that a certain level of introductory text is provided. The text will be reviewed to eliminate purely repeated elements but retain explanatory text].	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
46	§ 1.2.8 § 2.2.1.1.1	Those paragraphs dealing with the DQR specification have to be amended	Based on recent discussion in the frame of the ADQ Regulators Working Group (ARWG) a new version of the DQR specification should be proposed with some modification on the Harmonised list, in particular regarding the “State Responsibility” items. Those paragraphs need to be reviewed to ensure consistency with the last conclusions regarding this DQR specification.		2.2.2.3 2.2.2.4	Accepted	France, DGAC / DTA (Direction du Transport Aérien)
51	1.3 Scope, 5)	It is not clear how AIS providers are to be informed of such data sharing to enable them to intervene to ensure aeronautical data is of sufficient quality	No logical means for AIS providers to do this	Revised statement to make the intent possible for AIS providers to oversee. <i>“information provided by data originators not referred to in Article 2(2) are made available to the next intended user, via the AIS provider, with sufficient quality to meet the intended use.” The AIS provider shall ensure that the data originator meets the requirements of the DQA specification.</i>	2.2.2.2	Rejected	United Kingdom, UK Civil Aviation Authority

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
47	1.3.1 - 1.3.2	These sections are quotes from / repeat the contents of CR 73/2010.	The specification has to be read in conjunction with CR 73/2010. It is therefore not necessary to repeat the contents of the CR.	Delete sections 1.3.1 and 1.3.2.	2.2.2.3	Partially Accepted [It is good practice that a certain level of introductory text is provided. The text will be reviewed to eliminate purely repeated elements but retain explanatory text].	France, DSAÉ/DIRCAM
49	Page 2 - 3 Section 1.3.1 – 1.3.2	These sections are quotes from / repeat the contents of CR 73/2010.	The specification has to be read in conjunction with CR 73/2010. It is therefore not necessary to repeat the contents of the CR.	Delete sections 1.3.1 and 1.3.2.	2.2.2.3	Partially Accepted [It is good practice that a certain level of introductory text is provided. The text will be reviewed to eliminate purely repeated elements but retain explanatory text].	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
50	1.3.1	The MoC of 73/2010 Annex IV, Part C - as referenced in this paragraph - has not been adequately found in this document.	MoC does not cover an important part of the data origination process.		2.2.3.11	Rejected	Switzerland, skyguide, swiss air navigation services ltd

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SPECIFICATION REQUIREMENTS							
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53	1.3.3	“The requirements in this specification which must be met in order to be considered compliant with Article 6(4), (5) and (6) of Commission Regulation (EU) 73/2010 [Reference 1] are included in the normative Chapter 2.” “Comprise mandatory requirements, as well as recommendations and optional requirements, the implementation of the latter two being optional.”	First quotation is in opposition with the second one	Any non-mandatory material must be deleted from the specification.	2.2.2.2	Rejected	France, DSAÉ/DIRCAM
58	Page 3 1.3.3.	The section contradicts itself. It says: “The requirements in this specification which must be met in order to be considered compliant with Article 6(4), (5) and (6) of Commission Regulation (EU) 73/2010 [Reference 1] are included in the normative Chapter 2.” And then it is said, that this chapter “comprise mandatory requirements, as well as recommendations and optional requirements, the implementation of the latter two being optional.” And thus non-mandatory material.	Self contradicting	Any non-mandatory material must be deleted from the specification. As stated by the commission, any MoC or CS must not go beyond the scope of the commission regulation, which shall be supported by the specification.	2.2.2.2	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
52	§ 1.3.4	It is stated here that "data quality requirements for the data to be originated are NOT covered by this specification" about Data Origination. It is unclear what this statement means.	Data quality requirements are available in Article 6 of the ADQ IR and are specified in Annex IV of the ADQ IR. The further details are integrated in the specific Eurocontrol Specification about data quality requirements (DQR). DO-DQR-010 manes the link with ADQ IR and with Eurocontrol DQR Specification. So, the "data quality requirements for the data to be originated are covered by this specification" about Data Origination.	Take out or rewrite the draft text in § 1.3.4 to eliminate the conflict with DO-DQR-010.	2.2.2.4	Accepted	Belgium, Belgian Civil Aviation Authority
61	1.3.4	Data quality requirement should be included in this specification or at least, an explicit reference should be made to the relevant document.	It is unclear, which documents have to be considered.		2.2.2.4	Partially Accepted [Clarification will be provided].	Switzerland, skyguide, swiss air navigation services ltd
54	1.3.5	How is it possible, that this DO specification includes "additional requirements associated with the origination of data"? Additional requirements are obviously not justified by ADQ IR and thus must be deleted in this DO specification!	Additional requirements are not supported by ADQ IR and thus must be deleted.	Delete any requirement which is not directly justified by and linked to ADQ IR.	2.2.2.2	Rejected	France, DSAÉ/DIRCAM
59	Page 3 1.3.5	How is it possible, that this DO specification includes "additional requirements associated with the origination of data"? Additional requirements are obviously not justified by ADQ IR and thus must be deleted in this DO specification.	Additional requirements are not supported by ADQ IR and thus must be deleted.	Delete any requirement which is not directly justified by and linked to ADQ IR.	2.2.2.2	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
62	1.3.5	As this document provides MoC for 73/2010, additional requirements of other documents in this amount should not be included for being		Reduce the scope of the document to data origination and the requirements of EC 73/2010.	2.2.2.2	Rejected	Switzerland, skyguide, swiss air navigation services ltd

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
		compliant with this document.					
167	1.3.5 p. 13	This paragraph states that other documents also contain specifications related to data origination to comply with, in order to claim conformity with 73/2010. This simply means that the EUROCONTROL Specification for the Origination of Aeronautical Data. cannot be considered as a sufficient Means of Compliance for data origination. In other words the DO Spec is not suitable as a Means of Compliance for data origination.	Incomplete specification.	Specification must cover all requirements.	2.2.2.3	Accepted	Switzerland, skyguide, swiss air navigation services Ltd
65	1.4 Conventions Footnote 5	Unfounded statement	There is no formal recognition that compliance with a Eurocontrol specification will provide a presumption of conformity with an IR. For IRs this is only possible with community specifications. 5 is an unfounded statement and needs to be removed	Remove footnote 5	2.2.2.2	Accepted	United Kingdom, UK Civil Aviation Authority
60	Page 3 - 4 1.4.1, 1.4.2, 1.4.3	Additional requirements may not be part of the specification, because then it is beyond the scope of the ADQ IR. I do not conform to requirements that may be implemented. I expect a clear specification of shall requirements?	How is a harmonized approach achieved, if some requirements are mandatory and some are not?	Delete any reference to additional requirements. Recommendations shall be removed to guidance material and must not be integrated in the specification.	2.2.2.2	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
64	1.4.2 Conventions	The definition of 'Shall' needs to be more clearly stated	Unclear meaning/grammar	'Shall' - indicates a statement of the specification, the compliance with which is mandatory to achieve the implementation of compliance to this EUROCONTROL....	2.2.3.2	Rejected	United Kingdom, UK Civil Aviation Authority
63	Para 1.4.3	Definition of Requirement "CM"	Correction of definition	"CM" (Conditional and mandatory) items only apply when an mandatory parent requirement has been implemented.	2.2.3.2	Rejected	Ukraine, Ukrainian State Air Traffic Service Enterprise
66	1.4.6	In 1.3.4 <i>Data quality requirements for the data to be originated are not covered by this specification. However, these are included in other specifications supporting Commission Regulation (EU) 73/2010 [Reference 1]. See section 1.6 for further details.</i> In 1.4.6 <i>Functional area DQR is listed. This implies that in this document contains requirements supporting this functional area.</i>	Is this document implementing DQR?	Solve this contradiction	2.2.2.4	Accepted	France, DSAÉ/DIRCAM
67	Page 4, 1.4.6	In 1.3.4: Data quality requirements for the data to be originated are not covered by this specification. However, these are included in other specifications supporting Commission Regulation (EU) 73/2010 [Reference 1]. See section 1.6 for further details. In 1.4.6: Functional area DQR is listed. This implies that this document contains requirements supporting this functional area.	Chapter 1.4.6 is in contradiction to chapter 1.3.4	Check the link to DQR specification and resolve the contradiction.	2.2.2.4	Accepted	Germany, AFSBw

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
69	Page 4 1.4.6	In 1.3.4 à <i>Data quality requirements for the data to be originated are not covered by this specification. However, these are included in other specifications supporting Commission Regulation (EU) 73/2010 [Reference 1]. See section 1.6 for further details.</i> In 1.4.6 à <i>Functional area DQR is listed. This implies that in this document contains requirements supporting this functional area.</i>	Chapter 1.4.6 is in contradiction to chapter 1.3.4.	Check the link to DQR specification and resolve the contradiction.	2.2.2.4	Accepted	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
70	Page 4, 1.4.6	The abbreviation FPD, Instrument Flight Procedure Design, is spelled incorrectly in chapter 2.4 where DO-FDP-xxx is used.		All references to FDP should be corrected to FPD.	2.2.1	Accepted	Norway, Avinor AS
71	1.4.6 p. 4	The spec uses partially the same functional areas as the DAL specs but uses different acronyms for the same.	Specifications coming from EUROCONTROL covering the same topic (MoC ADQ-IR) look pretty different (e.g. specifications tables, format). This is confusing and annoying for a party wanting to apply these specs.		2.2.3.1	Accepted	Switzerland, skyguide, swiss air navigation services ltd
72	§ 1.5.2	Inconsistencies between this list and the titles of the chapters mentioned.	Chapter 3 relates to testing and <u>verification</u> instead of <u>validation</u> . Annex C provides traceability to regulatory <u>provisions</u> instead of <u>requirements</u> .	Correct the text to restore consistency.	2.2.1	Accepted	Belgium, Belgian Civil Aviation Authority

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
78	1.6	Diagram incorrect	CS can be used as a direct compliance to the IOP reg without an IR Eurocontrol specifications have no formal link with IOP Compliance	Show CSs as linking directly with IOP compliance. Place "Eurocontrol specifications, standards etc" into the diagram triangle area of guidance material. In this case, "Technical support/guidance material" may be a better title for this section.	2.2.1	Rejected	United Kingdom, UK Civil Aviation Authority
76	Figure 1, Page 6	ICAO cannot be categorised only as guidance when talking about Annexes.	See comment above.	Amend figure accordingly.	2.2.1	Rejected	Switzerland, skyguide, swiss air navigation services ltd
73	Page 6-7, 1.7	"...it is highly desirable that the EUROCONTROL Specification for the Origination of Aeronautical Data is implemented and used across a wide contiguous area" are not acceptable in MoCs / CS.	MoCs and CS are not designed to be explanatory material.	Remove the whole chapter from DO Specification.	2.2.2.3	Rejected	Germany, AFSBw
75	Page 6 - 7 1.7	This is explanatory material. Sentences like "...it is highly desirable that the EUROCONTROL Specification for the Origination of Aeronautical Data is implemented and used across a wide contiguous area." are not acceptable in MoCs / CS.	MoCs and CS are not designed to be explanatory material.	Remove the whole chapter from DO specification.	2.2.2.3	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
77	1.7.2 c)	Definition of End to End is from originator to AIS production. This reinforces the assumption that the scope does not extend to downstream analysis and research functions.	<ul style="list-style-type: none"> • Is an airspace design simulation (FTS/RTS) part of the AIS production process, or merely a validation of a design? • If we carry out analysis which results in the derivation of a geographic location, Only if that location is used for AIS, would that process need to be compliant with 73/2010 and this draft specification? 	Request clarification	2.2.2.2	Accepted	United Kingdom, NATS

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#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
80	Page 7 1.8	Has this responsibility been aligned to tasks of EASA?	This Specification lies in an area, where EASA is / might be responsible.	Check the statement in relation to units, maintaining this specification.	2.2.2.1	Accepted	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
81	Chapter 2	There are requirements for vertical reference system and for vertical dimensions. These are not really conflicting but raise some questions: 1. All data published in IAIP may continue to be published in MSL,AGL,FL ? See § 2.2.2.4.10) 1. Do we need to publish airspace limits in MSL or FL ? (see § 2.5.1.14) This should mean that airspace can no longer be designed or developed with upper or lower limits in AGL limits terms. 3. Do we need to review and transfer all items in airspace design and airspace structure into MSL/FL or can we stick to the method used today for publication ?			2.2.2.7	Accepted	Belgium, Belgian Civil Aviation Authority

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
92	Page 8 Section 2.1	As detailed in Section 1.4, <i>the conventions for denoting requirements, recommendations and optional requirements in this Chapter are as follows: [...]</i> The use of terms such as „objective“, „requirement“ etc. should be aligned with the phraseology of the other specifications in relation to CR 73/2010. The entire section should refer to the phrasing of objectives and not to requirements (cf. DAL section 1.6.2).	Different specifications referring to one and the same CR shall be harmonised.	Rewrite section 2.1 on the basis of the DAL specification section 1.6.2. Ensure consistency of all specifications referring to CR 73/2010.	2.2.3.2	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
82	§ 2.1.1	"Such requirements shall be testable and their implementation auditable".	Eurocontrol is kindly requested to deliver more guidelines to achieve this.		2.2.3.16	Accepted	Belgium, Belgian Civil Aviation Authority
84	2.1.1	A document aiming to be a MoC / CS shall contain 'shalls' only.	MoCs / CS shall contain mandatory material.	Delete all non-mandatory material.	2.2.2.2	Rejected	France, DSAÉ/DIRCAM
85	2.2.1	<i>„All data shall be originated in a manner which meets the defined data quality requirements for the data item, [...]"</i> As stated in this section, Data Quality requirements have been detailed in the ECTL DQR specification.	The content of this section is outside the scope of this specification and is covered by the DQR specification.	Delete section 2.2.1.	2.2.2.4	Accepted	France, DSAÉ/DIRCAM
87	Page 8 2.1.1	A document aiming to be a MoC / CS shall contain "shalls" only.	MoCs / CS shall contain mandatory material.	Delete all non-mandatory material.	2.2.2.2	Rejected	Germany, AFSBw
93	Page 8 2.1.1	A document aiming to be a MoC / CS shall contain 'shalls' only.	MoCs / CS shall contain mandatory material.	Delete all non-mandatory material.	2.2.2.2	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
94	Page 8 Section 2.2.1	„All data shall be originated in a manner which meets the defined data quality requirements for the data item, [...]“ As stated in this section, Data Quality requirements have been detailed in the DQR specification.	The content of this section is outside the scope of this specification and is covered by the DQR specification.	Delete section 2.2.1.	2.2.2.4	Accepted	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
96	2.2.1, 2.2.4, 2.2.10	Please insert "which may be used as a suitable means of compliance" after DQR and/or DAL Specifications are referred to.	As a general comment, since EUROCONTROL specifications are not mandatory, and in order not to link too strictly one specification to another, we would suggest to insert "which may be used as a suitable means of compliance" whenever DQR and/or DAL Specifications are mentioned. It should be possible to adopt only one Specification at a time.	Please insert "which may be used as a suitable means of compliance" after DQR and/or DAL Specifications are referred to.	2.2.1	Accepted	Italy, AIS - ENAV S.p.A.
98	2.2.1.1.1 p. 8	Data origination in general	This requirement refers directly to the superordinate EC 73/2010 document. The more specific part resides in a note to the requirement only.	Put the specific part into the requirement itself.	2.2.2.3	Rejected	Switzerland, skyguide, swiss air navigation services Ltd
86	2.2.2.1 Notes 1 - 3	„The horizontal reference system for the publication of all co-ordinate data shall be the World Geodetic System-1984 (WGS-84).“ This has been stipulated by CR 73/2010 and does not require any further discussion as provided in Notes 1 – 3.	The content of this section is outside the scope of this specification.	Delete Notes 1 – 3.	2.2.2.2	Rejected	France, DSAÉ/DIRCAM
95	Page 8 – 9 Section 2.2.2.1 Note 1 - 3	„The horizontal reference system for the publication of all co-ordinate data shall be the World Geodetic System-1984 (WGS-84).“ This has been stipulated by CR 73/2010 and does not require any further discussion as provided in Notes 1 – 3.	The content of this section is outside the scope of this specification.	Delete Notes 1 – 3.	2.2.2.2	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
83	§ 2.2.2.1.1 Note (3)	For the use of a local reference frame for surveying, the latest Lambert 2008 (based on ETRS89) seems to be preferable to the old Lambert 72.	<p>The Lambert 2008 is the projection of geographic coordinates based on the GRS80 ellipsoid.</p> <p>Note that the Lambert 2008 coordinates have a positive shift of about 500 kilometres in x and y compared to Lambert 72 coordinates !</p> <p>The projection linked to the reference system ETRS89 is also the new Lambert 2008 projection. The advantage of Lambert 2008 coordinates is that GPS measurement results do not need a transformation anymore. Only a projection. That is why there is no loss of accuracy of the GPS measurements. In the context of the new technological developments in navigation, it is recommended to take Lambert 2008 into consideration.</p>		2.2.2.5	Noted	Belgium, Belgian Civil Aviation Authority
101	2.2.2 Reference System Specification Footnote 7	Invalid statement	There is no formal recognition that compliance with a Eurocontrol specification will provide a presumption of conformity with an IR. For IRs this is only possible with community specifications. 7 is an unfounded statement and needs to be removed.	Remove foot note 7	2.2.2.2	Accepted	United Kingdom, UK Civil Aviation Authority

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
97	Page 8, 2.2.2.1.1	<p>The requirement refers to the horizontal reference system to be used. The specification states that horizontal coordinate system to be used shall be WGS84 which is set equal to ITRS and its realization ITRF 2000. The national horizontal system in Norway is EUREF89. All land surveying and geodetic measurements are based on the coordinate system. Since EUREF89 is based on ETRS/ETRF and due to continental drift the difference between the reference systems has increased. Therefore, we need to transform data from ETRF and ITRF in the recommended website http://www.epncb.oma.be/_data/products/coord_trans/index.php, we need geocentric coordinates. This means that we have to make a conversion from ETRF (Euref89) to geocentric coordinates (X, Y, Z). At the same time EUREF89 in Norway relates to epoch 1994. To be able to conduct transformation between different epochs, the site velocity information for the given point is required. Site velocity is an unknown parameter.</p>	<p>We see potential difficulties with transformation from ETRF (EUREF89) to ITRF2000 since the specification does not suggest any specific tool that can handle data sets containing many coordinates. There could therefore potentially be a safety issue of each State has to develop its own transformation routines. It could be very useful if EUROCONTROL could provide a tool and that will easily manage transformation between ITRF and ETRF(EUREF) and other reference systems which may be required.</p>		2.2.3.12	Rejected	Norway, Avinor AS

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112	Page 9, 2.2.2.1.1 NOTE(3)	The INSPIRE directive requires the use of ETRF89 as a datum for spatial data sets. It would be a benefit for all parties, if we have a common datum for both spatial data sets and data that is used for publication of aviation information. Since EUROCONTROL and ICAO use ITRF2000, and INSPIRE uses ETRF89, this means that it is necessary with a transformation between these datums. We believe that it would be more practical if we could reply on one datum to operate with after the survey is conducted.	In our case, we will conduct surveys in EUREF89 (ETRF89). For publication data have to be transformed to ITRF2000. For a safety assessment point of view, we would welcome a recommendation in the specification where either the storage of data in two different datums or transformation of data each time they are to be published is the preferred way to handling the transformation of coordinates.		2.2.2.5	Accepted	Norway, Avinor AS
99	2.2.2.1.1 / Annex F p. 8 / p. 76	Detailed information about horizontal and vertical reference systems are interesting, but difficult to understand by non-experts. This information should be part of guidance material for surveyors.		See comment Form No. 1 of 39	2.2.2.5 2.2.2.2	Rejected	Switzerland, skyguide, swiss air navigation services ltd
100	2.2.2.1.1	Confusion: "shall" is used in combination with WGS-84, ITRF2000 and ETRF89	Only one system can be used.	Indicate one horizontal reference system, which should be used (EC 73/2010 states clearly that WGS84 should be used). The other systems and guidance can be given and explained in the appendix.	2.2.2.5	Rejected	Switzerland, skyguide, swiss air navigation services ltd
103	2.2.2.1.2 - 2.2.2.1.3	CR 73/2010 has established that the horizontal reference system shall be WGS-84. There is no need to specify any further requirements in relation to ITRF.	Any further requirements shall be re-phrased to ensure that deviations from given requirements are published.	Delete sections 2.2.2.1.2 and 2.2.2.1.3 or rewrite (cf. Phrasing of Sections 2.2.2.3).	2.2.2.5	Rejected	France, DSAÉ/DIRCAM

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
109	Page 9 Section 2.2.2.1.2 – 2.2.2.1.3	CR 73/2010 has established that the horizontal reference system shall be WGS-84. There is no need to specify any further requirements in relation to ITRF.	Any further requirements shall be re-phrased to ensure that deviations from given requirements are published.	Delete sections 2.2.2.1.2 and 2.2.2.1.3 or rewrite (cf. Phrasing of Sections 2.2.2.3).	2.2.2.5	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
105	2.2.2.1.5 DO-REF-050	The horizontal reference frame shall be recorded for a data set, not for every coordinate pair.	It is sufficient to record the horizontal reference frame as metadata for each data set. To record it as metadata for each coordinate pair in a data set will result in unnecessary, repeated information and therefore in an unnecessarily larger amount of data. In existing data interchange formats, e.g. as specified in EUROCAE ED-119B, the horizontal reference frame is provided as metadata for the whole data set.	The horizontal reference frame used in data origination shall be recorded, together with the co-ordinates, for a data set as (lineage) metadata.	2.2.2.6	Accepted	Germany, Avitech AG
104	2.2.2.2 - 2.2.2.4	„2.2.2.2 Vertical Reference System“ The information in this chapter doesn't clarify which Geoid model has to be used.	The requirements are ambiguous and inconsistent with CR 73/2010, Annex IV, Part D, 3. NGF-IGN-69 is the primary Geoid model used in France. The method to convert in the EGM96 is published in AIP. Nevertheless, IGN in France begins to use EGM2008 as Geoid model.	Delete the content of Chapter 2.2.2.2 and refer to CR 73/2010, Annex IV, Part D, 3 or unique Geoid model has to be imposed to the community.	2.2.2.5	Partially Accepted [A requirement to indicate the publication requirement (EGM-96) will be added].	France, DSAÉ/DIRCAM
111	Page 9 - 10 Section 2.2.2.2	„2.2.2.2 Vertical Reference System“ The informations in this chapter doesn't clarify which Geoid has to be used.	The requirements are ambiguous and inconsistent with CR 73/2010, Annex IV, Part D, 3.	Delete the content of Chapter 2.2.2.2 and refer to CR 73/2010, Annex IV, Part D, 3.	2.2.2.5	Partially Accepted [A requirement to indicate the publication requirement (EGM-96) will be added].	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
102	§ 2.2.2.2.1 & § 2.2.2.2.5	The use of the words "height", "elevation", "altitude" and "Flight level" should be consistent with ICAO definitions through the whole document.	The elevation is the distance in feet/metres above a ground reference point (at mean sea level or MSL), commonly called the terrain elevation. The (absolute) altitude is the height of the aircraft above the terrain over which it is flying. Also referred to feet/metres above ground level (AGL). The (true) altitude is the actual distance above mean sea level (MSL) where the aircraft is flying. § 2.2.2.2.1 : In this sentence, the word "elevation" is recommended because writer relates to MSL. A height of (absolute) altitude refers usually to AGL. § 2.2.2.2.5 : "elevation" should be changed by "(true)altitude" if it relates to aircraft position. If it relates to airports, it should be called "airport elevation", expressed in feet above mean sea level (MSL).		2.2.3.2	Rejected	Belgium, Belgian Civil Aviation Authority
110	Page 9 Section 2.2.2.2.1 Note	<i>„For the documentation of the vertical distances between a point and the MSL, the term 'elevation' is used in aviation.“</i> Aviation terminology does not have to be explained in this context.	The explanation of aviation terminology is beyond the scope of this specification.	Delete this note.	2.2.3.2	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
113	2.2.2.2.2	Recommend you mention EGM96 in this paragraph.	The next paragraph, 2.2.2.2.3, references "other than" EGM96, is rendering language in 2.2.2.2.2 void of a stated datum.	Change to read "A geoid model, such as EGM96, sufficient..... "	2.2.2.5	Partially Accepted [A requirement to indicate the publication requirement (EGM-96) will be added].	United States, FAA/AIM

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
115	§ 2.2.2.2.3	This requirement makes mandatory to be compliant with ISO 19111. This is a heavy effort for small organizations.	There is no alternative open. If the organization can't afford to install an ISO 19111 they are out as data originator. This can have heavy consequences for the current data originators being small and having not enough money and / or resources to launch an action for compliance to ISO 19111.	Provide an alternative to ISO 19111 compliance. An idea could be a phrased approach : first, implementation of an ISO 9000 quality management system and then, in a second phase transfer to a more sophisticated quality management system.	2.2.2.3	Rejected	Belgium, Belgian Civil Aviation Authority
127	2.2.2.2.3	Too restrictive when using a more accurate model.	Using a more accurate model in comparison to EGM-96 results in differences well within the prescribed tolerances. Making the model available as proposed requires extra capacity and finances for something that provides little added value. Rewrite paragraph to make it optional or only required if the accuracy of the data falls outside of the tolerance.		2.2.2.5	Rejected	Netherlands, Ministry of Defence The Netherlands
124	Page 10 2.2.2.2.5 – 2.2.2.2.6 DO-REF-100 DO-REF-110	The requirements are redundant.	The specification shall not contain redundant requirements.	Consolidate to one requirement.	2.2.2.5	Partially Accepted [DO-REF-100 is obsolete and will be removed].	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
114	2.2.2.2.6 and 2.2.2.2.7	The requirements as described in 2.2.2.2.6 and 2.2.2.2.7 cannot be accepted.	There is no justification for the provision of information concerning the geoid model and its originator for each (!) record, separately as metadata. Such information must be declared in a data set specification according to ADQ Annex I - and therefore this would be sufficient to clearly indicate which geoid model is used for the origination. It must be sufficient to uniquely refer to the used geoid model by its declaration/name for each originated record.	Information about a national geoid model shall be stated in the AIP / Chapter GEN 2.1.	2.2.2.6	Rejected	Austria, Austro Control
120	2.2.2.2.6 DO-REF-110	The geoid model shall be recorded for a data set, not for every elevation value.	It is sufficient to record the geoid model as metadata for each data set. To record it as metadata for each elevation value in a data set will result in unnecessary, repeated information and therefore in an unnecessarily larger amount of data. In existing data interchange formats, e.g. as specified in EUROCAE ED-119B, the information about the geoid model is provided as metadata for whole data set.	The information about the geoid model used shall be recorded for all elevation values a data set as metadata.	2.2.2.6	Accepted	Germany, Avitech AG
118	2.2.2.3	DO-REF-130 repeat ICAO requirements	A repetition of requirements stipulated elsewhere is not required.	Delete requirement / objective / statement.	2.2.2.3	Rejected	France, DSAÉ/DIRCAM
125	Page 10 2.2.2.3	The requirement / objective / statement is already addressed by a reference to Annex 15 in ADQ IR (Annex I, part A).		Delete requirement / objective / statement.	2.2.2.3	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
116	§ 2.2.2.4	DO-UOM-070 and DO-UOM-090 are in conflict with DO-UOM-010.	DO-UOM-010 requires measurement units compliant with ICAO Annex 5. These are kilometres and metres. DO-UOM-070 and DO-UOM-090 seem to allow other units, namely nautical miles and feet.	Restore consistency amongst the different DO-UOM-XX requirements.	2.2.2.7	Rejected	Belgium, Belgian Civil Aviation Authority
130	2.2.2.4	Altitude (ALT) should be added as an additional (and probably the most commonly used) vertical reference. 'MSL' should read 'AMSL', A vertical reference would be stated as 'above mean sea level' not 'sea level'. Similar logic to 'AGL' not 'GL'.	Missing and incorrect interpretation of abbreviation.	Change as detailed in comment above	2.2.1 2.2.2.7	Partially Accepted [We will ensure that elevations referenced to Mean Sea Level are presented in a manner consistent with that used by ICAO].	United Kingdom, UK Civil Aviation Authority
117	§ 2.2.2.4.3	In the ENPRM 07-007 consultation about a draft ICAO Doc 9881, we relayed the concern that throughout military aviation, positions might be expressed in an alternate format: degrees, minutes and hundreds of minutes. The addition of a note was proposed to EUROCONTROL "Note: - For special use purposes coordinates may be published in another format".	For military requirements it can be necessary to publish positions in Degrees Minutes and Thousands of minutes. Military aircraft navigation systems are not always capable of selecting Degrees Minutes Seconds; therefore it is necessary to publish coordinates in the required format.		2.2.2.7	Rejected	Belgium, Belgian Civil Aviation Authority
119	2.2.2.4.3 - 2.2.2.4.10	DO-UOM-030 through to DO-UOM-100 repeat ICAO requirements.	A repetition of requirements stipulated elsewhere is not required.	Delete sections 2.2.2.4.3 – 2.2.2.4.10.	2.2.2.3	Rejected	France, DSAÉ/DIRCAM
126	Page 10 – 11 Section 2.2.2.4.3 – 2.2.2.4.10	DO-UOM-030 through to DO-UOM-100 repeat ICAO requirements.	A repetition of requirements stipulated elsewhere is not required.	Delete sections 2.2.2.4.3 – 2.2.2.4.10.	2.2.2.3	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
128	Para 2.2.2.4.3	Add the text proposed to the end of the sentence	For further clarification	... in accordance with ICAO Annex 4 and 15 Requirements.	2.2.2.3	Rejected	Ukraine, Ukrainian State Air Traffic Service Enterprise
129	Para 2.2.2.4.4	Add the text proposed to the end of the sentence.	For further clarification	... in accordance with ICAO Annex 4 and 15 Requirements.	2.2.2.3	Rejected	Ukraine, Ukrainian State Air Traffic Service Enterprise
131	2.2.2.4.6 and 2.2.2.4.7	The requirements as described in 2.2.2.4.6 and 2.2.2.4.7 cannot be accepted.	The justification for the requirement to record or use kilometres or nautical miles for distance over 4,000 metres is unknown. Also we could not find the reference to any ICAO SARPs.		2.2.2.7	Partially Accepted [2.2.2.4.6 to become a recommendation and addressed as a "should". Action: review all references to Annex 5].	Austria, Austro Control
132	2.2.2.4.6		Is there any regulation or recommendation defining or justifying 4000 meters limit?	Please clarify.	2.2.2.7	Partially Accepted [2.2.2.4.6 to become a recommendation and addressed as a "should". Action: review all references to Annex 5].	Czech Republic, ANS CR
142	2.2.2.4.6 2.2.2.4.7	It is critical to change units depending on the length of the distance (especially, if the data is exchanged digitally). The paragraphs can be deleted.	High risk of mismatch of units.	Delete paragraphs	2.2.2.7	Partially Accepted [2.2.2.4.6 to become a recommendation and addressed as a "should". Action: review all references to Annex 5].	Switzerland, skyguide, swiss air navigation services ltd
143	Para 2.2.2.4.6	Text correction	Indication of 4,000 m, as the boundary line for displaying the distances in metres or in kilometres, is not published in ICAO Docs and, in fact, is determined by the requirements for each particular type of data or chart.	The primary unit for distances shall be metres and kilometres.	2.2.2.7	Partially Accepted [2.2.2.4.6 to become a recommendation and addressed as a "should". Action: review all references to Annex 5].	Ukraine, Ukrainian State Air Traffic Service Enterprise

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
144	Para 2.2.2.4.7	Text correction	Indication of 4,000 m, as the boundary line for displaying the distances in metres or in kilometres, is not published in ICAO Docs and, in fact, is determined by the requirements for each particular type of data or chart.	As an alternative to the primary unit for distances, nautical miles may be used.	2.2.2.7	Partially Accepted [2.2.2.4.6 to become a recommendation and addressed as a "should". Action: review all references to Annex 5].	Ukraine, Ukrainian State Air Traffic Service Enterprise
133	2.2.2.4.10	Paragraph 2.2.2.4.10 is misleading.	Listed values are rather reference systems than units of measurement.		2.2.2.7	Accepted	Czech Republic, ANS CR
134	2.2.3	Section 2.2.3.1 repeats CR 73/2010 as well as DAL specification DAL-DS-110. Sections 2.2.3.2 – 2.2.3.4 consist of notes only and have no content.	The specification has to be read in conjunction with CR 73/2010. It is therefore not necessary to repeat the contents of the CR. A repetition of requirements stipulated in other specifications shall be avoided.	Delete section 2.2.3.	2.2.2.3	Accepted	France, DSAÉ/DIRCAM
138	Page 11 - 12 Section 2.2.3	Section 2.2.3.1 repeats CR 73/2010 as well as DAL specification DAL-DS-110. Sections 2.2.3.2 – 2.2.3.4 consist of notes only and have no content.	The specification has to be read in conjunction with CR 73/2010. It is therefore not necessary to repeat the contents of the CR. A repetition of requirements stipulated in other specifications shall be avoided.	Delete section 2.2.3.	2.2.2.3	Accepted	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
139	2.2.3	This point could be removed as it does not describe or add anything to the origination of aeronautical data, it just creates confusion. There are already other specifications for the data set. Besides, it is referring to standards without indicating its version or the reference to the support documentation, mentioning that these standards are in accordance with the regulation, but without providing means of evidence.	It would simplify the document without losing relevant content.	Remove 2.2.3	2.2.2.3	Accepted	Spain, Aena
140	2.2.3.1.1 p. 11	ANSP	This requirement refers directly to the superordinate EC 73/2010 document. The more specific part resides in a note to the requirement only.	Put the specific part into the requirement itself.	2.2.2.3	Rejected	Switzerland, skyguide, swiss air navigation services ltd
145	2.2.3.1.1.	"Clearly defined data models exist for the data within the scope of Commission Regulation (EU) 73/2010"	We would appreciate clarification as to where these are listed?	Possibly add as an annex or footnote where these are.	2.2.3.5	Partially Accepted [The models referred to are indicated by the notes provided which will be clarified].	United Kingdom, NATS
136	2.2.3.2 Note(2)	Current version is ED-119B.	A new version of ED-119 was finalised.	ED-119A ^B	2.2.1	Accepted	Germany, Avitech AG
141	2.2.3.2 p. 11	Data Set Specification: AIXM conceptual model	Note (1) mentions AIXM being conformant with EC Reg. 73/2010, Annex I; however, it does not specify the AIXM model version. As a matter of fact, AIXM 4.5 does not comply with the requirements in terms of temporality, geometrical model and meta data model. It is only AIXM 5.1 which meets all ADQ IR requirements.	Add the version nr. 5.1 to AIXM in Note (1).	2.2.3.5	Accepted	Switzerland, skyguide, swiss air navigation services ltd

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146	2.2.3.2	AIXM is no longer a "Conceptual Model".	AICM is a conceptual model, but AIXM is reality in production.	Recommend delete "Conceptual Model" after "(AIXM)"	2.2.1	Rejected	United States, FAA/AIM
148	2.2.3.3	Additional explanatory information needed.	It is not clear where the Terrain Information Conceptual Model referred is coming from.	Please give additional information related to the Terrain Information Conceptual Model.	2.2.3.5	Accepted	Czech Republic, ANS CR
151	2.2.4	"Data Product Specifications" are also covered by the DAL specification and by the CR 73/2010	A repetition of requirements stipulated in other specifications shall be avoided. Sections in different specifications referring to one and the same topic shall be harmonised.	Ensure consistency of specifications. Rewrite or delete section	2.2.2.3	Rejected	France, DSAÉ/DIRCAM
155	Page 12 – 13 Section 2.2.4	"Data Product Specifications" are also covered by the DAL specification.	A repetition of requirements stipulated in other specifications shall be avoided. Sections in different specifications referring to one and the same topic shall be harmonised.	Ensure consistency of specifications. Rewrite or delete section 2.2.4, depending on the outcome of the consistency check.	2.2.2.3	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
147	2.2.4.2 point b) and c)	The requirements described in point b) and c) of para 2.2.4.2 cannot be accepted.	It is neither best nor common practice to include the date/time of the data origination in a data product specification as specified by ISO 19131. One example: the same DPS may be relevant for different originators who originate at different dates/times. The date/time of the origination should be stated in a formal arrangement between the data originator and recipient (e.g. SLA/LoA). - The data origination report format can be specified in a DPS, but it can also be specified in a formal arrangement. The ADQ does not require in Annex I to include the report format description in a data set specification.	Change the requirement related to point c) into "The Data Product Specification should identify the report format to be used".	2.2.1	Accepted	Austria, Austro Control

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SPECIFICATION REQUIREMENTS							
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149	DO-DPS-040 (page 12)	Independent verification is a very costly process that is much too stringent to plan for all origination, modification and withdrawals.	Unnecessary cost increase and unpractical objectives to apply to all data in all cases.	Either delete the objective, or replace "shall" by "should", or restrict the objective to critical data only	2.2.2.8	Accepted	France, DGAC / DSNA
150	§ 2.2.4.4 (DO-DPS-040)	Independent verification is a very complex and costly process. To require such a process for all originations, modifications and withdrawals seems to be over prescriptive.	The Eurocontrol Specification shall neither be overly prescriptive nor go beyond the minimum scope of the regulation. They have to be as simple as possible with only the necessary details to ensure compliance with what is required by the regulation. Additional details, recommended additional requirements/best practices can be proposed to improve the general process but only in documents of lower level, like guidelines. In particular, for data that are not critical, independent verification cannot be considered as the only way to comply with requirements of the regulation.	Replace "shall" by "should" for non critical data, or restrict the objective to critical data only	2.2.2.8	Accepted	France, DGAC / DTA (Direction du Transport Aérien)
153	2.2.4.4 Footnote 10	Independently verified does not necessarily mean that it has to be done by separate personnel to those that performed the origination.	Other possibilities exists which allow independent verification.	Delete the footnote 10.	2.2.2.8	Accepted	Germany, Avitech AG
156	2.2.4.4.	Too restrictive.	This would require unnecessary extra capacity and should already be covered within the quality management system of the data originator.	Delete text	2.2.2.8	Partially Accepted [Independent verification will be restricted to critical data only].	Netherlands, Ministry of Defence The Netherlands
158	§ 2.2.4.6	Note (2) speaks about formal arrangements and refers to Eurocontrol DAL specification.	This is a useful reference, but some others can be added : ADQ IR Annex IV Part c and EC 1035/2011 Annex 1 section 3.1	Evaluate the need to add these references.	2.2.2.3	Accepted	Belgium, Belgian Civil Aviation Authority

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157	2.2.5.1	There is imminent probability that "Variation" and "Declination" are mixed up by mistake.	The "danger" of mixing up "Variation" and "Declination" must be more clearly addressed and mitigated. Most of the time both appellations are used for the same issue.	Rename "Station Declination" into "Magnetic Offset" for a clearer definition of the miss adjustment.	2.2.3.7	Rejected	Austria, Austro Control
159	2.2.5.1	Details on the measurement / determination of the magnetic variation are covered extensively by ICAO publications (ICAO Annex 15, Annex 4, PANS-OPS).	The specification shall not refer to standards which are outside the scope of CR 73/2010. The specification shall not duplicate the contents of ICAO standards.	Delete section 2.2.5.1.	2.2.3.7	Rejected	France, DSAÉ/DIRCAM
161	Page 13, 2.2.5.1	Details on the measurement / determination of the magnetic variation are covered extensively by ICAO publications (ICAO Annex 15, Annex 4, PANS-OPS).	The specification shall not refer to standards which are outside the scope of CR 73/2012. The specification shall not duplicate the contents of ICAO standards.	Delete section 2.2.5.1.	2.2.3.7	Rejected	Germany, AFSBw
164	Page 13 Section 2.2.5.1	Details on the measurement / determination of the magnetic variation are covered extensively by ICAO publications (ICAO Annex 15, Annex 4, PANS-OPS).	The specification shall not refer to standards which are outside the scope of CR 73/2010. The specification shall not duplicate the contents of ICAO standards.	Delete section 2.2.5.1.	2.2.3.7	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
166	2.2.5.1 p. 13	Magnetic Variation	Definitions and rules provided for magnetic variation are truly helpful. However, they are not necessarily expected to appear within this context.	Check whether the magnetic variation related information can be placed referenced in a more appropriate document.	2.2.3.7	Noted	Switzerland, skyguide, swiss air navigation services ltd
169	2.2.5.1.3	I would change "should" to "shall" in this paragraph.	Date of annual rate of change is an important piece of data for future predictions.	Change "should" to "shall"	2.2.3.7	Accepted	United States, FAA/AIM
160	2.2.5.2	Section 2.2.5.2 repeats details of the WGS-84 standards, ICAO Annex 5 as well as contents of the DAL specification.	The specification has to be read in conjunction with CR 73/2010 and the documents referred to therein. It is therefore not necessary to repeat the contents of standards / documents referred to in CR 73/2010. A repetition of requirements	Delete section 2.2.5.2.	2.2.2.3	Rejected	France, DSAÉ/DIRCAM

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			stipulated in other specifications shall be avoided.				
165	Page 13 - 15 Section 2.2.5.2	Section 2.2.5.2 repeats details of the WGS-84 standards, ICAO Annex 5 as well as contents of the DAL specification.	The specification has to be read in conjunction with CR 73/2010 and the documents referred to therein. It is therefore not necessary to repeat the contents of standards / documents referred to in CR 73/2010. A repetition of requirements stipulated in other specifications shall be avoided.	Delete section 2.2.5.2.	2.2.2.3	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
168	2.2.5.2.1.1.	"Co-ordinate data not determined by survey shall either be a) Calculated using geodesic algorithms and source data that has been defined in WGS-84."	We assume that internal derivation of geographic locations is not within scope of the above/the specification document.	Request clarification	2.2.1	Rejected	United Kingdom, NATS
170	2.2.5.2.1.2	The requirement as described in 2.2.5.2.1.2 cannot be accepted.	This requirement exceeds the already stringent ADQ requirements. ADQ Annex I Part C does not include such kind of metadata. Additionally the implementation of this requirement causes extra costs and efforts for existing software which is already declared as being ADQ-compliant.	The methods(s) employed to calculate or derive data should be documented.	2.2.2.6	Rejected	Austria, Austro Control
176	2.2.5.2.1.5	The note here is an incorrect statement and should be removed or amended. A small circle is the intersection of the sphere and the plane which does not pass through the centre point of the sphere. i.e. a line of latitude.	Incorrect statement	Remove or amend Note to correct interpretation.	2.2.3.8	Accepted	United Kingdom, UK Civil Aviation Authority
171	2.2.5.2.1.6	The note "The only paths on the earth that are great circles are paths parallel to the equator as the earth is an oblate sphere" has to be revised.	Every circle parallel to the equator is called small circle. The equator itself is a special great circle and is also called rhumb line. But every biggest possible circle through two points on		2.2.3.8	Accepted	Austria, Austro Control

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			the surface of a sphere is called great circle, so the centre of that circle is equal to the centre point of the sphere. The earth is not a perfect sphere, flattening is much less that most people think and so the biggest possible ellipsis on the earths surface are also called great circle. Usually every IFR flight is using great circle navigation to save costs, and surely most of the flights are not exactly parallel to the equator. Geodetic science refers to Loxodrome (fixed heading) and Orthodrome (great circle).												
172	Page 14, 2.2.5.2.1.6	<div><p>This paragraph states that distances and lengths shall be geodesic distances on reference ellipsoid (WGS84). For short distances (up to several km) publication of geodesic distances may be unnecessary, since the differences in coordinate and geodetic distances are small. Example: The coordinate distance between two thresholds points for Bergen airport, ENBR, Norway (EUREF89 UTM Zone 32):</p><table><tr><td>ENBR</td><td>THR17</td><td>6691298,137</td><td>290872,257</td></tr><tr><td>ENBR</td><td>THR35</td><td>6688862,130</td><td>291136,007</td></tr></table><p>$D = \sqrt{\Delta X^2 + \Delta Y^2} \approx 2450,244\text{m}$</p><p>Distance calculated with EUROCONTROL DQTS on WGS84 ellipsoid:</p><p>$D_{WGS84} \approx 2449,913$</p><p>Deviation: $D_{WGS84}^{Coord} = D_{WGS84} - D \approx 0,331\text{m}$</p><p>It would be helpful to have a set of rules that define the maximum distance for which planar coordinates are acceptable and above which geodetic distances should be used.</p></div>	ENBR	THR17	6691298,137	290872,257	ENBR	THR35	6688862,130	291136,007			2.2.3.8	Accepted	Norway, Avinor AS
ENBR	THR17	6691298,137	290872,257												
ENBR	THR35	6688862,130	291136,007												
173	2.2.5.2.1.6 DO-CAT-090	The text "distance and length values shall be geodesic distances...", consider the phrase should instead of shall.	Is Geodesic distance the most convenient way of surveying all Distances in AIS? What about i.e. construction of Buildings?	Replace the phrase shall be geodesic distances with the word should.	2.2.3.8	Accepted	Norway, Civil Aviation Authority - Norway								
174	2.2.5.2.1.6 p. 14	Note	The statement about geodesic distances looks odd.	Check if this statement is true.	2.2.3.8	Accepted	Switzerland, skyguide, swiss air navigation services ltd								

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#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
178	2.2.5.2.1.6 Note	Language in the note is basically true, but there are other possibilities of what is a Great Circle not mentioned.	Yes, the equator is a Great Circle, but so are all the Meridians and any plotted path that bisects the earth in to two equal halves.	Recommend change the language to read: "The geodesic distance between two points is often referred to as great circle distance of which paths divide the earth into two equal halves" Or, delete the note and let footnote 13 suffice. Note, ICAO uses no reference to great circle in this definition.	2.2.3.8	Accepted	United States, FAA/AIM
175	2.2.5.2.1.9 p. 14	Derived Data	The statement is too generic.	Formulate in active form, ideally including who, what, when, how.	2.2.2.8	Rejected	Switzerland, skyguide, swiss air navigation services ltd
177	2.2.5.2.1.9	The requirement for validation is stated several times in this guidance. However, the guidance does not actually describe how specific data elements in-scope of the regulation could be validated. For example how to validate the origination of a new danger area, airspace or airway, etc.	Guidance must specify 'how' to validate data originating from surveyed, calculated or derived data.	Include guidance on how to validate derived data. Or further still how to derive specific types of data in-scope of the regulation in the first place.	2.2.2.8	Rejected	United Kingdom, UK Civil Aviation Authority
183	2.2.5.2.2 p. 15	Specific Cases	The subject of these 3 requirements are not really fitting into the context where they appear.	Check the document structure.	2.2.1	Accepted	Switzerland, skyguide, swiss air navigation services ltd
186	2.2.5.2.2.3	The identifier for Prohibited, Restricted and Danger Areas should be move to Naming/Identification section.	Incorrect location of paragraph.	Move para to 2.2.5.3	2.2.1	Accepted	United Kingdom, UK Civil Aviation Authority
179	2.2.5.3	„Naming and identification normally follow conventions established either at a global level by ICAO [...]“ and do not have to be repeated in this document.	The specification shall not refer to standards which are outside the scope of CR 73/2010. The specification shall not duplicate the contents of ICAO standards.	Delete section 2.2.5.3.	2.2.2.3	Rejected	France, DSAÉ/DIRCAM

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
181	Page 15 – 16 Section 2.2.5.3	<i>„Naming and identification normally follow conventions established either at a global level by ICAO [...]“ and do not have to be repeated in this document.</i>	The specification shall not refer to standards which are outside the scope of CR 73/2010. The specification shall not duplicate the contents of ICAO standards.	Delete section 2.2.5.3.	2.2.2.3	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
184	2.2.5.3.2 p. 15	Note: The EUROCONTROL Terrain and Obstacle Manual provides guidance on the identification of obstacles. The intention of the above note at this place is unclear.			2.2.1	Accepted	Switzerland, skyguide, swiss air navigation services ltd

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#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
182	Page 15: sub-para 2.2.5.3.2.5 and relevant Notes 1 and 2 of Chapter 2- (Normative) Specification for Data Origination Requirements, of paras 2.2 - General Requirements, 2.2.5 - Specific Categories of Data, 2.2.5.3 - Naming / Identification, 2.2.5.3.2 – Specific.	The text of sub-para 2.2.5.3.2.5 is not quite clear, while the corresponding Note 1 is confusing and inaccurate.	Location Indicators have been primarily established to identify AFS stations in different geographic locations. Combined with the appropriate 4-letter suffixes (three-letter designator and a filler letter), they form the AFS address for aeronautical stations, authorities, services, units or aircraft operating agencies. Standing independently, they typically identify the geographical location of ATS units (ACCs, APPs/TWRs, AFIS) and subsequently (in the case of APP, TWR, AFIS) the corresponding aerodromes or heliports which these units serve. Location Indicators are assigned by States, checked by ICAO HQ and published in ICAO Doc 7910, through the ICAO procedures as provided in the forward of ICAO Doc 7910 (not ICARD) . However, it is not mandatory to assign and register a Location Indicator for all aerodromes/heliports. Furthermore, States may assign for internal use Location Indicator-type designators which are not meant to be published in ICAO Doc 7910 and do not correspond to AFS stations.	a) Amend the text of sub-para 2.2.5.3.2.5 in page 15, as follows: 2.2.5.3.2.5 Location Indicators and the corresponding names of the ATS unit geographical location they identify, shall be recorded in ICAO Doc 7910. DO-CAT-210 b) Add new sub-para in page 15, as follows: 2.2.5.3.2.6 All current aerodrome and heliport Location Indicators should be recorded in ICAO Doc 7910. DO-CAT-XXX c) Replace the text of Note (1) of sub-para 2.2.5.3.2.5 in page 15 as follows: Note (1): The procedures for the formulation, assignment, use and publication of Location Indicators in ICAO Doc 7910, are defined in the Forward of ICAO Doc 7910. d) Renumber subsequent paras.	2.2.1	Partially Accepted [ICAO Doc 7910 will be consulted and the text will be reviewed to provide any necessary clarifications].	Greece, HELLENIC CIVIL AVIATION AUTHORITY
185	Para 2.2.5.3.2.5, Note(1)	Text correction	Mistake	The State body responsible for the allocation of aerodrome location indicators ...	2.2.1	Accepted	Ukraine, Ukrainian State Air Traffic Service Enterprise

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#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
187	§ 2.2.5.3.2.9	The military procedure designers have to comply with specific requirements. NATO STANAGs for procedure design and flight operation adopted ICAO naming convention together with some specific unique requirements. Is an alternative to the primary standard allowed here as well?			2.2.3.6	Partially Accepted [The relevant Military standards/documents will need to be clearly identified and perhaps referenced, if appropriate and available/accessible. Stakeholders may need to be consulted to identify the applicable standards].	Belgium, Belgian Civil Aviation Authority
197	After para 2.2.5.3.2.9	New text	Recommendation to add new para concerning identification of RNAV (GNSS) routes.	All RNAV (GNSS) routes shall be identified in accordance with ...	2.2.1	Rejected	Ukraine, Ukrainian State Air Traffic Service Enterprise
198	After para 2.2.5.4.3.2	New text	Recommendation to add new para concerning own names translation.	Translation of the own names should be implemented taking into account the rules of transliteration of the original language.	2.2.1	Accepted	Ukraine, Ukrainian State Air Traffic Service Enterprise
190	2.2.5.4-3	DO-CAT-290 Independent verification is a very costly process that is much too stringent to plan for all translations.	Unnecessary cost increase and unpractical objectives to apply to all translations.	Either delete the objective, or replace "shall" by "should", or restrict the objective to translation of information that is critical to flight safety.	2.2.2.8	Accepted	France, DSAÉ/DIRCAM
191	2.2.5.4 - 2.2.5.9	Sections 2.2.5.4 – 2.2.5.9 repeat details of ICAO Annexes and Documents, of the DAL specification and/or are not covered by references provided in CR 73/2010.	The specification has to be read in conjunction with CR 73/2010 and the documents referred to therein. It is therefore not necessary to repeat the contents of standards / documents referred to in CR 73/2010. At the same time, the specification shall not refer to standards which are outside the scope of CR 73/2010.	Delete section 2.2.5.4 – 2.2.5.9.	2.2.2.3	Rejected	France, DSAÉ/DIRCAM

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
			A repetition of requirements stipulated in other specifications shall be avoided.				
193	Page 16 – 18 Section 2.2.5.4 – 2.2.5.9	Sections 2.2.5.4 – 2.2.5.9 repeat details of ICAO Annexes and Documents, of the DAL specification and/or are not covered by references provided in CR 73/2010.	The specification has to be read in conjunction with CR 73/2010 and the documents referred to therein. It is therefore not necessary to repeat the contents of standards / documents referred to in CR 73/2010. At the same time, the specification shall not refer to standards which are outside the scope of CR 73/2010. A repetition of requirements stipulated in other specifications shall be avoided.	Delete section 2.2.5.4 – 2.2.5.9.	2.2.2.3	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
194	2.2.5.4.3.1 p. 16 suitable level of competence.... How is the 'suitable level of competence' defined? Please provide requirements which are unambiguous.			2.2.1	Partially Accepted [The second note will be clarified as follows "Ideally, translation should be performed by a translator whose mother tongue is the target language of the translation"].	Switzerland, skyguide, swiss air navigation services ltd
188	DO-CAT-290 (page 16)	Independent verification is a very costly process that is much too stringent to plan for all translations.	Unnecessary cost increase and unpractical objectives to apply to all translations.	Either delete the objective, or replace "shall" by "should", or restrict the objective to translation of information that is critical to flight safety	2.2.2.8	Accepted	France, DGAC / DSNA
189	§ 2.2.5.4.3.2 (DO-CAT-290)	Independent verification is a very complex and costly process. To require such a process for all translations, irrespective of the associated data integrity level, seems to be over prescriptive.	The Eurocontrol Specification shall neither be overly prescriptive nor go beyond the minimum scope of the regulation. They have to be as simple as possible with only the necessary details to ensure compliance with what is required by the regulation. Additional details, recommended additional requirements/best practices can be	Replace "shall" by "should" for non critical data, or restrict the objective to critical data only	2.2.2.8	Accepted	France, DGAC / DTA (Direction du Transport Aérien)

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#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
			proposed to improve the general process but only in documents of lower level, like guidelines.				
195	2.2.5.6 p. 16/17	Radar Services and Procedures	Out of scope for ADQ IR compliance.	Remove this requirement.	2.2.2.2	Rejected	Switzerland, skyguide, swiss air navigation services ltd
196	2.2.5.6	Delete, out of scope of EC 73/2010.		Delete the paragraph.	2.2.2.2	Rejected	Switzerland, skyguide, swiss air navigation services ltd
199	2.2.5.6	Development of Radar Services and Procedures has nothing to do with satisfying Article 6 Annex IV of the regulation. This specification should provide the means for originating and validating quality surveyed, derived, or calculated data (that may form part of Radar Services and Procedures) as required by ICAO Annex 15 Appendix 7 and Doc 9674.	Radar Services are not required specifically by the Regulation. Origination of quality data listed in Annex 15, Appendix 7 (or the DQR) irrespective of where it resides in the IAIP should be the aim of this guidance specification.	Remove whole section.	2.2.2.2	Rejected	United Kingdom, UK Civil Aviation Authority
202	§ 2.2.5.7 (DO-CAT-350, DO-CAT-360, DO-CAT-370)	The link between the requirement to develop a noise abatement procedure and the IR ADQ is not clear. Such a requirement should not appear on this specification.	How should such a requirement be applied? Probably by regulation to airlines. Then why is it in this specification?	Delete this paragraph	2.2.3.18	Partially Accepted [This section was intended to address aerodrome noise abatement procedures (for inclusion in AD 2.12) and will be amended accordingly].	France, DGAC / DTA (Direction du Transport Aérien)

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
206	2.2.5.7, Page 17	The whole chapter 2.2.5.7 on Noise Abatement Procedures should be deleted. 2.2.5.7.1 and 2.2.5.7.2 should be deleted, and 2.2.5.7.3 DO-CAT-370 removed to functional area FPD.	2.2.5.7.1 and 2.2.5.7.2 Considered not to belong in this type of Specification document for AIS Data origination. Commercial Operators will be covered by EU-Ops 1.235. 2.2.5.7.3 should be removed to functional area FPD. Noise abatement procedures will often be a relevant constraint for IFPD.	The whole chapter 2.2.5.7 deleted and only 2.2.5.7.3 removed to functional Area FPD	2.2.3.18	Partially Accepted This section was intended to address aerodrome noise abatement procedures (for inclusion in AD 2.12) and will be amended accordingly].	Norway, Civil Aviation Authority - Norway
207	2.2.5.7 p. 17	Noise Abatement Procedures	Out of scope for ADQ IR compliance. From our point of view the legal base for the inclusion of this topic into this specification is missing.	Remove this requirement.	2.2.3.18	Partially Accepted This section was intended to address aerodrome noise abatement procedures (for inclusion in AD 2.12) and will be amended accordingly].	Switzerland, skyguide, swiss air navigation services ltd
209	2.2.5.7	Delete, out of scope of EC 73/2010.		Delete the paragraph.	2.2.3.18	Partially Accepted This section was intended to address aerodrome noise abatement procedures (for inclusion in AD 2.12) and will be amended accordingly].	Switzerland, skyguide, swiss air navigation services ltd

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
212	2.2.5.7	Including the requirement for Noise Abatement Procedures does not directly satisfy Article 6 Annex IV of the regulation. This specification should provide the means for originating and validating quality surveyed, derived, or calculated data (that may form part of Noise Abatement Procedures) as required by ICAO Annex 15 Appendix 7 and Doc 9674.	Noise Abatement Procedures are not required specifically by the Regulation. Quality data listed as listed by Annex 15 (or the DQR) irrespective of where it resides in the IAIP should be the aim of this guidance.	Remove whole section.	2.2.3.18	Partially Accepted This section was intended to address aerodrome noise abatement procedures (for inclusion in AD 2.12) and will be amended accordingly].	United Kingdom, UK Civil Aviation Authority
204	Page 17, DO-CAT-350	It's not made clear, how this objective should be applied. Is this airline regulation?	Application is not clear.	Clarify or delete.	2.2.3.18	Partially Accepted This section was intended to address aerodrome noise abatement procedures (for inclusion in AD 2.12) and will be amended accordingly].	Germany, AFSBw
205	Page 17, 2.2.5.7.1 and 2.2.5.7.2	Noise abatement procedures: We do not understand why these two paragraphs are in the specification.			2.2.3.18	Partially Accepted This section was intended to address aerodrome noise abatement procedures (for inclusion in AD 2.12) and will be amended accordingly].	Norway, Avinor AS
201	§ 2.2.5.8	Military unique charting standards will be available through the Mil AIP. Is there are charting policy where civil/military infrastructures are co-located? The unit who operates the navigation aids also publishes the procedure(s). Can the unit do this according to its own standards?			2.2.3.6	Partially Accepted [The relevant Military standards/docu ments will need to be clearly identified and perhaps referenced, if appropriate and	Belgium, Belgian Civil Aviation Authority

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SPECIFICATION REQUIREMENTS							
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						available/accessi ble. Stakeholders may need to be consulted to identify the applicable standards].	
214	2.2.5.8	Requirements based or related to ICAO Annex 4 should not be mentioned in DO.	According to introductory part of Commission Regulation (EU) No 73/2010 ADQ requirements should not be transposed to ICAO Annex 4.	Delete requirements and recommendations related to compliance with ICAO Annex 4.	2.2.3.3	Accepted	Czech Republic, ANS CR
208	2.2.5.8 p. 17	Charts	Purely product related -> out of scope for data origination.	Remove this requirement. Clarify this requirement.	2.2.3.3	Accepted	Switzerland, skyguide, swiss air navigation services Ltd
210	2.2.5.8	Delete, out of scope of EC 73/2010.		Delete the paragraph.	2.2.3.3	Accepted	Switzerland, skyguide, swiss air navigation services Ltd
213	2.2.5.8	Including the requirement for Charts has nothing to do with satisfying Article 6 Annex IV of the regulation. Charts are produced in accordance with ICAO Annex 4 and are a product of the data quality which the regulation refers. This specification should concentrate on surveyed, derived, or calculated data origination as listed in ICAO Annex 15 Appendix 7 (or HL) and as defined by Doc 9674.	Not required by the Regulation	Remove whole section.	2.2.3.3	Accepted	United Kingdom, UK Civil Aviation Authority

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
200	2.2.5.8.1	The use of "should" in context with ICAO Standards has to be reconsidered.	In case of amendments in the charts that do not comply with Annex 4 requirements, the State shall identify them and report them - as foreseen - to ICAO as differences to the Annex.	Use the word "shall" instead of "should" - and refer to the obligation of reporting differences to ICAO in case of non-compliance.	2.2.3.3 2.2.3.14	Accepted	Austria, Austro Control
211	After para 2.2.5.8.1	New text	Recommendation to add new para concerning identification of differences with ICAO SARPs.	All differences with ICAO Annex 4 requirements related to the content and layout of the charts shall be clearly explained and listed in the National AIP.	2.2.3.3 2.2.3.14	Noted	Ukraine, Ukrainian State Air Traffic Service Enterprise
203	§ 2.2.5.8.2 (DO-CAT-390) § 2.2.5.8.3 (DO-CAT-400)	It is not clear if those paragraphs have to be considered as requirements, recommendations or optional requirements.	The mentions "wherever possible, charts symbols shall be..." and "as far as practicable, States should..." are not clear.	§ 2.2.5.8.2, suppress the mention "wherever possible" and replace "shall" by "should". § 2.2.5.8.3, suppress the mention "as far as practicable"	2.2.3.3	Accepted	France, DGAC / DTA (Direction du Transport Aérien)
223	2.2.5.9	In our understanding of the regulation, data originators are not required to maintain a complete database with their own data. They send the records to the AIS which is the one that maintains the complete database, including historical records.	In our understanding this not applicable to data originators, only to AIS databases.	Remove 2.2.5.9	2.2.3.9	Rejected	Spain, Aena
229	2.2.5.9	This para identifies a requirement for withdrawn data that is already included in the regulation and the DAL i.e. this is not a 'data origination' activity.	Duplication	Remove.	2.2.2.3	Rejected	United Kingdom, UK Civil Aviation Authority
222	2.2.5.9.1	Too restrictive	Some obstacle data (i.e. trees) are frequently updated. In order to avoid the database being cluttered with obsolete data it is suggested to use a minimum storage time for withdrawn data instead of a permanent storage.	Data which is no longer effective shall be marked as withdrawn and stored for a minimum period ofyears.	2.2.3.9	Accepted	Netherlands, Ministry of Defence The Netherlands

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#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
218	2.2.6 - 2.2.10	Sections 2.2.6 – 2.2.10 repeat details CR 73/2010 as well as of the DAL specification.	The specification has to be read in conjunction with CR 73/2010. It is therefore not necessary to repeat the contents of the CR. A repetition of requirements stipulated in other specifications shall be avoided. Moreover DATA exchange will be treated in ENPRM 02/2012(AIX)	Delete sections 2.2.6 – 2.2.10.	2.2.2.3	Rejected	France, DSAÉ/DIRCAM
221	Page 18 – 20 Sections 2.2.6 – 2.2.10	Sections 2.2.6 – 2.2.10 repeat details CR 73/2010 as well as of the DAL specification.	The specification has to be read in conjunction with CR 73/2010. It is therefore not necessary to repeat the contents of the CR. A repetition of requirements stipulated in other specifications shall be avoided.	Delete sections 2.2.6 – 2.2.10.	2.2.2.3	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
230	2.2.6	Requirement for the processing of data is already included in the regulation and specified in the DAL, and has nothing to do with providing the actual means for 'data origination' that this guidance should specify.	Not appropriate in this guidance	Remove	2.2.2.3	Rejected	United Kingdom, UK Civil Aviation Authority
215	DO-PRO010 (page 18) DO-EXC-010 (page 18) DO-EXC-050 (page 19) DO-QUA-010 (page 19) DO-TSW 010 (page 19) DO-VAL-020 (page 20) DO-SVY-1450 (page 37)	There is no reason to copy Reg 73/2010 in objectives if they do not provide any other related information or guidance	The afore-referenced objectives are just copy of Reg 73/2010	Delete all referenced objectives	2.2.2.3	Rejected	France, DGAC / DSN

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
217	§ 2.2.6 (DO-PRO-010) § 2.2.7.1 (DO-EXC-010) § 2.2.7.5 (DO-EXC-050) § 2.2.8.1 (DO-QUA-010) § 2.2.9.1.1 (DO-TSW-010) § 2.2.10.1 (DO-VAL-010) § 2.2.10.2 (DO-VAL-020) § 2.3.8.2.2 (DO-SVY-1450)	This is a copy of the Regulation without any additional information	The Eurocontrol specifications have to be as simple as possible with only the necessary details to ensure compliance	Delete those paragraphs if they don't have any additional values compared to the Regulation.	2.2.2.3	Rejected	France, DGAC / DTA (Direction du Transport Aérien)
224	2.2.6.1 p. 18	Data processing	This requirement refers directly to the superordinate EC 73/2010 document. The more specific part resides in a note to the requirement only.	Put the specific part into the requirement itself.	2.2.2.3	Rejected	Switzerland, skyguide, swiss air navigation services Ltd
225	2.2.6.1 p. 18	This requirement is a cross reference to the ADQ IR, but it doesn't provide the requirements themselves. From our point of view the requirements based on the article should be provided here.			2.2.2.3	Rejected	Switzerland, skyguide, swiss air navigation services Ltd
226	2.2.7 p. 18	Data exchange	This requirement refers directly to the superordinate EC 73/2010 document. The more specific part resides in a note to the requirement only.	Put the specific part into the requirement itself.	2.2.2.3	Rejected	Switzerland, skyguide, swiss air navigation services Ltd
231	2.2.7	Data Exchange already included in the regulation and specified in the DAL/AIX, and has nothing to do with providing the actual means for 'data origination' that this guidance should specify.	Not appropriate in this guidance.	Remove	2.2.2.2	Rejected	United Kingdom, UK Civil Aviation Authority

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#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
227	2.2.7.1 p. 18	... direct electronic transmission... What does this exactly mean? What kind of configuration will be allowed (e.g. automatically treated mails, only machine-to-machine interface,...)?			2.2.3.16	Accepted	Switzerland, skyguide, swiss air navigation services ltd
228	2.2.7.1 p. 18	Note(2) could be moved to 2.2.7.2.			2.2.1	Partially Accepted [Notes 1 and 2 will be moved to 2.2.7.3].	Switzerland, skyguide, swiss air navigation services ltd
216	DO-EXC-020 (page 18) DO-EXC-030 (page 18)	The provisions on data exchange should all be gathered in a specific document (eg AIX) rather than duplicated here	This specification addresses data origination, not data exchange	Delete referenced objectives	2.2.2.3	Rejected	France, DGAC / DSNA
238	2.2.8	Quality Assurance compliance already specified via the DAL, and has nothing to do with providing the actual means for 'data origination' that this guidance should specify.	Not appropriate in this guidance.	Remove	2.2.2.3	Rejected	United Kingdom, UK Civil Aviation Authority
235	2.2.8.1 p. 19	Quality assurance	This requirement refers directly to the superordinate EC 73/2010 document. The more specific part resides in a note to the requirement only.	Put the specific part into the requirement itself.	2.2.2.3	Rejected	Switzerland, skyguide, swiss air navigation services ltd
239	2.2.9	Tools and Software requirements already specified by the DAL, and has nothing to do with providing the actual means for 'data origination' that this guidance should specify.	Not appropriate in this guidance	Remove	2.2.2.3 2.2.3.12	Accepted	United Kingdom, UK Civil Aviation Authority

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
232	§ 2.2.9.1.1/2	It is recommended that responsibility for confirming that the tool complies with the relevant provision in Commission Regulation EC 73/2010 be assigned to the tool manufacturer, but where the manufacturer has not performed a conformity assessment of the software, it shall be the responsibility of the user to ensure the conformity of the software before it is used for originating and processing data.	§ 2.2.9.1.2 is very difficult to implement. That's why § 2.2.9.1.1. has to be preferred.		2.2.1 2.2.3.12	Noted	Belgium, Belgian Civil Aviation Authority
237	2.2.9.1	"Where software and tools are used in the origination and processing of data, it shall be demonstrated that these function in compliance with Article 8 and Article 12 of Commission Regulation (EU) 73/2010"	It is unrealistic to put Research tools through this level of rigour given the flexibility needed for analytical and research methods. The same paragraph goes on to suggest responsibility for compliance is assigned to the tool manufacturer – for NATS' COTS research tools, they are not ATM industry toolsets and therefore assigning compliance to those suppliers would not necessarily be feasible.		2.2.3.12	Rejected	United Kingdom, NATS
236	2.2.9.1.1 p. 19	Tools and Software	This requirement refers directly to the superordinate EC 73/2010 document. The more specific part resides in a note to the requirement only.	Put the specific part into the requirement itself.	2.2.2.3	Rejected	Switzerland, skyguide, swiss air navigation services ltd

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234	Page 19, 2.2.9.1.2	This paragraph can potentially give users of software an unreasonably large burden in performing conformity assessments when these have not been performed by the manufacturers. From the way in which this paragraph has been written it is difficult to see how software manufacturers have any incentive to perform conformity assessments themselves. In this paragraph there should also be a reference to the DAL Specification, Chapter 5.			2.2.3.12	Rejected	Norway, Avinor AS
252	2.2.10	Data Validation and Verification already specified by the DAL, and has nothing to do with providing the actual means for 'data origination' that this guidance should specify.	Not appropriate in this guidance.	Remove duplication and provide specific means of Validation and Verification for data in-scope of the reg.	2.2.2.3	Rejected	United Kingdom, UK Civil Aviation Authority
248	2.2.10.1 & 2.2.10.2 p. 20	Data validation and verification	This requirement refers directly to the superordinate EC 73/2010 document. The more specific part resides in a note to the requirement only.	Put the specific part into the requirement itself.	2.2.2.3	Rejected	Switzerland, skyguide, swiss air navigation services ltd
243	2.3	Section 2.3 repeats details of the WGS-84 standards, as well as contents of the DAL specification or the text of the EU regulation.	Survey is not really declined in CR(EU) 73/2010. SVY requirements shall be concerned only as proposals. States have to be free to adapt CR(EU) 73/2010 in their own survey methods according to formal arrangements assessments Text of MoC / CS should not repeat the text of the EU regulation it refers to.	Delete or re-write this section	2.2.2.3	Rejected	France, DSAÉ/DIRCAM
249	2.3 p. 20	Tolerance	Where does this term come from?	Clarify the term "tolerance" or replace it by one which is broadly understood.	2.2.3.2 2.2.3.4	Accepted	Switzerland, skyguide, swiss air navigation services ltd

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247	Page 20 Section 2.3.1	<i>„Note 16: ...The values are based on what should be technically feasible and on requirements in cadastral survey law (CH).“</i> This note is not clear.	From the point of view of a surveyor the given values in conjunction with the technical feasibility are confusing. The amounts of the given values are not in the range of what surveyors normally achieve. What is technically feasible doesn't concern with specific cadastral survey law anyway.	Delete or re-write the note.	2.2.3.4	Accepted	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
240	2.3.1.1.1	The meaning and rationale for the tolerance values as described in 2.3.1.1.1 are not clearly understood as described.	With or against which data should the tolerance value compared to? To our understanding the mean square error of survey data has to be compared with the accuracy requirement by regarding the confidence level, and not with any tolerance values that are multipliers of accuracy values.		2.2.3.4	Accepted	Austria, Austro Control
241	Page 20 footnote 16	Footnote 16 ends with the abbreviation CH. It is unclear what this means.	The list of abbreviation in Annex N doesn't take this on board.	Add this abbreviation into the Annex N.	2.2.1	Accepted	Belgium, Belgian Civil Aviation Authority
463	2.3.1.1.1	Neither Annex 14, Annex 15 nor this specification contain information on the interpretation of the data confidence level (Table 1 in section 2.3.1.1.1), notably whether it applies to each data element determined/surveyed or may be interpreted to apply to an ensemble of data. For critical data used for precision approach, the integrity requirement is not helpful, if confidence in initial data accuracy is not high. It is thus imperative to state a definition of the confidence measure, at least for critical data. It is proposed to copy or refer to the definition of ED 98/DO-276. This definition implies that Table 1 in the draft specification is to be removed. The use of the multipliers in this table as stated in Footnote 16 expressly violates the definition in the joint ED/DO. Example: for RWY threshold	Using the GBAS system, aeronautical data will be used in CAT III flight operations requiring an integrity level of approximately 10 ⁻⁹ in any one approach (Annex 10, Vol 1 section 3.1.3.12.1 for ILS and ICAO GAST-D Baseline Development Standard 3.6.7.1.2.1.1.3 for GBAS). This integrity applies to the Total System Error, with separate allocations between Path Definition Error and the sum of Navigation System Error and Flight Technical Error. The Path Definition Error is mainly defined by the initial survey accuracy, and the data integrity from the survey to the wrapping with 32 bit CRC for FAS data and to the loading in the GBAS ground station (for reference antenna and GBAS reference point coordinates). From the point where the data is CRC wrapped or loaded in to the station, sufficient data integrity is guaranteed by the storage, wrapping and transmission mechanisms. If the data quality achieved through the	Proposed changes to section 2.3.1.1.1: The spatial accuracy <u>shall be met at the required confidence level</u> should not be worse than the tolerance values . SO-SVY-010 The confidence level <u>shall be expressed as the probability that any single data item in the data set is in error of the true value by less than the stated accuracy</u> (see also ED98/DO-276 section 6.3.2.8/3.2.16). SO-SVY-011 Table 1 and footnote 16 to be <u>deleted</u>	2.2.3.4	Partially Accepted [Clarify in accordance with: The accuracy requirements published in the SARPS and in the DQR are based on either a 90% or a 95% confidence level. There is a 90% (95%) or higher probability that the stated value is within the true value. Where several observations are made to a single position the confidence level	Belgium, LATO (precision LAnding and Take-Off task force of EUROCONTROL NSG)

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		<p>coordinates, the horizontal accuracy requirement is 1m, the data is critical and the required confidence level 95%.</p> <p>According to ED 98/DO-276, section 3.2.8, the data meet the required confidence level, if there is a 95% or higher probability that the stated value is within 1m of the true value.</p> <p>According to Table 1 and footnote 16, the data meets the required confidence level, if the "tolerance" between it and a comparison measurement is within 1,5m of the true value (DO-SVY-010 "the spatial accuracy should not be worse than the tolerance value").</p> <p>Not only do the values not match, but in the draft specification a "shall" has been replaced by a "should".</p>	<p>specification is not defined based on the accuracy required in Annex 10 without modification, the final product, although meeting the integrity criteria, will not be fit for purpose.</p> <p>Table 1 tries, based on implicit assumptions of the form of the survey error distribution to provide a simple quality criterion to be used in comparison measurements by extrapolating the 90 or 95% value to the required integrity level. This is not legal, as the survey methods used will influence the error distribution and may invalidate the underlying implicit assumptions.</p>			<p>can be calculated.</p> <p>Add information that tolerance = maximum deviation in mass data acquisition, grey out rows for critical data (because it is assumed that multiple independent observations are made) and change note so that formulae are visible].</p>	
242	DO-SVY-010 (page 20)	The objective is unclear as to which tolerance values are referred to. Also the table in the note includes values that represent "something" unspecified (no object, no resolution)	It is unclear how the objective relates to 73/2010, since the use of "tolerance values" which is used neither in ICAO Annex 15 nor in Reg 73/2010. The table in the note cannot be understood without further information (what does the value correspond to? in which unit? etc)	Clarify the use of "tolerance values" or delete the objective	2.2.3.4	Accepted	France, DGAC / DSN
245	2.3.1.1.1	Complete section is not clear. Definition of tolerance is missing.	<p>Where do these requirements come from?</p> <p>Footnote: For a EUROCONTROL specification not only the Swiss cadastral survey law should be considered (CH is missing in abbreviations).</p> <p>Does tolerance mean maximum error? If so, the first sentence shall be: The spatial accuracy maximum error should not be worse ... And if so, how can be validated, if the error is below the tolerance?</p>	There can be no changed wording suggested as the section is unclear.	2.2.3.4	Accepted	Germany, Avitech AG
250	2.3.1.1.1 p. 20	Spatial accuracy and tolerance	The table is difficult to understand.	Improve the comprehensibility of the table.	2.2.3.4	Accepted	Switzerland, skyguide, swiss air navigation services ltd

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251	2.3.1.1.1	The definition of tolerance values is not given. The reason for the table is unclear. No reference is given later-on.	No reason for this table can be found in EC 71/2010.	Delete the paragraph or explain the table and include appropriate guidance material on this subject.	2.2.3.4	Accepted	Switzerland, skyguide, swiss air navigation services ltd
254	Page 21, 2.3.1.2.1, DO-SVY-050	Due to the fact that the final version of the DAL specification is not published yet, it must be questioned if the calibration of equipment is still addressed in DAL?	Due to essential changes in the DAL specification, the link to DAL may not be the current one.	Check, if the topic is addressed in DAL. If not, delete link.	2.2.3.10	Accepted	Germany, AFSBw
256	Page 21 2.3.1.2.1, DO-SVY-050	Due to the fact that the final version of the DAL specification is not published yet, it must be questioned if the calibration of equipment is still addressed in DAL?	Due to essential changes in the DAL specification, the link to DAL may not be actual.	Check, if the topic is addressed in DAL. If not, delete link.	2.2.3.10	Accepted	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
257	2.3.1.2.1	The MoC for the calibration of survey equipment should be documented in this specification. Note: No MoC for the calibration of survey equipment has been found in the DAL Spec.	Survey equipment is only used for data origination and should, therefore, handled only and completely within this MoC		2.2.3.10	Rejected	Switzerland, skyguide, swiss air navigation services ltd
258	2.3.1.2.5	I would consider adding more language to this paragraph.	The frequency (how often and at what intervals) of calibration is not mentioned in the Specification that I read.	Recommend change the passage to read: "Details of the calibration process, including frequency of calibration, and results....."	2.2.3.10	Rejected	United States, FAA/AIM
253	DO-SVY-100 (page 21)	This objective is too stringent and goes beyond the Rule itself.	The objective is over-prescriptive and has significant impact on the equipment used for survey without evidence of equivalent added-value	Either delete the objective or replace "shall" by "should"	2.2.3.10	Rejected	France, DGAC / DSN

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#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
265	Page 22 2.3.3.1, DO-SVY-150	ADQ-IR: <i>"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."</i> DO: <i>"Surveyed, calculated and derived data shall be maintained throughout the lifetime of that period or until five years after the end of the period of validity for any data item calculated or derived from it, whichever is the latter."</i>	Text of MoC / CS should not repeat the text of the EU regulation it refers to.	Check if DO-text for this requirement / objective / statement maps the text of the regulation. If yes, delete DO-SVY-150.	2.2.2.3	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
268	DO-SVY-160 DO-FDP-210	Missing Requirement in column 3.	As above	As above	2.2.1	Accepted	United Kingdom, UK Civil Aviation Authority

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267	2.3.3.3 p. 22	"All information (parameter, intermediate results, etc) and records (survey report...).... shall be maintained with the data item throughout the lifetime of the data item." This requirement will lead to a unmanageable amount of data for the AIM (e.g. data and intermediate data from laser scanning, photogrammetry, etc.). In addition, it will not be possible for the ANSP to use or check data or its intermediate results, parameters, etc. since the appropriate tools and software are not available. Together with the data item, metadata will be delivered, which should provide sufficient information about interactions with the data. All additional information should remain with the party which performed the interaction or with its principal. We therefore recommend to take into account that the surveyors are getting their orders for surveys from a contracting body (e.g. aerodromes, CNS...). This contractual relationship between surveyor and principal should be taken into account when assigning the different duties to the different parties. From our point of view it will be important to discuss this issue with accident investigation offices to define what kind of intermediate data and information needs to be maintained throughout the lifecycle of a data item. As mentioned above, afterwards it will be important to assign the right parties with the different duties.			2.2.3.17	Accepted	Switzerland, skyguide, swiss air navigation services ltd

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259	§ 2.3.3.5-§2.3.3.6-§2.3.3.7	The frequencies are defined yearly for critical and essential data and very five years for routine data. The monitoring and maintenance is submitted to a periodic review. Is this consistent with the frequencies for review fixed in Annex 14 of ICAO ?	A yearly review sounds very unrealistic. The statement "periodic review" is rather imprecise. How frequent is periodic ?	Adapt and harmonize the frequencies for review and try to fix realistic timings.	2.2.3.17	Rejected	Belgium, Belgian Civil Aviation Authority
260	DO-SVY-190 (page 22)	A yearly monitoring of changes is too stringent goes beyond the Rule itself.	The objective is over-prescriptive and unpractical. It would generate unnecessary cost increase without evidence of equivalent added-value.	Either delete the objective or replace "shall" by "should"	2.2.3.17	Rejected	France, DGAC / DSN
262	§ 2.3.3.5 (DO-SVY-190)	Without further rationale, the yearly monitoring of changes is a very complex and costly process. To require such a monitoring for all data classified as critical or essential seems to be over prescriptive.	The Eurocontrol Specification shall neither be overly prescriptive nor go beyond the minimum scope of the regulation. They have to be as simple as possible with only the necessary details to ensure compliance with what is required by the regulation. Additional details, recommended additional requirements/best practices can be proposed to improve the general process but only in documents of lower level, like guidelines. As it is stated in the note of the proposed § 2.3.3.5, the type of monitoring applied may depend on the location of the data and how easily a change may be detected within it. So it is up to the State to establish the interval for periodic review taking into account all those different aspects. In addition, it has to be noted that, for instance, the maximum periodic review defined by ICAO for instrument flight procedures is 5 years. For all those reasons a requirement for a yearly monitoring of changes far all data classified as critical and	Delete the objective	2.2.3.17	Rejected	France, DGAC / DTA (Direction du Transport Aérien)

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			essential is not representative of what is already required and far beyond what is already considered as best practices.				
266	Page 22 2.3.3.5, DO-SVY-190	ADQ IR: "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." This is almost identical to the text in the DO specification.	MoC / CS should not repeat the regulations text; they should state how the regulations requirements / objectives can be achieved.	Delete objective DO-SVY-190.	2.2.2.3	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
261	DO-SVY-210 (page 22)	The intent of this objective is unclear.	Detailed provisions on ITRF versions is provided in appendices. The intent of the periodic review is unclear, especially since "periodic" is left undefined.	Either delete the objective or replace "shall" by "should"	2.2.1	Partially Accepted [Remove "periodic"].	France, DGAC / DSNA
280	2.3.4.12 / 2.3.6.1.3 p. 24 / p. 27	Instead of National Administration the surveying organisation should contact its contracting body (contracting body). The contracting body should then contact the National Administration if necessary.	Surveyors are getting their orders for surveys from a contracting body (e.g. aerodromes, CNS...). This contractual relationship between surveyor and principal should be taken into account when assigning the different duties to the different parties.	So, to clarify issues in regard to facilities described in Annex I and J of this EUROCONTROL Specifications, the surveyors should contact the contracting body. The contracting body will have to contact the National Administration if required.	2.2.1	Accepted	Switzerland, skyguide, swiss air navigation services Ltd
272	2.3.4.3 p. 23	reliability of measurement	The term "reliability" is not understood in the context of data quality.	Provide or refer to a clear definition of the term "reliability" in the context of data quality (reference to D.2.3 might be adequate).	2.2.3.2	Accepted	Switzerland, skyguide, swiss air navigation services Ltd
273	2.3.4.4 p. 23	reliability of origination	The term "reliability" is not understood in the context of data quality.	Provide or refer to a clear definition of the term "reliability" in the context of data quality (reference to D.2.3 might be adequate).	2.2.3.2	Accepted	Switzerland, skyguide, swiss air navigation services Ltd

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275	2.3.4.6	I would consider calling out a minimum of measurements for critical data elements here.	You are calling for additional measurements where critical data is concerned, but the language at this point in the document is vague.	Recommend changing the passage to read: "All survey data assigned a data integrity level of critical shall be subject to a minimum of XX additional measurements " I would consult a professional surveyor to determine XX, which is the minimum number of observations to satisfy the term "critical".	2.2.2.9	Noted	United States, FAA/AIM
269	§ 2.3.4.9	"When a planar co-ordinate system is used in the data origination or data processing, it should be Universal Transverse Mercator" (UTM)".	Eurocontrol is kindly requested to express itself about the use of Lambert 2008 in this case. The projection linked to the reference system ETRS89 is the Lambert 2008 projection. The advantage of Lambert 2008 coordinates is that GPS measurement results do not need a transformation anymore. Only a projection. That is why there is no loss of accuracy of the GPS measurements. In the context of the new technological developments in navigation, it is recommended to take Lambert 2008 into consideration.		2.2.2.9	Partially Accepted [Proposed change, '...it should be based on ETRF such as Universal Transverse Mercator (UTM)..'].]	Belgium, Belgian Civil Aviation Authority
270	DO-SVY-320 (page 23)	There is no rationale for this strange recommendation that goes against our national regulation.	The recommended projection depends of the covered area and is usually determined by the National Geographic Institute. In France, this is a Lambert projection and unless a valid statement is provided this recommendation is not only inappropriate but contrary to national law.	Delete the recommendation	2.2.2.9	Accepted	France, DGAC / DSN
271	§ 2.3.4.9 (DO-SVY-320)	This recommendation to use UTM has to be deleted.	The recommended projection depends of the covered area and is usually determined by the National Geographic Institute. In France, this is a Lambert projection and unless a valid statement is provided this	Delete this paragraph.	2.2.2.9	Accepted	France, DGAC / DTA (Direction du Transport Aérien)

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			recommendation is not only inappropriate but contrary to national law.				
274	2.3.4.9	As long as the requirements of 73/2010 are met, there is no reason why only UTM should be allowed.		Check if this paragraph can be deleted.	2.2.2.9	Accepted	Switzerland, skyguide, swiss air navigation services ltd
277	2.3.4.10 DO-SVY-330	The projection parameters shall be recorded for a data set, not for every coordinate pair.	It is sufficient to record the projection parameters as metadata for each data set. To record it as metadata for each coordinate pair in a data set will result in unnecessary, repeated information and therefore in an unnecessarily larger amount of data. In existing data interchange formats, e.g. as specified in EUROCAE ED-119B, projection parameters are provided as metadata for the whole data set.	All projection parameters of the planar co-ordinate system shall be recorded in the metadata associated with the co-ordinates of the data set to allow unambiguous reconstruction of the projection.	2.2.2.6	Accepted	Germany, Avitech AG
276	DO-SVY-340 (page 24)	Without further rationale, it is considered this recommendation is too stringent	The recommendation goes well beyond 73/2010 with no justification or expected benefit.	Delete the recommendation	2.2.2.6	Rejected	France, DGAC / DSN
279	Page 24 2.3.4.11, DO-SVY-340	DO: "Any additional observation, such as weather (barometric pressure, temperature and wind, etc), should be recorded in the metadata." Without further rationale this requirement is considered as too stringent.		Delete objective DO-SVY-340.	2.2.2.6	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
281	2.3.4.11	Out of scope, barometric pressure (e.g.) is of no relevance for GPS measurements		Delete or re-write this paragraph.	2.2.2.6	Rejected	Switzerland, skyguide, swiss air navigation services ltd

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282	2.3.5	The terms "Geodetic Control Network" and "Survey Control Stations" are mixed up. 2.3.5.1.2 indicates, that the terms have a different meaning.	This section is not written unambiguous.	Define the terms properly and indicate the relationship. If the survey control stations are part of the geodetic network then rewrite 2.3.5.1.2 for better understanding.	2.2.3.2	Accepted	Switzerland, skyguide, swiss air navigation services ltd
283	2.3.5	Several European countries do have National Geodetic Control Networks in place which fulfill all the requirements in the MoC. These networks provide services for RTK measurements based on the virtual reference concept. In the frame of aeronautical data origination, the use of such a service should also be explicitly allowed.	Aviation-only Geodetic Control Network cannot have a better integrity than the nation-wide networks.		2.2.2.9	Accepted	Switzerland, skyguide, swiss air navigation services ltd
284	2.3.5.2.2	Why is the quality requirement for vertical accuracy higher than for positional accuracy.	Requirement not understood.	Check if the vertical accuracy can be adapted to 0.10m	2.2.2.4	Rejected	Switzerland, skyguide, swiss air navigation services ltd
285	DO-SVY-440 (page 25)	A yearly monitoring of changes is too stringent goes beyond the Rule itself.	The objective is over-prescriptive and impractical. It would generate unnecessary cost increase without evidence of equivalent added-value.	Either delete the objective or replace "shall" by "should"	2.2.3.17	Rejected	France, DGAC / DSNA
288	Page 25 Section 2.3.5.2.5	DO: "The positions of the survey control stations shall be monitored for changes, as a minimum, yearly."	The necessity of change monitoring in this case depends on the use of the survey control stations. There is no sense in prescribing an annual check of the reference system, when it is not used.	The positions of the survey control stations shall be checked. The last check for a used survey control station shall not be older than one year.	2.2.1	Accepted	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung

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290	2.3.5.2.5	You should consider adding language addressing what method of monitoring is to be employed here.	Language correctly calls for the monitoring of survey control station changes and the frequency of such, but is vague as to the method to perform this monitoring.	Recommend change the passage to read: "The positions of survey control stations shall be monitored for changes annually by visual inspection." Comment; if you know by visual inspection the station was disturbed (ie; construction, accident, natural event), then you will know a resurvey is required as called for in paragraph 2.3.5.2.6.	2.2.3.17	Accepted	United States, FAA/AIM
286	DO-SVY-470 (page 25)	The objective is over-prescriptive.	The statement may be appropriate for some target accuracies but not for all of them.	Either delete the objective or replace "shall" by "should"	2.2.2.4	Rejected	France, DGAC / DSN
289	2.3.5.3.1.2 p. 25	Reference to Annex H instead of Annex F	Incorrect reference	Reference to Annex H instead of Annex F	2.2.1	Accepted	Switzerland, skyguide, swiss air navigation services ltd
291	2.3.5.6.2	The meaning of this paragraph is unclear.		Check whether the paragraph can be rewritten.	2.2.1	Accepted	Switzerland, skyguide, swiss air navigation services ltd
292	2.3.5.6.2	You're going to get a better triangulation result if 3 points on an appropriate geodetic network is used.	You can get results from using 2 established points, but the 3rd in this case is the point you are trying to determine, which is not yet part of the geodetic network.	Recommend changing "two points" to "three points" in this paragraph.	2.2.1	Rejected	United States, FAA/AIM
294	Page 27 Section 2.3.5.7	The ITRF epoch is not specified.	The knowledge of the epoch is essential to provide correct coordinates.	Specify the ITRF epoch.	2.2.3.8	Partially Accepted [The section is epoch-free in case the epoch referenced by ICAO changes. The concept remains the same. The text will be clarified].	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung

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295	Page 27, 2.3.6	Avinor often has to re-paint markings on runways, taxiways and stands due to "wear and tear" particularly after severe winters. We assume that re-survey is not necessary if the positions of markings have not been changed.			2.2.1	Noted	Norway, Avinor AS
460	2.3.6.1.1	For GBAS, the GBAS reference point needs to be transmitted to users, but several other points need to be surveyed according to ICAO documents. The transmit antenna location itself has no navigation relevance.	Non-compliance of draft specification with ICAO standards	For radio navigation facilities, including Ground-Based Augmentation System (GBAS) reference stations, the centre of the transmitting antenna shall be surveyed, except where a different specific survey point is standardised for the facility, as indicated in Annex I. For Ground-Based Augmentation System (GBAS) reference stations, multiple points (including reference receiver antenna locations and points required to establish the FAS data blocks) shall be surveyed as required in Annex 10 Vol. 1 [8]. For promulgation to users (functional equivalent to the transmitting antenna location), the GBAS reference point shall be used.	2.2.2.9	Accepted	Belgium, LATO (precision LAnding and Take-Off task force of EUROCONTROL NSG)
299	2.3.6.1.5	General comment; I would survey both items regardless of the distance between the two.	As long as the surveyor is there doing the work, why not collect both items, have a record of each and be done with it.	Recommend delete paragraph 2.3.6.1.5 and revise paragraph 2.3.6.1.4 to read; "For collocated VOR/Distance Measuring Equipment (DME), both antennas shall be surveyed regardless of separation distance."	2.2.1	Partially Accepted [Will include guidance that both may be collected].	United States, FAA/AIM

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#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
300	2.3.6.2.2	am not the expert on such, but it seems to me an "edge of a runway" should be well marked and there are no "theoretical lines" demarking such.	Please provide an example of a "theoretical line".	NA	2.2.1	Accepted	United States, FAA/AIM
296	§ 2.3.6.2.4 (DO-SVY-760)	The link between the requirement to mark the threshold according to Annex 14 and the IR ADQ is not clear. Such a requirement should not appear on this specification.	How should such a requirement be applied? Probably by specific regulation to airports. Then why is it in this specification?	Delete the requirement to mark the threshold according to Annex 14.	2.2.2.2	Accepted	France, DGAC / DTA (Direction du Transport Aérien)
298	Page 28 Section 2.3.6.2.4 DO-SVY-760	DO: "Where no threshold marker exists, the threshold should be determined by the National administration and marked according to ICAO Annex 14."	The marking of runway is not part of the ADQ IR.	Delete the second part of the requirement.	2.2.2.2	Accepted	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
301	2.3.6.2.8	Too restrictive.	The method used for improving collinearity should be determined by the State.	...10% of the runway length, should be surveyed...	2.2.2.9	Rejected	Netherlands, Ministry of Defence The Netherlands
302	2.3.6.2.10	For the purposes of runway distance calculations (TORA, TODA, LDA, ect), the collection of these points should be mandatory.	One cannot calculate the above mentioned distances if the data to be collected is not available.	Recommend change "should" to "shall" in the paragraph.	2.2.1	Rejected	United States, FAA/AIM
305	Chapter 2: 2.3.6.3.1 Page 30	LDA: Landing Distance Available: This is the length of runway declared available and suitable for the ground landing run of an aeroplane. Annex 14 and EASA definitions both include "declared".	LDA is one of the declared distances and its ends may not coincide with the ends of the runway. The definition is not consistent with either EASA or ICAO.	LDA: Landing Distance Available: This is the length of runway declared available and suitable for the ground landing run of an aeroplane.	2.2.1	Accepted	United Kingdom, UK Civil Aviation Authority
303	§ 2.3.6.3.2	This requirement DO-SVY-910 is missing.	The overview of requirements in Annex B is not taking this requirement DO-SVY-910 on board.	Add requirement DO-SVY-910 in the list of Annex B.	2.2.1	Accepted	Belgium, Belgian Civil Aviation Authority
306	2.3.6.3.5	Cannot find a definition of a "runway end safety area" in the document.	Definition missing.	Recommend add a formal definition of a "runway end safety area"	2.2.1	Accepted	United States, FAA/AIM

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
304	2.3.6.4.1 DO-SVY-950	Complete section including method of calculation in Annex L should be rewritten and explained more detailed, so that it is easy understandable.	Complete section including method of calculation in Annex L is not understood by Avitech.	There can be no changed wording suggested as the section is unclear.	2.2.2.9	Rejected	Germany, Avitech AG
307	2.3.6.5.1.3, 2.3.6.5.1.4, 2.3.6.5.1.5, DO-SVY-990, DO-SVY-1000, DO-SVY-1010	Such detailed requirements shall not be part of this specification.	The method how to survey the lines (by centre and radius of arc or series of sequential points) shall not be a requirement of this specification. Important is the quality of the result, not the method. According to Avitech's knowledge no application of this data (charts, AMDBs) justifies these high requirements.	Delete sections 2.3.6.5.1.3, 2.3.6.5.1.4 and 2.3.6.5.1.5.	2.2.2.2 2.2.2.9	Rejected	Germany, Avitech AG
308	2.3.6.5.1.3 (DOSVY-990) & 2.3.6.5.1.5 (DOSVY-1010)	DO-SVY-990 says that the center and radius shall be surveyed and then DO-SVY-1010 says that "when it is impracticable to survey the centre and radius...". It is incongruent.	Incongruent requirements.	DO-SVY-990 should say "For curved sections of taxiways, apron taxilines and aircraft stand guide line markings, the commencement and end of the curved section centre line shall be surveyed when practicable together with the position of the centre point of the arc and either its radius or at least two additional points along the curve."	2.2.1	Accepted	Spain, Aena

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
310	2.3.6.5.1.3 2.3.6.5.1.4 2.3.6.5.1.6	General/similar comment applicable to all three paragraphs.	Where curved and compound curved sections of movement area(s) and stand(s) are concerned, recommend the collection of more data points verse the stated language as "at least two additional points" and "Sufficient points". With the advent of systems such as Surface Movement Guidance and Control and supporting databases such as Airport Mapping Database, more data collected for system support is much better than minimal data which is implied. Paragraph 2.3.6.5.1.6 is particularly vague in this respect.	Recommend further subject matter expertise study to data collection requirements for these data elements.	2.2.2.9	Rejected	United States, FAA/AIM
309	2.3.6.5.2.1 (DOSVY-1040) & 2.3.6.5.2.2 (DOSVY-1040)	DO-SVY-1040 says that two points shall be surveyed and then DO-SVY-1050 says that "when it is impracticable to survey the point...". It is incongruent.	Incongruent requirements.	DO-SVY-1040 should say "For the guidance of aircraft entering or exiting the runway for take-off or landing, the point at which the radius of turn, prescribed by the appropriate authority for each taxiway, is tangential to the runway centre line and the point at which that radius of turn joins the taxiway centre line marking at a tangent shall be surveyed where practicable. "	2.2.1	Accepted	Spain, Aena
312	§ 2.3.6.10 (DO-SVY-1330) § 2.3.6.11 (DO-SVY-1340)	The mention "The guidelines provided by Eurocontrol shall be followed" is not acceptable.	The guidelines are best practices and should not be considered as mandatory	Replace "shall" by "should" in those paragraphs.	2.2.2.3	Accepted	France, DGAC / DTA (Direction du Transport Aérien)

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
315	2.3.6.10 / 2.3.6.11 p. 35 / 36	The level of detail differs within this specification substantially. From our point of view § 2.3.6.10 and 2.3.6.11 are too general. The requirements states that the guidance material (which contains as well recommendations) 'shall' be followed, instead of listing the requirements which need to be adhered to. See as well comment Form No. 1			2.2.2.3	Partially Accepted [The 'shall' will be replaced with a 'should'].	Switzerland, skyguide, swiss air navigation services ltd
311	DO-SVY-1330 (page 35) DO-SVY-1340 (page 36)	The guidelines are best practices and cannot be considered mandatory as a whole without further detailed review.	Most if not all of the guidelines do not require to be upgraded to a specification ("shall") status.	Replace "shall" by "should"	2.2.2.3	Accepted	France, DGAC / DSN
313	2.3.6.10.1, 2.3.6.11.1, DO-SVY-1330, DO-SVY-1340	Following the EUROCONTROL Terrain and Obstacle Manual shall not be a mandatory requirement.	The EUROCONTROL Terrain and Obstacle Manual is only a guidance manual. With this requirement it would become mandatory, which is not the purpose of guidance material.	The guidelines provided in the EUROCONTROL Terrain and Obstacle Data Manual shall should be followed for the origination of obstacle data. The guidelines provided in the EUROCONTROL Terrain and Obstacle Data Manual shall should be followed for the origination of terrain data.	2.2.2.3	Accepted	Germany, Avitech AG
314	2.3.6.10.1 (DO-SVY-1330)	It seems that the TOD manual (which is listed as draft on the references) is implicitly included with this sentence in the DO spec. But that doc is of a completely different nature. Rephrase to say it should be taken into account, or explicitly include the appropriate paragraphs with the appropriate wordings.	Clarification	Rephrase to say that the TOD manual should be taken into account, or explicitly include the appropriate paragraphs with the appropriate wordings.	2.2.2.3	Accepted	Spain, Aena

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
318	§ 2.3.7.4 (DO-SVY-1380) § 2.3.7.5 (DO-SVY-1390) § 2.3.7.6 (DO-SVY-1400) § 2.3.7.8 (DO-SVY-1420)	Without further rationale, it is considered that those requirements on the intermediate data and the corresponding independent verification are too stringent	The Eurocontrol Specification shall neither be overly prescriptive nor go beyond the minimum scope of the regulation. In particular, for data that are not critical, independent verification of intermediate data cannot be considered as the only way to comply with requirements of the regulation.	Replace "shall" by "should" for non critical data, or restrict to critical data only	2.2.2.2 2.2.2.8	Partially Accepted [The following changes will be made: 1380 – 'Should' 1390 – 'Shall' 1400 – 'Should' 1420 – 'Should'. Will link verification to resultant data assurance].	France, DGAC / DTA (Direction du Transport Aérien)
316	Page 36 footnote 23	This abbreviation DGPS isn't recorded in Annex N.		Add DGPS abbreviation to the list in Annex N.	2.2.1	Accepted	Belgium, Belgian Civil Aviation Authority
317	DO-SVY-1390 (page 36) DO-SVY-1400 (page 36)	These objective are too stringent and goes beyond the Rule itself.	The objectives are over-prescriptive and have significant impact (costs, processing time) without evidence of equivalent added-value	Either delete the objectives or replace "shall" by "should"	2.2.2.2 2.2.2.8	Partially Accepted [The following changes will be made: 1390 – 'Shall' (to maintain traceability and meet requirements of 73/2010) 1400 – 'Should' Will link verification to resultant data assurance].	France, DGAC / DSN
320	Page 36 Section 2.3.7.6 DO-SVY-1400	DO: "Intermediate data shall be validated by independent verification before the continuation of the data processing."	Without further rationale the requirement is considered as too stringent.	Delete requirement.	2.2.2.8	Partially Accepted [The following changes will be made: 1400 – 'Should'. Will link verification to resultant data assurance].	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
321	2.3.7.7	I believe "height" should be included in this paragraph.	In survey data processing, whether observed or calculated features have co-ordinate, distance/length, angle, and height attributes.	Recommend the addition of "height" in the paragraph.	2.2.1	Accepted	United States, FAA/AIM

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325	Page 37 2.3.8, 2.3.8.1.1 – 2.3.8.2.2	These objectives / requirements / statements may repeat objectives in the DAL specification.	Specifications for ADQ should be in line with each other and should not repeat objectives / requirements / statements because this would increase effort for showing compliance.	Check the mentioned objectives / requirements / statements above for repetition and delete objectives / requirements / statements in the DO specification, which are already at hand in the DAL specification.	2.2.2.3	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
327	2.3.8.1.1 p. 37	Quality assurance	It is not entirely clear what "the identified data quality requirement" is.	Give reference to the relevant sections in the document or appropriate other documents.	2.2.1	Accepted	Switzerland, skyguide, swiss air navigation services ltd
322	§ 2.3.8.2 + § 2.3.9	The references to ISO 19114 and ISO 19115 make them requirements to be followed. This is very stringent and goes far beyond the needs of ADQ IR and DQR specification. A data originator delivering good quality but not ISO 19114 and ISO 19115 compliant should be skipped as authorized data originator ?	This can have heavy consequences in AIS world.	Provide alternative to ISO 19114 and ISO 19115 compliance.	2.2.2.3	Rejected	Belgium, Belgian Civil Aviation Authority
328	2.3.8.2.2 p. 37	Data Quality Evaluation	This requirement refers directly to the superordinate EC 73/2010 document. The more specific part resides in a note to the requirement only.	Put the specific part into the requirement itself.	2.2.2.3	Rejected	Switzerland, skyguide, swiss air navigation services ltd
326	Page 37 2.3.8.3, DO-SVY-1480DO-SVY-1490	For ISO certified organisations, this is already addressed in their quality management system.	Conformance to DO-SVY-1480 + 1490 is already ensured, if the organisation is ISO 9001 certified.	Delete DO-SVY-1480 + 1490 or move them to a part of the DO specification, which addresses only non-ISO-9001-certified organisations.	2.2.2.3	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
329	2.3.9.1 p. 37	Survey work documentation	It is not entirely clear what "all survey work undertaken" means.	Give, for instance, reference to the purpose of such documentation in order to make it clear what exactly needs to be documented in the metadata.	2.2.2.6	Accepted	Switzerland, skyguide, swiss air navigation services ltd

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SPECIFICATION REQUIREMENTS							
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330	2.3.9.4.5, 2.3.9.4.6, 2.3.9.4.7, DO-SVY-1590, DO-SVY-1600, DO-SVY-1610	Requirements DO-SVY-1590, DO-SVY-1610, DO-SVY-1610 do not result from Commission Regulation (EU) 73/2010.	Requirements on lineage information shall be according to Commission Regulation (EU) 73/2010. Additional requirements shall not be mandatory.	Delete requirements DO-SVY-1590, DO-SVY-1600 and DO-SVY-1610. If they will not be deleted, change them to optional.	2.2.2.6	Rejected	Germany, Avitech AG
337	2.3.9.4.7	Use of the word "appropriate" could be left up to interpretation.	Passage does not define or specify what "appropriate information" is.	Recommend add language to the paragraph to define, specify, or direct the reader to where one can find out exactly what "appropriate information" is to be recorded to ensure traceability.	2.2.1	Partially Accepted [Merge requirements DO-SVY-1610 and 1620].	United States, FAA/AIM
336	2.3.10	Without professional accreditation surveyors will not be able to obtain liability insurance cover to use other 3rd party survey data. As this DO is guidance only this critical requirement should have been captured in the regulation itself as Eurocontrol guidance cannot enforce policy such as this.	As above	Replace 'and/or' with 'shall'	2.2.3.13	Noted	United Kingdom, UK Civil Aviation Authority
334	Para 2.3.10.1	Text correction	Recommendation on membership or affiliation with the Fédération Internationale des Géomètres or the International Society of Photogrammetry and Remote Sensing is redundant.	All surveyors undertaking data origination activities should hold a professionally accredited qualification and/or be a member of a professional body that is accredited by the state authority organ.	2.2.1 2.2.3.13	Rejected	Ukraine, Ukrainian State Air Traffic Service Enterprise
331	Chapter 2.4	The labelling of the requirements in the whole chapter is not consistent with the list fixed in § 1.4.6.	§ 1.4.6 requires that label "FPD" instead of "FDP".	Change the label of the requirements into the correct label FPD.	2.2.1	Accepted	Belgium, Belgian Civil Aviation Authority

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333	2.4, Page 39 - 43	Functional Area Instrument Flight Procedure Design is given the abbreviation FPD on 1.4.6 page 4. In chapter 2.4 page 39 - 43 the abbreviation FDP is used on the instrument flight procedure Design - area.	Expected to be a spelling area.	Correct the functional Area abbreviation used on IFPD on page 39 - 43, to read <i>FPD</i> .	2.2.1	Accepted	Norway, Civil Aviation Authority - Norway
335	2.4 – 2.5 (page 39)	Parts 2.4 and 2.5 procedure design and airspace design. The DO specification strays into the operational aspects of procedure design and accompanying flight validation as well as airspace design that is already catered for by ICAO docs. The output of these activities is the origination of data, and this is the area that the guidance should concentrate on i.e. the content, format and management of such data, and not dictating how procedure and airspace design is conducted	Strays into ICAO requirements for design and does not contain enough detail on what/how a designer needs to provide in terms of quality data for the IAIP.	Remove all references that dictate how to design and validate procedures or airspace that is already covered by ICAO Annex 14, Doc 8168, Doc 9368, Doc 9905. Provide guidance on what designers need to provide in terms of ADQ compliant IAIP data.	2.2.2.2	Rejected	United Kingdom, UK Civil Aviation Authority

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#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
338	2.4	Under the general heading "Instrument Flight Procedure Design" and following section, no mention of the filing of a difference to ICAO is mentioned.	See 2.5.1.5	Recommend the addition of a paragraph under section 2.4 which states: "Where States choose to apply national design criteria they shall notify ICAO of a difference in relation to Annex 4 and ensure that it is published within the national AIP." or: "Where States choose to apply national design criteria they shall notify ICAO of a difference in relation to significant differences between their procedures and the related ICAO procedures and any resulting differences with Annex 4 charting provisions as well as ensure that the differences are published within the national AIP."	2.2.3.14	Rejected	United States, FAA/AIM
332	2.4.1.1 - 2.4.1.5	"Instrument flight procedures shall be designed in accordance with the criteria laid down in ICAO doc 8168... ICAO doc 9368 ...ICAO doc 9905..." These requirements, not specified in CR(EU) 73/2010 are too stringent In fact, local and regional regulations already applied are not taking into account.	The assessment of requirements out of the scope of the CR(EU) 73/2010 shall be avoided. States shall be able to apply national design criteria without restrictions where the choice is documented.	Re-write or delete this section following alignment with DAL specification and with CR(EU) 73/2010 specifications	2.2.2.3	Partially Accepted [DO-FPD-010 will be amended to become a 'should'].	France, DSAÉ/DIRCAM

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SPECIFICATION REQUIREMENTS							
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378	2.4.1.1	ICAO Doc 9368 (Instrument Flight Procedures Construction Manual) has not been updated since 2002 and is not according to ICAO Doc 8168 criteria.	There are differences in criteria between ICAO Doc 9368 and ICAO Doc 8168.	Instrument flight procedures shall be designed in accordance with the criteria laid down in ICAO Doc 8168 (Aircraft operations) Volume II or, where appropriate, ICAO Doc 9905 (Required Navigation Performance Authorization Required (RNP AR) Procedure Design Manual).	2.2.3.15	Rejected	Sweden, LFV
339	§ 2.4.1.6	EUROCONTROL might consider adding the following requirement: obstacle restriction and removal around heliports should be done according ICAO Annex 14 Volume 2.	Because heliports are under the scope of ADQ IR for IFR ad special VFR procedures, it is necessary to reference to the requirements applicable to these heliports.		2.2.1	Accepted	Belgium, Belgian Civil Aviation Authority
340	§ 2.4.1.6	EUROCONTROL might consider adding the following requirement: the control of obstacles around non-instrument runways is done according ICAO Annex 14 Volume 1 as well.	Because ADQ is applicable to IFR ad also special VFR it seems to be important reference to these requirements as well..		2.2.1	Partially Accepted [Proposal will be included but to address only non-instrument runways where special-VFR procedures exist].	Belgium, Belgian Civil Aviation Authority
341	§ 2.4.1.6	EUROCONTROL might consider adding the following requirement: runways are protected according obstacle restriction and removal requirements laid down in ICAO Annex 14 Volume 1 instead of merely stating the existence of obstacle limitation surfaces.			2.2.1	Rejected	Belgium, Belgian Civil Aviation Authority

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SPECIFICATION REQUIREMENTS							
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365	2.4.1.6, Page 40	This does not give the possibility for national rules to be used if it has been properly demonstrated and safety assessed as for PANS-OPS design criteria. Another point is that the text presented does not precise if the Annex 14 OCS should be the one corresponding with the procedure designed. VFR Annex 14 may be then possible for IFR operation? With mitigation?	Accepting this paragraph would close almost all IFR airports in Switzerland except Zurich and Geneva. In Switzerland FOCA has a policy to raise the MDA or DA to mitigate the non Annex 14 compliance.		2.2.3.15 2.2.2.2	Partially Accepted [Leave text as is, but in the introductory text describe that a 'shall' for an annex means that the standards are to be applied with the exception of where the State has filed a difference].	Switzerland, skyguide, swiss air navigation services ltd
342	§ 2.4.1.8	Although one should not confuse "validate data for intended use" and "verify data for conformance with standards", we wonder whether a designer is able to validate data. Even when formal arrangements have not been signed, the originator should remain responsible. Could EUROCONTROL elaborate on how the designer should validate data?			2.2.2.8	Rejected	Belgium, Belgian Civil Aviation Authority
355	Page 40 Section 2.4.1.8	„Where formal arrangements cannot be established with data suppliers, the designer shall validate the data.“ The DAL specification covers objectives related to data quality.	A repetition of requirements stipulated in other specifications shall be avoided.	Re-write or delete this section following alignment with DAL specification.	2.2.2.3	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
361	2.4.1.8	Saying that designers should validate data is very vague for an specifications, concrete means or guidelines for validation shall be provided	Referring only to validation without further details does not seem appropriate for a means of compliance document.	Further specify what is meant by validation or remove the paragraph.	2.2.2.8	Rejected	Spain, Aena

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366	2.4.1.8	Disagree with the paragraph.	Data suppliers should be forwarding verified, not validated data. Designers should be validating all data received, regardless of who supplied the data and whether or not the supplier also performed a validation.	Recommend revise the paragraph to read: "Designers shall validate that all data received regardless of the supplier source." or Delete the paragraph	2.2.2.8	Partially Accepted [Change to be applicable to data from non-73/2010 actors only].	United States, FAA/AIM
362	2.4.1.9	Mandating the designer to apply additional buffers without clearly specifying any criteria to be followed does not seem appropriate.	Non clear criteria to be applied	Further specify concrete criteria or remove the paragraph.	2.2.3.15	Partially Accepted [Add a footnote to describe how the buffers may be determined without providing figures themselves].	Spain, Aena
343	2.4.1.11	„Electronic data transfer and storage shall be used wherever possible.“ The DAL specification covers objectives related to data transfer and storage.	A repetition of requirements stipulated in other specifications shall be avoided. The conditional form of this sentence may imposed "should" instead of "shall"	Re-write or delete this section.	2.2.2.2	Rejected	France, DSAÉ/DIRCAM
356	Page 40 Section 2.4.1.11	„Electronic data transfer and storage shall be used wherever possible.“ The DAL specification covers objectives related to data transfer and storage.	A repetition of requirements stipulated in other specifications shall be avoided.	Re-write or delete this section following alignment with DAL specification.	2.2.2.2	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
344	2.4.1.12	„Where manual data entry is used, additional verification checks shall be applied to ensure that no errors have been introduced.“	A repetition of requirements stipulated in other specifications shall be avoided.	Re-write or delete this section.	2.2.2.2	Rejected	France, DSAÉ/DIRCAM
357	Page 40 2.4.1.12	„Where manual data entry is used, additional verification checks shall be applied to ensure that no errors have been introduced.“ The DAL specification covers objectives related to manual	A repetition of requirements stipulated in other specifications shall be avoided.	Re-write or delete this section following alignment with DAL specification.	2.2.2.2	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
		data handling.					
345	2.4.1.13	„The instrument flight procedure designer shall maintain close co-ordination with all stakeholders throughout the design process.“ This statement is too vague for a specification.	not specified in CR(EU) 73/2010 Who are the stakeholders identified?	Delete or re-write section 2.4.1.13.	2.1.1	Accepted	France, DSAÉ/DIRCAM
358	Page 40 Section 2.4.1.13	„The instrument flight procedure designer shall maintain close co-ordination with all stakeholders throughout the design process.“ This statement is too vague for a specification.	As the basis for a requirement, this statement may be correct whenever procedure design is based on ICAO DOC 8168. It does not apply to procedure design based on ICAO DOC 9905.	Delete or re-write section 2.4.1.13.	2.1.1	Accepted	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
363	2.4.1.13	Referring to 'all stakeholders throughout the design process' without further identifying them or provide a guidelines on how to identify them does not seem concrete enough to be a means of compliance.	The paragraph does not clearly identify a way to comply with it.	Further specify concrete criteria or remove the paragraph.	2.1.1	Accepted	Spain, Aena
346	2.4.1.14	„Those organisations responsible for instrument flight procedure design may wish to include formal links with Data Service Providers within their operating procedures to assist in ensuring that the procedures developed may be correctly processed for inclusion within aircraft flight management systems.“	Establishing of formal arrangements with data service providers may be a wish Nevertheless, this requirement is not suitable for a DO specification.	Delete section 2.1.4.14.	2.1.1	Accepted	France, DSAÉ/DIRCAM

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
348	Page 40, 2.4.1.14	"Those organisations responsible for instrument flight procedure design may wish to include formal links with Data Service Providers within their operating procedures to assist in ensuring that the procedures developed may be correctly processed for inclusion within aircraft flight management systems". This statement is too vague for a specification.	The phrase "may wish to" is not suitable for a specification.	Delete or re-write section 2.1.4.14.	2.1.1	Accepted	Germany, AFSBw
359	Page 40 Section 2.4.1.14	<i>„Those organisations responsible for instrument flight procedure design may wish to include formal links with Data Service Providers within their operating procedures to assist in ensuring that the procedures developed may be correctly processed for inclusion within aircraft flight management systems.“</i> This statement is too vague for a specification.	The phrase "may wish to" is not suitable for a specification. The DAL specification covers objectives related to the establishing of formal arrangements with data service providers. Moreover, ICAO DOC 8168 covers the relationship between designers and data service providers as well.	Delete or re-write section 2.1.4.14.	2.1.1	Accepted	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
364	2.4.1.14 p. 40	Instrument flight procedure design	What is meant by "formal links"?	Clarify the term "formal links".	2.1.1	Accepted	Switzerland, skyguide, swiss air navigation services ltd

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
347	2.4.2	<p><i>“Training and Qualification of Designers”</i> and <i>“Guidance on the development of flight procedure designer training is provided in ICAO Doc 9906 (Quality Assurance Manual for Flight Procedure Design, Volume 2 Flight Procedure Designer Training).”</i></p> <p>The contents of ICAO Doc 9906, Volume 2 do not have to be repeated in this specification.</p>	<p>The specification shall not duplicate the contents of ICAO Doc 9906, Volume 2.</p> <p>ICAO Doc 9906 is not the guidance for training and qualification for French military Designers.</p>	Delete or re-write section 2.4.2	2.2.2.3 2.2.3.6	Rejected	France, DSAÉ/DIRCAM
360	Page 40 – 41 Section 2.4.2	<p><i>“Training and Qualification of Designers”</i> and <i>“Guidance on the development of flight procedure designer training is provided in ICAO Doc 9906 (Quality Assurance Manual for Flight Procedure Design, Volume 2 Flight Procedure Designer Training).”</i></p> <p>The contents of ICAO Doc 9906, Volume 2 do not have to be repeated in this specification.</p>	<p>The specification shall not duplicate the contents of ICAO Doc 9906, Volume 2.</p>	Delete or re-write section 2.4.2	2.2.2.3	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
367	2.4.3	<p><i>“Validation and Verification of Procedure Designs”</i></p> <p>The DAL specification covers objectives related to the validation / verification of data. The contents of ICAO DOC 9906 Volume 1 and 5 do not have to be repeated in this specification.</p>	<p>A repetition of requirements stipulated in other specifications shall be avoided.</p> <p>The specification shall not duplicate the contents of ICAO Doc 9906, Volume 1 and 5.</p>	Re-write or delete this section.	2.2.2.3	Rejected	France, DSAÉ/DIRCAM

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
369	Page 41 Section 2.4.3	<i>"Validation and Verification of Procedure Designs"</i> The DAL specification covers objectives related to the validation / verification of data. The contents of ICAO DOC 9906 Volume 1 and 5 do not have to be repeated in this specification.	A repetition of requirements stipulated in other specifications shall be avoided. The specification shall not duplicate the contents of ICAO Doc 9906, Volume 1 and 5.	Re-write or delete this section following alignment with DAL specification.	2.2.2.3	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
370	2.4.3	The chapter really only deals with ground validation and verification, so it is proposed to change the chapter name not to mislead the reader.	Add to the proper understanding of the specification.	Rename the chapter to 'Ground Validation and verification of Procedure Designs'.	2.2.1	Accepted	Spain, Aena
371	2.4.3.2 2.4.3.3 2.4.3.4 2.3.4.5	Similar comment for all four paragraphs.	As with the data supplier comment on form 17 of XX, the "final check" of the procedure design is a validation, not verification. The original procedure designer verifies the procedure, the person who checks the procedure design is the validator.	Assuming the EuroControl procedure design process is set up with as a two part process, one person designs and another person checks the design, recommend this specification drafts two separate sections, the first entitled "Verification of Procedure Designs" and the second ""Validation of Procedure Designs". It is immaterial whether or not a 3rd party or the State is the original designer, the roles of verifier and validator should remain separate.	2.2.2.8	Partially Accepted [Clarify the difference between validation and verification].	United States, FAA/AIM

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
374	2.4.4	<p><i>"Flight Inspection and Validation"</i></p> <p>and</p> <p><i>"The flight inspection addresses the quality of the navigation signal received along the length of the procedure. While the output from this process does not feed directly into the AIP, it does form part of the quality process necessary to assure the viability of the instrument flight procedure."</i></p> <p>The DAL specification covers objectives related to the validation / verification of data. The contents of ICAO DOC 9906 Volume 5 do not have to be repeated in this specification.</p>	<p>A repetition of requirements stipulated in other specifications shall be avoided.</p> <p>The specification shall not duplicate the contents of ICAO Doc 9906, Volume 5.</p>	Re-write or delete this section.	2.2.2.3	Rejected	France, DSAÉ/DIRCAM
376	Page 42 Section 2.4.4	<p><i>"Flight Inspection and Validation"</i></p> <p>and</p> <p><i>"The flight inspection addresses the quality of the navigation signal received along the length of the procedure. While the output from this process does not feed directly into the AIP, it does form part of the quality process necessary to assure the viability of the instrument flight procedure."</i></p> <p>The DAL specification covers objectives related to the validation / verification of data. The contents of ICAO DOC 9906 Volume 5 do not have to be repeated in this specification.</p>	<p>A repetition of requirements stipulated in other specifications shall be avoided. The specification shall not duplicate the contents of ICAO Doc 9906, Volume 5.</p>	Re-write or delete this section following alignment with DAL specification.	2.2.2.3	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
377	2.4.4.2 (DO-FDP-230)	It only mentions the coverage and quality of service provided by DME/DME, should be also mentioned the coverage and quality of GPS, VOR, NDB, etc?	Clarification		2.2.1	Accepted	Spain, Aena
379	2.4.4.2	In the first bullet, there is no point in performing the flight inspection "if" it only appropriate to do so.	"if appropriate" is not something one would be obligated to address. The language should be prescriptive.	Recommend either change "if appropriate" to "as appropriate". or Delete "if appropriate" to remove any ambiguity.	2.2.1	Accepted	United States, FAA/AIM
372	DO-FDP-240 (page 42)	The reference to ICAO Annex 15 chapter 10 should be clarified.	ICAO Annex 15 referenced in 73/2010 is the previous edition. Knowing that 10.1.6 was significantly changed at the last revision, one can wonder which provisions are being referred to in this objective	Confirm the Annex 15 version to which the first bullet of 2.4.4.3 applies	2.2.1	Accepted	France, DGAC / DSN
373	§ 2.4.4.3 (DO-FDP-240)	The reference to ICAO Annex 15 chapter 10 should be clarified	In Regulation (EU) 73/2010 the reference is the previous edition, and paragraph 10.1.6 was significantly changed at the last revision	Add for clarification the edition of the considered ICAO Annex.	2.2.1	Accepted	France, DGAC / DTA (Direction du Transport Aérien)
380	2.4.4.3 2nd bullet	Last sentence seems to contradict body of the paragraph.	The purpose of the flight deck simulator is to increase the flyability of the procedure.	Recommend delete the last sentence.	2.2.1	Rejected	United States, FAA/AIM
381	2.4.5	"Quality Records" The DAL specification covers objectives related to quality records / the content of metadata required for data identification.	A repetition of requirements stipulated in other specifications shall be avoided.	Re-write or delete this section.	2.2.2.3	Rejected	France, DSAÉ/DIRCAM
386	Page 43 Section 2.4.5	"Quality Records" The DAL specification covers objectives related to quality records / the content of metadata required for data identification.	A repetition of requirements stipulated in other specifications shall be avoided.	Re-write or delete this section following alignment with DAL specification.	2.2.2.3	Rejected	Germany, DFS Deutsche Flugsicherung GmbH

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
393	2.4.5.2	Again, referring to a previous comment(s) on form 18 concerning Verification and Validation.	There should be separate verification and validation processes performed.	Recommend change item i) to read "Name of design verifier" Add new item k) "Name of design validator"	2.2.2.8	Rejected	United States, FAA/AIM
382	2.5	" <i>Airspace and ATS Route Design – General</i> " Requirements for Airspace and ATS Route Design are laid down in international (ICAO) and national standards, cf. sections 2.5.1.1 and 2.5.1.2.	The specification shall not duplicate the contents of recognised standards for Airspace and ATS Route Design.	Delete section 2.5	2.2.2.2	Rejected	France, DSAÉ/DIRCAM
391	2.5	Airspace and ATS Route Design. The question is whether this is the correct document to describe Airspace and ATS Routes Design.	This document deals with the quality and integrity of data rather than the airspace design which is the basis for their establishment.		2.2.2.2	Rejected	Sweden, LFV
387	Page 43 – 45 Section 2.5.1	" <i>Airspace and ATS Route Design – General</i> " Requirements for Airspace and ATS Route Design are laid down in international (ICAO) and national standards, cf. sections 2.5.1.1 and 2.5.1.2.	The specification shall not duplicate the contents of recognised standards for Airspace and ATS Route Design.	Delete or re-write section 2.5.1	2.2.2.2	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
389	2.5.1.1 (DO-ASD-010) & 2.5.1.8 (DOASD-080)	"Airspace designers" should be replaced by "Airspace planners" as it is used in ICAO Doc.9689. Thus, they can be differentiated from "Procedure designers" and avoid misinterpretations. Not always airspace designers are planners, in fact in Spain they never are.	Nomenclature	Replace "Airspace designers" by "Airspace planners"	2.2.1	Accepted	Spain, Aena
388	Page 43 Section 2.5.1.2 a)	„Obstacle clearance criteria laid down in ICAO Doc 8168 (<i>Aircraft Operations</i>) Volume II or, where appropriate, ICAO Doc 9905 <i>RNP AR Procedure Design</i> [...]" Obstacle clearance criteria are not covered by ICAO Doc 9905.	Obstacle clearance criteria are laid down in ICAO Doc 8168.	Delete reference to ICAO Doc 9905.	2.2.1	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
390	2.5.1.2 (DO-ASD-020)	Remove reference to ICAO Doc 9905 RNP AR Procedure Design Manual, as RNP AR is not ATS Route criteria, only for TMA/Approach.	Wrong reference	Remove reference to ICAO Doc 9905 RNP AR Procedure Design Manual	2.2.1	Rejected	Spain, Aena
392	2.5.1.2 b	The references given to ICAO documentation seems slightly out-dated today in a Basic R-NAV environment with an almost a 100% radar surveillance.			2.2.1	Noted	Sweden, LFV
394	2.5.1.3	Never heard of any European country conducting flight trial for an ATS route change.		Delete "...with supporting flight trials data..."	2.2.1	Partially Accepted [Make specific reference to guidance for DO-ASD-020. Delete the word 'trials'].	Sweden, LFV
395	2.5.1.9	Shall not apply to other changes than those impacting on neighbouring airspaces or ATS routes.	A major change can be purely domestic.	Any major changes to airspace structure or ATS Routes <i>with impact on neighbouring airspace including High seas</i> shall be coordinated at an international (regional) level.	2.2.1	Accepted	Sweden, LFV
396	2.5.1.11	Overlapping structures should also be an option when tactical manoeuvring is provided by ATC.			2.2.1	Accepted	Sweden, LFV
397	2.5.1.14	When developing TIA we use GND as the vertical reference. Propose to add this to the paragraph.		Add the following text: For TIA the vertical dimension can be defined with reference to GND.	2.2.1	Accepted	Sweden, LFV
399	Page 45 Section 2.5.2	"Quality Records" The DAL specification covers objectives related to quality records / the content of metadata required for data identification.	A repetition of requirements stipulated in other specifications shall be avoided.	Re-write or delete this section following alignment with DAL specification.	2.2.2.3	Rejected	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung

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400	2.5.2.3	Similar comment as in forms 17, 18, and 20.	Again, the source (or originator) of airspace structures (the designer(s)) should have performed a verification check of their design prior to submission to the next intended user in the data chain.	Recommend the addition of an item d) "Name of the Airspace Design Verifier."	2.2.2.8	Rejected	United States, FAA/AIM
402	Page 46 Chapter 3	<i>"To achieve compliance with the MoC detailed in this EUROCONTROL Specification the mandatory requirements listed in Chapter 2 should be implemented and conformance against these tested. A description of the tests could form part of the European Commission Declaration of Conformity."</i> The requirements in Chapter 2 "should" be implemented.	MoC / CS shall only contain what is necessary to show compliance.	Delete or re-write chapter 3.	2.2.2.2	Accepted	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
403	Chapter 3	The proposed approach in 3.1.1 states that it is up to each ANSP to develop their own methods for verification (validation?) a common understanding around the best practice would be valuable. I.e. a best practice. The chapter seems a little "thin"	More details on the expected level of verification or reference to a guideline material would provide important support to respective ANSP. Expected level of details on the verification Example Verification methods where applicable Etc.	N/A	2.2.3.16	Rejected	Sweden, LfV
404	3.1 Testing and Verification	Incorrect statement	This specification can only be used in association with a DSU. Only when using a community specification can a DoC be issued by a manufacturer.could form part of the European Commission Declaration of Conformity Suitability for Use	2.2.1	Partially Accepted [Chapter will be rewritten].	United Kingdom, UK Civil Aviation Authority
406	Page 47 Chapter 4	Chapter 4 contains content which not belongs to a specification on Data Origination.	Specifications shall only contain necessary content.	Delete complete chapter 4.	2.2.2.2	Accepted	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung

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407	4.6	Recommending that an ECTL guidance document replaces existing ICAO guidance document is presumptuous as it has not been demonstrated by Eurocontrol or accepted by EU States that by adopting the DO guidance ICAO Annex 15 SARPS will also be met.	As above	Remove section 4.6	2.2.2.2	Accepted	United Kingdom, UK Civil Aviation Authority
412	5.1 Implementation Conformance Statements (ICS)	Incorrect statement	A EUROCONTROL Specification is not a MoC to SES regulatory material	This EUROCONTROL Specification provides a MoC to SES regulatory material, may be used by a manufacturer to support a DSU for compliance to the regulation EU No 73/2010 and relevant conformity.....	2.2.2.2	Partially Accepted [Partially, in so far that we develop possible means of compliance. Subsequently, parties may choose to utilise the specification or not].	United Kingdom, UK Civil Aviation Authority
410	Page 48 5.1.4	Specification shall only contain mandatory items.	MoC / CS should only contain what is necessary to show compliance.	Delete all "O" (Optional), "CM" (Conditional and mandatory), "CO" (Conditional and optional) items.	2.2.2.2	Partially Accepted [The list of requirements that form this minimum will be reviewed so as to minimise it as far as appropriate].	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
411	Page 48 - 49 5.2	Chapter 5.2 is redundant to CR 73/2010.	MoC / CS should only contain what is necessary to show compliance.	Delete complete chapter 5.2.	2.2.2.2	Accepted	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
413	List of references (pages 50-51)	Some ICAO Annexes are mentioned with their edition and dates but not all of them and there is uncertainty about which edition of the other standards should be considered.	The standards referred in this list can significantly evolve at each edition (e.g. Annex 15 re: terrain and obstacle data provisions)	Provide exact version and date of all references	2.2.1	Accepted	France, DGAC / DSNA

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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
414	Paragraph 6	Some ICAO Annexes are mentioned with their edition and dates but not all of them		Add edition and dates for the concerned ICAO Annexes	2.2.1	Accepted	France, DGAC / DTA (Direction du Transport Aérien)
415	List of references	Some ICAO Annexes are mentioned with their edition and dates but not all of them.	The list of references should be correct within a specification.	Provide exact version and date of all references.	2.2.1	Accepted	Germany, AFSBw
416	6 List of References	List of references is not consistent	For some ICAO Annexes Amendment number is listed, for others not. In some cases not the current, but former versions are listed: e.g. EUROCONTROL Terrain and Obstacle Manual, ICAO Annex 4, EUROCAE ED-99, EUROCAE ED-119A. ICAO Doc 9881 does not exist. AIXM and Terrain Information Conceptual Model are missing completely in the list of references.	Harmonise the whole section.	2.2.1	Accepted	Germany, Avitech AG
418	Page 50-51 List of References	Some ICAO Documents are listed with their edition and date information but not all of them.		Provide exact version information of all references.	2.2.1	Accepted	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
419	6.3 Associated References	The EUROCAE/RTCA standard DO276/ED98 should be referenced. DO272/ED99 is referenced but should be explicitly designated as an applicable baseline in the document.	The re-definition of elements and requirements related to data capture are not useful as international industry standards already encompass this kind of information. Only additional recommendations / guidance for data capture (where the standards are not explicit enough) should be provided in the document, and existing international industry standards should be clearly mentioned as acceptable means of compliance. Indeed, having new requirements on top of those contained by existing standards could lead to incompatible applicable requirements for the onboard systems (safety,	Please make reference to DO276/ED98 and define explicitly DO272/ED99 as the applicable baseline.	2.2.1	Accepted	France, AIRBUS

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			interoperability, interpretation of data description, quality...) as existing international standards are agreed and applied by the whole industry to ensure compatibility from data origination to onboard systems.				
420	Annex B	Annex B is not consistent in its formulation with the requirements formulated in chapter 2.	<p>e.g. DO-CAT-130 Documenting of method of validation instead of recording.</p> <p>DO-CAT-210 recording of aerodrome and heliport location indicators and names.</p> <p>DO-CAT-340 Coordination of origination of SSR code allocation blocks.</p> <p>DO-SVY-570 Inclusion of survey control station description made available in metadata.</p> <p>DO-SVY-700 Survey of both antennas for collated collocated VOR/DME with separation greater than 30m.</p> <p>DO-SVY-710 Survey of position of DME element of collated collocated VOR/DME with separation 30m or less.</p> <p>DO-SVY-830 Feature to be surveyed measured on runway that is not straight.</p> <p>DO-SVY-890 Longitudinal slope, point-spacing Selection of set of points to detect slope change.</p> <p>DO-SVY-940 Adjustment of Definition of end of TORA, ADSA, TODA and LDA.</p> <p>DO-SVY-0180 Points Air taxiway markers to survey.</p> <p>DO-SVY-1130 Points Geometric centre of the element to survey.</p> <p>DO-SVY-1560 Reporting Recording of each processing step.</p> <p>DO-SVY-1580 Recording Inclusion of name and role of person interacting with data, for each</p>	Make Annex B consistent with Chapter 2.	2.2.1	Accepted	Belgium, Belgian Civil Aviation Authority

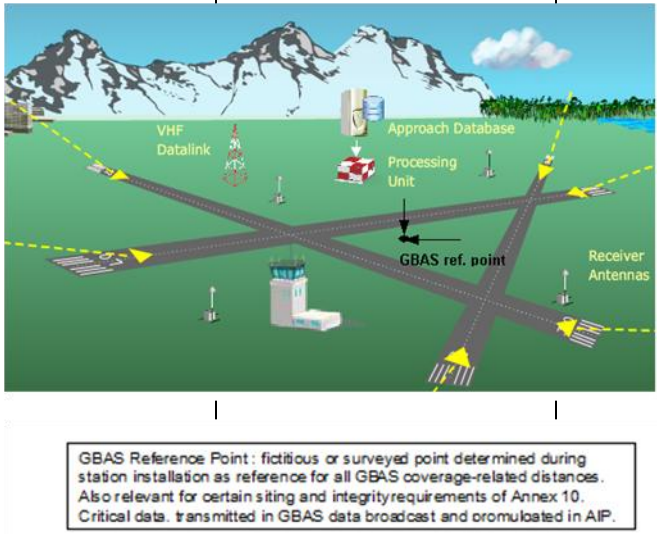
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SPECIFICATION REQUIREMENTS							
#	§ No	Comment	Reason(s) for Comment	Proposed Change/Text	Ref § No SOR	Disposal	Organisation
			processing step <u>in lineage information</u> . DO-FDP-190 totally different and thus not to conform to the requirement in chapter 2. DO-ASD-100 Designed limited limits of airspace structures. DO-ASD-150 Recording documenting of data sources. DO-ASD-200 maintenance of records to airspace design structures .				
421	Annex B	Annex B is not consistent with chapter 2 in its indication "mandatory (M)" or "optional (O)" in the third column of the presented table.	e.g. DO-CAT-310 is M instead of O. DO-SVY-940 is M instead of O. DO-SVY-1230 is O conform to Annex 14. DO-FDP-200 is M instead of O. DO-FDP-210 is O instead of blank. DO-FDP-240 is O instead of blank.		2.2.1	Accepted	Belgium, Belgian Civil Aviation Authority
422	Annex B	DO-SVY-910 is missing.		Add DO-SVY-910 into the list of Annex B.	2.2.1	Accepted	Belgium, Belgian Civil Aviation Authority
423	Annex B	Annex B is not consistent in its numbering with the definition in 1.4.6.	The requirements with label DO-FDP-XXX should be changed within DO-FDP-XXX.	Adapt requirement DO-FDP-XXX with the correct label DO-FPD-XXX,	2.2.1	Accepted	Belgium, Belgian Civil Aviation Authority
425	Page 53 - 73 Annex B+C	Annex B+C must be updated in line with the revised text of the DO specification.			2.2.2.2	Accepted	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung
426	Annex B	The table should include a column showing which stakeholders each conformity feature applies to. Stakeholders should include e.g. Aerodrome operator, Survey providers, National mapping authority, Geodetic authority, Software manufacturers, ANSP,	This extra column would ensure each group of Stakeholders is aware of which conformity features apply to them.		2.2.2.10	Rejected	Norway, Avinor AS

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		Regulator, etc.					
427	Annex B, Page 53	A general comment: There should be a List of relevant Stakeholders affected by these Specification, and the relevant specification (with its functional area - abbreviation and number, - listed under each Stakeholder.	Follow Annex B the Stakeholders must define for themselves which Specification Identifier listed, -that affects their AIS obligations.	An extra Annex with a list of Stakeholders (affected Parties), subordinated a list of Specification Identifiers who affects them. Consequently some of the Specification Identifiers will be repeated accordingly for different Stakeholders.	2.2.2.10	Rejected	Norway, Civil Aviation Authority - Norway
428	Annex B Page 53	Including mandatory 'M' requirements within a document that is guidance and only 'recommended' as a means of compliance to the ADQIR is ambiguous.	Ambiguous and overly prescriptive.	Change 'Mandatory' and 'Conditional Mandatory' to 'Recommended' and 'Conditionally Recommended'.	2.2.2.2	Rejected	United Kingdom, UK Civil Aviation Authority
429	Annex B, Page 67, DO-SVY-1620	"Req" column missing a specified value on our copy.	Self-explanatory.	Populate column with requirement symbol.	2.2.1	Accepted	United States, FAA/AIM
430	D.2	The information in this Annex is limited.	The statement in D.2.2 is not clear to Avitech. The explanation of integrity in D.2.3 is not consistent with ICAO definition of integrity.	Delete whole Annex D or provide more understandable and more detailed information.	2.2.2.2	Accepted	Germany, Avitech AG
431	D.2.2 p. 74	Accuracy, precision, and consistency	Precision and consistency are used in a misleading, if not incorrect way.	Check the definitions, e.g., with the according ISO document.	2.2.3.2	Accepted	Switzerland, skyguide, swiss air navigation services ltd
433	Page 75 Annex E	Rounding conventions are published in ICAO Doc 8168. Requirements regarding the FAS Data Block are published in ICAO Doc 8168.	The specification shall not duplicate the contents of ICAO Doc 8168.	Delete or re-write Annex E.	2.2.2.2	Accepted	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und

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							Stadtentwicklung
434	Annex E, page 75	Not acceptable. No added value compared to existing ICAO documentation.	See above		2.2.2.2	Accepted	Switzerland, skyguide, swiss air navigation services ltd
435	Annex F, G, H, I, J, K, L	Information provided in Annex F, G, H, I, J, K and L are additional information which should not be part of this EUROCONTROL Specification; it could rather be part of separate guidance material. In most parts these annexes are difficult to understand, especially for people who are not familiar with these topics (who are probably the intended users). References to sources are missing!.	The document shall be short, concise and easy to understand for the users, otherwise it will not be used.		2.2.2.2	Rejected	Germany, Avitech AG
436	Annex F	The annex is providing a geodetic description in details. The text should be shortened to the part which are relevant for data origination in aviation.			2.2.2.2	Rejected	Switzerland, skyguide, swiss air navigation services ltd
437	G.1 p. 84	Inconsistence usage of the abbreviation for the Ellipsoidal Height and Orthometric Heights.	Ensure consistency of the abbreviations for the Ellipsoidal Height and Orthometric Heights throughout the whole document.	Use a small "h" for Ellipsoidal Height and a capital "H" for Orthometric Heights.	2.2.1	Accepted	Switzerland, skyguide, swiss air navigation services ltd
439	Page 86 Annex G G.2.2.1	"It is common that GNSS Sensors (or their processing software) have an EGM-96 integrated." This is not generally correct, i.e. our GNSS Receiver does not have.	You should not take for granted getting these information simply by pushing a button on your equipment	Change in: "It is common that some GNSS Sensors....."	2.2.1	Accepted	Germany, DFS Deutsche Flugsicherung GmbH Germany, Bundesministerium für Verkehr, Bau und Stadtentwicklung

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440	ANNEX H	The definition of monumentations that can be used in runways to survey thresholds and centre line points would be very helpful.	Since the Concorde accident in Paris it is not allowed to use any metal pins on a runway surface.		2.2.1	Accepted	Austria, Austro Control
442	Annex I, J	What is the additional value of Annex I and J?	Legend and explanation to figures is missing. It is not clear what most of the figures should express.	No wording can be provided. No added value is seen for those two Annexes.	2.2.2.2	Rejected	Germany, Avitech AG
445	Annex I (I.1 to I.9)	The diagrams relating to the surveyed position of thresholds are not correct. UK CAA has agreed with ICAO on the exact location of the surveyed point of thresholds. Essentially the surveyed point is at the upwind edge (inner) of the threshold bar on the C/L or in the event of no bar it is at the end of the runway i.e. 6 metres from the piano key. UK CAA has commitment from ICAO to update the WGS84 manual for this.	Contradicts the international standards.	Revise diagrams to accurately reflect UK CAA and ICAO understanding of surveyed threshold position.	2.2.2.11	Accepted	United Kingdom, UK Civil Aviation Authority
443	I.1.1 and I.4	The Note in paragraph I.1.1 does neither conform to the "guidance" as referred to ICAO Doc 9674 (WGS-84) Manual), nor the ICAO Annex 14 regarding positioning of the survey position when threshold marking does not exist. The Annex 14 specifies a distance of 6 m prior to the piano keys as the survey position for a threshold. Nor is this clear in the illustration I.4.	Different SARPs are indicating different survey positions.	If this comment is correct, update this paragraph and illustration. Otherwise it needs to be further described or explained so misunderstandings are eliminated.	2.2.2.11	Accepted	Sweden, LFV
461	I.1.6 ; I.8 ; I.9 ; I.10 ; J.1.4	Legends are incomplete	Inability to interpret figures in Appendix I and J	Add explanation	2.2.1	Accepted	Belgium, LATO (precision LAnding and Take-Off task force of EUROCONTROL NSG)

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441	Annex I 1.6 and Annex J 1.4	Legends are incomplete.	Both legends seem to be unfinished.		2.2.1	Accepted	Czech Republic, ANS CR
444	I.1.6	The explanation text to the Legend of annex I paragraph 1.6 seems to be missing.	Detection of probable missing textual information. (E.g. What does the red cross indicate?)	Add explanation text.	2.2.1	Accepted	Sweden, LFV
448	I.1.16 and J.1.4	The elements in the legend are not explained.	See above		2.2.1	Accepted	Switzerland, skyguide, swiss air navigation services ltd
446	I.2 – I.9	The pictures do not accurately show which point should be surveyed. Add a zoomed picture to clearly indicate the point which should be surveyed (begin/middle/end of line).	The pictures are not helpful.		2.2.2.11	Accepted	Switzerland, skyguide, swiss air navigation services ltd
447	I.12 – I.20	The survey point is often not clearly indicated. A zoom of the pictures would help to identify the survey point. No guidance is given for ILS end-fire antenna systems. Guidance for GBAS systems is missing completely.	See above		2.2.2.11	Accepted	Switzerland, skyguide, swiss air navigation services ltd

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462	New section between I.14 and I.15	No information for GBAS is contained in Appendix I. This contribution offers relevant material.	Missing material	see next page	2.2.2.11	Accepted	Belgium, LATO (precision LAnding and Take-Off task force of EUROCONTROL NSG)
 <p>The diagram illustrates the GBAS (Ground Based Augmentation System) architecture. It shows a ground station with a 'VHF Datalink' and an 'Approach Database' connected to a 'Processing Unit'. The 'Processing Unit' is linked to 'Receiver Antennas' and a 'GBAS ref. point'. The background features a mountain range and a runway. Below the diagram, a text box defines the GBAS Reference Point.</p> <p>GBAS Reference Point: fictitious or surveyed point determined during station installation as reference for all GBAS coverage-related distances. Also relevant for certain siting and integrity requirements of Annex 10. Critical data, transmitted in GBAS data broadcast and promulgated in AIP.</p>							
449	Annex J, page 115	Do not understand the purpose of collecting the "17" marking position in relation to the stated normative requirement(s).	In relation to normative requirement DO-SVY-1180, collection of this point is not required to determine the lateral limit of FATO. In relation to normative requirement DO-SVY-1190, collection of this point may support the requirement of determination of centre points, but this could be easily accomplished by the collection of the other four points as drafted. One could also support both requirements by collecting the four corners of the FATO.	There is actually nothing wrong with the collection of this point, but seems more data than is needed to satisfy the requirements.	2.2.1	Accepted	United States, FAA/AIM
450	K.5.3.2.1	Bullet items do not address optimal foliage conditions (leaf on tree) at the time of airborne photo collection.	It is common practice, critical for natural (tree) objects, for the collection of air borne photography to occur during full foliage conditions. This is especially true	Recommend adding a new bullet: "Collection shall be performed during full foliage conditions."	2.2.1	Accepted	United States, FAA/AIM

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			when the photography is used to support airport airspace analysis.				
451	K.5.3.3.1	Paragraph not prescriptive enough for the purposes of quality control.	Statement; "The spatial accuracy of the geo-referenced images should be estimated in the bundle block adjustment." The use of "should" alludes to a recommendation of best practice, where for quality control purposes this practise should be made mandatory.	Recommend change "should" to "shall" in the paragraph.	2.2.2.2	Rejected	United States, FAA/AIM
452	K.5.3.3.3.	More quality control language should be added to this paragraph.	True, it is common practice to perform an independent survey of features collected via stereo-pair to determine absolute spatial accuracy, but in our system, we take that a step further. In our system, we ground survey and photo collect all safety critical data (ie: runway ends, displaced thresholds, OIS penetrating obstructions, etc.) to determine absolute spatial accuracy of these items.	Recommend addition of language: "All safety critical data features shall be independently surveyed to ensure the absolute spatial accuracy of these features are met."	2.2.2.9	Rejected	United States, FAA/AIM
453	K.5.4.2.2	More specificity should be added to this paragraph.	True statement: "To increase the probability that a thin object is captured, the sensor should be tilted." However, the passage does not specify at what angle the sensor should be tilted.	Recommend the addition of language pointing to the "EuroControl Terrain and Obstacle Manual" as guidance or specify exactly what angle the sensor is to be tilted. I believe the industry standard for such an angle is 20 degrees.	2.2.2.9	Rejected	United States, FAA/AIM

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454	K.5.4.3.2.	Same as comment on form 26.	K.5.4.3.2 is a true statement: "The absolute spatial accuracy of data derived from ALS should always be determined by independently surveying features or spot elevations (for terrain data)." However, in our system, the use of ALS is not yet approved for the collection of obstruction data as it relates to airport airspace analysis. Again, we ground survey all safety critical data (ie: runway ends, displaced thresholds, OIS penetrating obstructions, etc.) in addition to any other collection method to determine absolute spatial accuracy of these items.	Recommend addition of language: "All safety critical data features shall be independently surveyed to ensure the absolute spatial accuracy of these features are met."	2.2.2.9	Rejected	United States, FAA/AIM
455	Annex M 5. h)	This specification for the Origination of Aeronautical Data has not been produced in response to a commission mandate/request and is not in compliance with IOP regulation 552/2004 Article 4 b)	The IOP regulation Article 4 b) states: "specifications drawn up by Eurocontrol on matters of operational coordination between air navigation service providers, in response to a request from the Commission in accordance with the procedure referred to in Article 5(2) of the framework Regulation" There has been no 'request' or mandate (see Exec summary) from the commission for this specification and in accordance with Article 4 the subject matter does not relate to matters of operational coordination between ANSPs. The statement in Annex M, 5 h) contradicts the Exec summary statement: "EUROCONTROL Specifications may be developed as stand-alone documents in support of EUROCONTROL Member States and stakeholders. They may also provide the basis of Community Specifications when subject to European Commission mandate. "	Delete paragraph 5 h) of Annex M,	2.2.2.2	Partially Accepted [Partially, in so far that we develop possible means of compliance. Text will be revised].	United Kingdom, UK Civil Aviation Authority

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456	Annex N	Annex N is incomplete.	CH and DGPS are missing in the list of abbreviations.	Add the abbreviation of CH and DGPS into the list.	2.2.1	Accepted	Belgium, Belgian Civil Aviation Authority