



Notice of Proposed Amendment 2014-20

Technical requirements and operational procedures for the provision of data for airspace users for the purpose of air navigation

RMT.0593 & RMT.0594 — 8.8.2014

EXECUTIVE SUMMARY

This Notice of Proposed Amendment (NPA) addresses a safety, economic and regulatory coordination issue related to the provision of data for airspace users for the purpose of safety-critical air navigation.

At the 2003 FAA/JAA International Conference, it was agreed that an improved control of data held in aircraft navigational databases is essential as an enabler to support the implementation of the Performance-Based Navigation (PBN). Already, through Opinion No 01/2005, the Agency offered the industry a voluntary audit system leading to the issue of a Letter of Acceptance by the Agency to the European database suppliers.

In 2009, the European co-legislators extended the Agency's remit to ATM/ANS. The implementation of the amended Regulation (EC) No 216/2008 requires the Agency to execute certain regulatory tasks to address the safety objectives laid down in Annex Vb, including point 2(a) on aeronautical information and data.

The overall objective of this rulemaking task is to promote cost-efficiency in the regulatory and certification processes and to avoid duplication at national and European level. Furthermore, alignment of the scope and requirements of the rules ensuring regulatory harmonisation with third countries would be clearly beneficial.

Therefore, the specific objectives are:

- to develop the specific organisation requirements and responsibilities applicable to Data Services (DAT) providers as well as the associated technical requirements for the provision of data services; to avoid double oversight of these service providers by the competent authority and by the operators contracting their services; and to ensure that the SES objectives on interoperability with respect to data used on aircraft systems are achieved.

This NPA proposes amendments to:

- the draft Regulation on 'Requirements for service providers and the oversight thereof' as proposed with CRD to NPA 2013-08; and
- Regulation (EU) No 965/2012 (AIR-OPS) and the related AMC/GM.

The proposed changes are expected to maintain safety while reducing the regulatory burden for the regulated parties by decreasing the oversight activities performed by the aircraft operators and by the competent authorities as well.

Applicability		Process map	
Affected regulations and decisions:	Regulation (EU) No 1034/2011; Regulation (EU) No 1035/2011; Regulation (EU) No 965/2012; EASA Opinion No 01/2005 (GM to Part-21)]	Concept Paper:	No
Affected stakeholders:	DAT providers; aircraft operators and end users; competent authorities; and EASA	Terms of Reference:	11.10.2013
Driver/origin:	Legal obligation	Rulemaking group:	Yes
Reference:	Artilece 8b of Regulation (EC) No 216/2008; Opinion No 01/2005; Commission letter A/9188 of 17 October 2012	RIA type:	Light
		Technical consultation during NPA drafting:	No
		Duration of NPA consultation:	12 weeks
		Review group:	TBD
		Focussed consultation:	Yes
		Publication date of the Opinion:	2014/Q4
		RMT.0593	
		Publication date of the Decision:	2015/Q4
		RMT.0594	

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1. Procedural information

1.1. The rule development procedure

The European Aviation Safety Agency (hereinafter referred to as the 'Agency') developed this Notice of Proposed Amendment (NPA) in line with Regulation (EC) No 216/2008¹ (hereinafter referred to as the 'Basic Regulation') and the Rulemaking Procedure².

This rulemaking activity is included in the Agency's [4-year Rulemaking Programme](#) under RMT.0593.

The text of this NPA has been developed by the Agency based on the input of the Rulemaking Group RMT.0593. It is hereby submitted for consultation of all interested parties³.

The process map on the title page contains the major milestones of this rulemaking activity to date and provides an outlook of the timescale of the next steps.

1.2. The structure of this NPA and related documents

Chapter 1 of this NPA contains the procedural information related to this task.

Chapter 2 (Explanatory Note) explains the core technical content.

Chapter 3 contains the proposed text to amend:

- the draft Regulation (EU) No .../... on 'Requirements for service providers and the oversight thereof' the text of which was published with CRD to NPA 2013-08, and the related AMC/GM;
- Regulation (EU) No 965/2012 (AIR-OPS: Part-CAT, Part-NCC, Part-NCO and Part-SPO), and the related AMC/GM.

Chapter 4 contains the Regulatory Impact Assessment showing which options were considered and what impacts were identified, thereby providing the detailed justification for this NPA.

1.3. How to comment on this NPA

Please submit your comments using the automated **Comment-Response Tool (CRT)** available at <http://hub.easa.europa.eu/crt/>⁴. Furthermore, it is important to be noted that throughout the Explanatory Note (Chapter 2) and the Regulatory Impact Assessment (RIA) (Chapter 4) there are issues where the Agency explicitly invites stakeholders to answer to questions and express their opinion. The Agency is addressing stakeholders in order to receive further guidance during the consultation of this NPA with a view to gaining additional information and the opinion of a wider audience.

¹ Regulation (EC) No 216/2008 of the European Parliament and the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (OJ L 79, 19.3.2008, p. 1), as last amended by Commission Regulation (EU) No 6/2013 of 8 January 2013 (OJ L 4, 9.1.2013, p. 34).

² The Agency is bound to follow a structured rulemaking process as required by Article 52(1) of the Basic Regulation. Such process has been adopted by the Agency's Management Board and is referred to as the 'Rulemaking Procedure'. See Management Board Decision concerning the procedure to be applied by the Agency for the issuing of Opinions, Certification Specifications and Guidance Material (Rulemaking Procedure), EASA MB Decision No 01-2012 of 13 March 2012.

³ In accordance with Article 52 of the Basic Regulation and Articles 5(3) and 6 of the Rulemaking Procedure.

⁴ In case of technical problems, please contact the CRT webmaster (crt@easa.europa.eu).

The deadline for submission of comments is **31 October 2014**.

1.4. The next steps in the procedure

Following the closing of the NPA public consultation period, the Agency will review all received comments and perform a focussed consultation which will consist of (a) thematic review meeting(s).

The outcome of the NPA public consultation as well as that of the focussed consultation will be reflected in the respective Comment-Response Document (CRD).

The Agency will publish the CRD simultaneously with the Opinion containing proposed changes to the EU regulations listed in paragraph 1.2. The Opinion is addressed to the European Commission, which uses it as a technical basis to prepare proposals to amend the affected Commission Regulations.

The Decision containing amendments to the related Acceptable Means of Compliance (AMC) and Guidance Material (GM) will be published by the Agency when the Implementing Rule(s) are adopted by the Commission.

2. Explanatory Note

2.1. Overview of the issues to be addressed

Data for use on aircraft systems

Air navigation is dependent on the quality and timeliness of the provision of aeronautical information and data. Incorrect information and data provided on the airborne system could create significant safety risks for a flight. The importance of high-quality aeronautical information and data increases significantly by implementing new methods and technologies. It is, therefore, obvious that the quality of aeronautical information and data cannot be guaranteed without also assuring the main actors' process, format and delivery of aeronautical information and data in a proper manner. It is acknowledged that the aeronautical information and data have to be based on qualified source data and be kept up to date. This is, however, not enough in itself. Their quality has to be maintained in all phases of their provision. This requires that the aeronautical information and data have to be processed properly, provided in a format compatible and as required by the airspace end users (e.g. aircraft manufacturers, aircraft operators). Furthermore, the hazard created by having erroneous data or delivering such data on the aircraft system too late is evident from what is stated above. The purpose of the proposed rule is to ensure that the provider of navigation data for use on aircraft systems processes the data in a appropriate manner to meet the airspace end users requirements for its intended use.

Furthermore, at the 2003 FAA/JAA International Conference, it was agreed that an improved control of data held in aircraft navigational databases was necessary to support the implementation of RNAV and RNP concepts (now to be replaced by PBN).

Acknowledging the importance of the aeronautical information and data provided to the airspace users purposed for the safe provision of air navigation, the Agency issued Opinion No 01/2005 intended to confirm the eligibility of Letter of Acceptance (LoA) holders that transcribe, format and/or integrate information originating from national aeronautical Information Services (e.g. AIP) into electronic databases for airborne navigation systems. The LoA does not constitute a mandatory requirement since it is not a mandatory certification attesting compliance with a binding act. The conditions and associated guidance are applied on a purely voluntary basis at the request of the applicant. The database shall be loaded into on-board aircraft application and support the navigation domain.

On another hand, ICAO Annex 15 defines how an aeronautical information services (AIS) provider shall receive and/or originate, collate or assemble, edit, format, publish/store and distribute specified aeronautical information/data. It specifies the State's obligations and requirements for data published into the Aeronautical Information Publications (AIP).

In 2004, the Single European Sky (SES) initiative was launched to enhance air traffic management (ATM) standards, to contribute to the sustainable development of the air transport system and to improve the overall performance of ATM and air navigation services (ANS) for general air traffic in Europe. With a view to meeting these objectives, Regulation (EU) No 73/2010⁵ of 26 January 2010 lays down the requirements on the quality of aeronautical data and aeronautical information for SES. This rule regulates the

⁵ 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 (OJ L 23, 27.1.2010, p. 6).

quality of aeronautical data (services for the origination and provision of survey data and applicable to the entities providing procedure design services) and aeronautical information (covered by the above-mentioned ICAO Annex 15) in terms of accuracy, resolution and integrity.

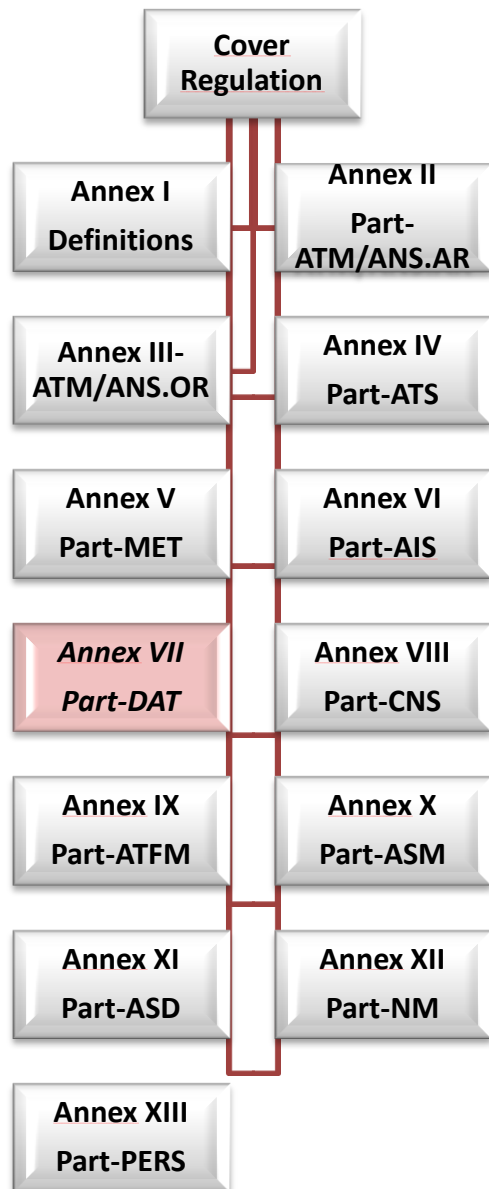
Taking into account the definition of ATM/ANS as regulated in Article 3(q) of the Basic Regulation, the services consisting in the origination and processing of data and formatting and delivering data for the purpose of air navigation are different from ANS services as defined in Regulation (EC) No 549/2004⁶ (the framework Regulation). The Basic Regulation sets the safety objective for services consisting in the origination and processing of data and formatting and delivering data to general air traffic for the purpose of safety-critical air navigation.

With the amended Basic Regulation, the Agency's remit has been extended to the safety regulation of ATM/ANS. In this context and in accordance with Article 8b(1) of the Basic Regulation, the provision of ATM/ANS shall comply with the Essential Requirements set out in Annex Vb and, as far as practicable, Annex Va. As a consequence, the provision of data for the airspace users for the purpose of air navigation shall comply with the objectives set out in point 2(a) of Annex Vb. For this purpose, the Agency shall develop requirements for the provision of data services. These requirements shall also consider the ICAO SARP's and supporting ICAO documents, related to the provision of data for the airspace users for the purpose of air navigation and shall be built on the requirements of the existing SES Regulations, as far as they exist. The implementing measures should be structured to enable the new operational concepts that support the continued development and performance of European airspace.

With the forthcoming adoption of the draft Regulation on 'Requirements for service providers and the oversight thereof', proposed by NPA 2013-08 and the CRD thereto, all service providers (including DAT providers) will be subject to common requirements (Annex III, Part-ATM/ANS.OR) and will be required to hold a certificate as established by Article 8b(2). This Annex is followed by other Annexes (from IV to XIII) that include more specific requirements for the provision of each service, including Annex VII reserved for the specific requirements for the provision of data for airspace users for the purpose of air navigation (Part-DAT). The subject NPA is proposing an amendment to said Annex VII (Part-DAT).

Figure 1 below shows the envisaged structure of the future regulation on service providers, including three relevant annexes (Annex VI, Annex VII and Annex XI) that are related to the 'aeronautical information management' as part of the total aeronautical information/data chain. Such specific annexes for the provision of each service would contain the specific requirements related to aeronautical information and data. In order to implement the Essential Requirements in point 2, especially paragraphs (a) and (i) of Annex Vb to the Basic Regulation, the Agency has planned different RMTs: RMT.0445 & RMT.0446 on 'Technical requirements and operational procedures for airspace design (ASD), including procedure design'; RMT.0477 & RMT.0478 on 'Technical requirements and operational procedures for aeronautical information services (AIS) and aeronautical information management (AIM)'; and RMT.0593 & RMT.0594 on 'Technical requirements and operational procedures for the provision of data for airspace end users for the purpose of air navigation' (the outcome of said RMT.0593 & RMT.0594 is presented with this NPA).

⁶ Regulation (EC) No 549/2004 of the European Parliament and of the Council of 10 March 2004 laying down the framework for the creation of the single European sky (the framework Regulation) (OJ L 096, 31.3.2004, p. 1).



- **Cover Regulation**
- **Annex I:** Definitions
- **Annex II:** Requirements for Authorities
- **Annex III:** Common requirements for service providers
- **Annex IV:** Requirements for Air Traffic Services
- **Annex V:** Requirements for Meteorological Services
- **Annex VI:** Requirements for Aeronautical Information Services
- **Annex VII:** Requirements for the provision of data for airspace users
- **Annex VIII:** Requirements for Communication, Navigation & Surveillance
- **Annex IX:** Requirements for Air Traffic Flow Management
- **Annex X:** Requirements for Air Space Management
- **Annex XI:** Requirements for Air Space Design
- **Annex XII:** Requirements for the provision of other ATM network functions
- **Annex XIII:** Requirements for Personnel

Multiple oversight of DAT providers

In 2004, the implementation of P-RNAV was seen by the Agency as a priority and an effort was made to facilitate this measure aiming to improve the efficiency of the air transport system. As this requires an improved control of data held in aircraft navigational databases, the Agency agreed to continue the JAA activity in this field and established a voluntary audit system as defined in Opinion No 01/2005. This auditing system resulted in the issuance of LoA to the European database supplier that was compatible with the then FAA provisions in AC20-153. However, the scope of the Opinion relates only to the production of databases as some areas addressed in the FAA Advisory Circular (e.g. certification, change control and operations and maintenance) are subject to other requirements in the EASA regulatory framework (Part-21 DOA, Part-145 and operational requirements).

The LoA does not constitute a mandatory requirement since it is not a mandatory certification attesting compliance with a binding act. The LoA concept attests that the data produced by these data organisations can be used by aircraft operators without further verification and that the organisation has put in place an appropriate quality system for the

control of the processing of data. This eases the obligation on the aircraft operator to verify that the data is appropriate for the intended operation and facilitates the aircraft operators' oversight by the national competent authorities. The outcome of the LoA concept is a significant decrease of audits by aircraft operators to DAT providers when they can show that the Agency is performing the oversight of these data services.

As already explained above, meanwhile, in 2004 the Single European Sky (SES) initiative was launched and as a result of the mandate issued to Eurocontrol (ADQ1) in 2005, Regulation (EU) No 73/2010 of 26 January 2010 was adopted. This Regulation covers data origination to publication of the aeronautical information by the AIS provider, i.e. data provision after publication of the AIP is out of the scope. The Commission subsequently issued the ADQ2 mandate to Eurocontrol, to address the full data supply chain via another SES rule.

On the one hand, as explained, the Agency applied a voluntary audit system leading to the issue of a LoA to the European database suppliers while the service providers, including the DAT providers shall hold a certificate in accordance with Article 8b of the Basic Regulation. In addition, SES required an oversight according to Regulation (EU) No 73/2010 of 26 January 2010 which lays down the requirements on the quality of aeronautical data and aeronautical information for SES.

This situation would lead to multiple oversight of these DAT providers by the competent authority and by each aircraft operator contracting their services (i.e. using the data).

In order to avoid this multiple oversight, and as it was recognised that the ADQ2 overlapped with the Essential requirements of the Basic Regulation to be implemented by the Agency, the Commission reassessed the need for two regulations based on different legal basis with respect to the data quality. Based on this analysis, the Commission has ceased the SES mandate on ADQ2 and requested the Agency to lead the development of the rule which is to be integrated within the EASA regulatory structure⁷.

The need to extend the scope

Opinion No 01/2005 (EASA) and AC 20-153A (FAA) have a different scope. Currently, the EASA LoA concept is not completely aligned with the scope laid down by FAA with AC 20-153A on 'Acceptance of aeronautical Data Processes and Associated Databases'. The EASA LoA concept refers to navigation databases, while the AC 20-153A scope includes the aeronautical databases⁸.

This approach allows the European aircraft operators to take credit from the oversight process because the DAT providers are currently voluntarily overseen, but primarily for navigation databases. The database shall be loaded into on-board aircraft applications and support the navigation domain.

For more detailed analysis of the issues addressed by this proposal, please refer to the RIA section 4.1. 'Issues to be addressed'.

⁷ Letter of 17 October 2012.

⁸ In reference to the navigation database, the oversight is currently limited only when the databases are used for the navigation function by providing steering guidance, while the aeronautical database is purely presenting information without link to navigation function.

2.2. Objectives

The overall objectives of the Agency are established by Article 2 of the Basic Regulation. This proposal will contribute to the achievement of the overall objectives by addressing the issues outlined in Chapter 2 of this NPA.

An additional objective, in the fields covered by this Regulation, is 'to promote cost-efficiency in the regulatory and certification processes and to avoid duplication at national and European level' (Article 2.2(c)). Therefore, the specific objectives of this proposal are:

- (a) to develop the specific organisational requirements and responsibilities applicable to data services providers and the associated technical requirements for the provision of data services;
- (b) to avoid double oversight of these service providers by the competent authority and by the operators contracting their services; and
- (c) to ensure that the SES objectives on interoperability with respect to data are achieved.

2.3. Interfaces

The provision of data services consists in the origination and processing of data and formatting and delivering data to general air traffic for the purpose of safety-critical air navigation as defined in Article 3(q) of the Basic Regulation. Those DAT providers which originate data would need to comply with certain specific requirements. Therefore, necessary provisions are developed addressing as well the links between service providers, data sources, certified aircraft applications and customers (i.e. airspace users). Furthermore, in order to ensure seamless data supply chain, close coordination was established on activities related to RMT.0477 & RMT.0478 (Technical requirements and operational procedures for aeronautical information services (AIS) and aeronautical information management (AIM)), as appropriate.

The proposed technical requirements for DAT providers implement the Essential Requirements set out in paragraph 2(a) of Annex Vb to the Basic Regulation and the SES objectives on interoperability. For this purpose, recognised global industry standards adopted as European standards according to the Vienna Agreement are taken into account for the demonstration of compliance. The main focus is on the ISO 9000 family of standards and the EUROCAE standards for processing aeronautical data (ED-76).

To achieve the interoperability objectives of aeronautical information of sufficient quality in the aeronautical data chain from post-publication by AIS providers to the end user, the proposed implementing measures in question duly consider Regulation (EU) No 73/2010 laying down requirements on the quality of aeronautical data and aeronautical information for the single European sky and a GM is developed to promote the DAT provider to use digital data sets as a preferred means of data exchange to support data integrity.

The interoperability objectives are addressed through the strong link of the data quality requirements to the certified aircraft applications. The certification process of the airborne applications ensures that the requirements assigned to the airborne domain are met. Furthermore, the data quality requirements are passed along upwards in the data chain.

The figure below illustrates the interfaces of the regulated parties addressed with the proposed rule and how the interoperability is achieved. For a given airspace application (e.g. terminal approach operation), the minimum aviation system performance standards (MASPS) are defining the requirements for airborne and ground domain. They are

implemented through ICAO SARPs and EU Regulations. Aircraft certification ensures that those requirements are implemented properly in the airborne applications and result in adequate data quality requirements (DQR). The AISPs ensure the publication of aeronautical data in accordance with the requirements laid down in Regulation (EU) No 1035/2011, Regulation (EU) No 73/2010 and ICAO Annex 15 on AIS.

The aircraft operator remains responsible for the selection of data sets for their intended operations.

This draft regulation ensures that a DAT provider Type 2 considers the selection requirements of the operator, the DQR from the airborne application and passes the DQRs along the chain, as appropriate. Furthermore, that provider or a DAT provider Type 1 receives data from an authoritative source.

The process ensures compatibility of the data sets with the DQR and the authoritative source information.

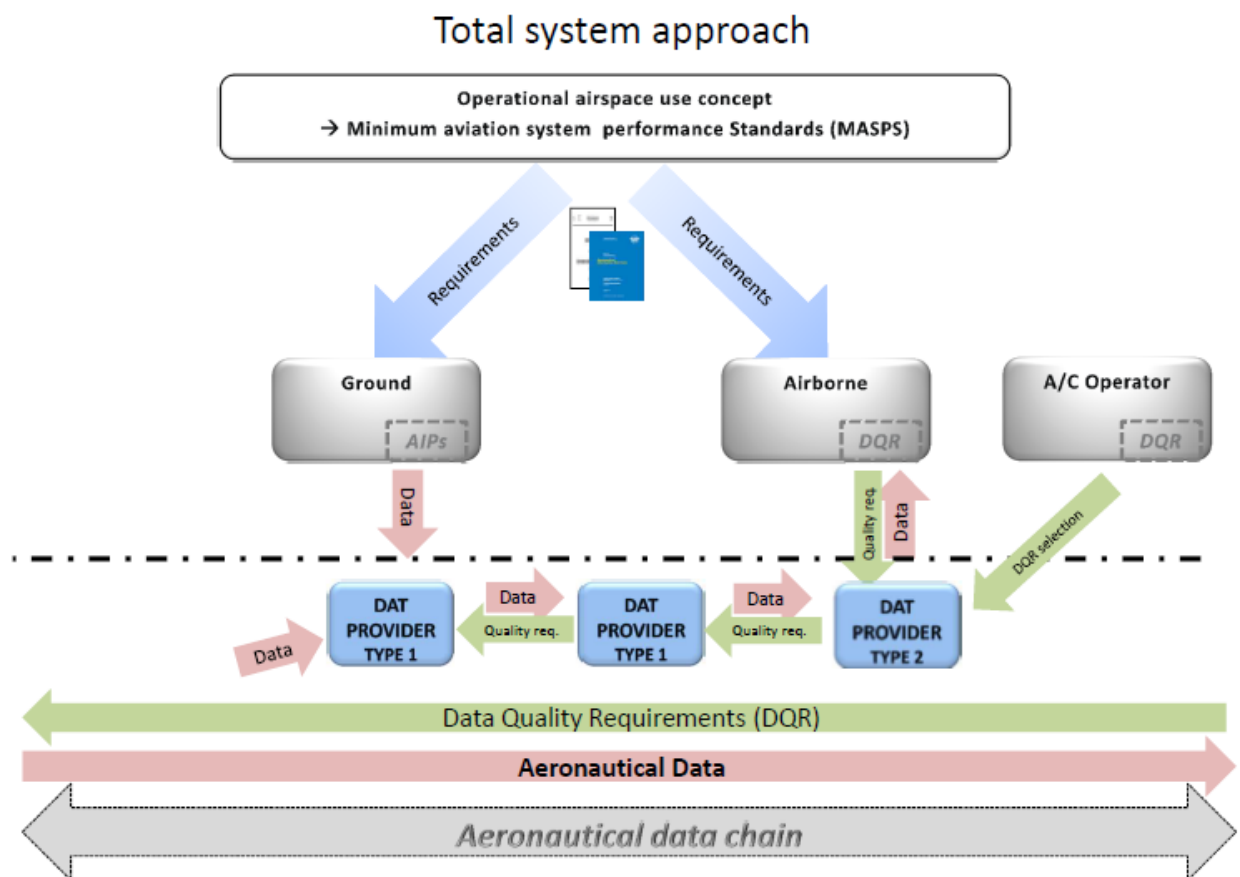


Figure3: Illustration of the interfaces of the regulated parties

It is important to emphasise that the provision of high integrity and quality data for air navigation is also necessary to enable safe PBN operations. Currently, CAT.IDE.355(c) and NCC.IDE.A.260(c) require the operator to 'continuous monitor the integrity of both the process and the products, either directly or by monitoring the compliance of third party providers'. Individual monitoring by each operator is highly inefficient, and the certification of data services providers is a key enabler for a broader adoption of PBN operations with a high and uniform level of safety.

2.4. Summary of the Regulatory Impact Assessment (RIA)

2.4.1. How could the issue/problem evolve?

In the absence of appropriate, specific and proportionate rules, the current situation will continue due to the following issues:

- Multiple oversight of these DAT providers by the competent authority and by each aircraft operator contracting their services (i.e. using the data); and
- The scope of the LoA (i.e. navigation databases) is too narrow compared to the FAA AC20-153A (which includes additional aeronautical databases).
 - Aircraft Operators can take credit from the oversight process, because DAT providers are currently voluntarily 'overseen', but limited to navigation databases;
 - The regulatory framework does not support the equal treatment for the European industry as, currently, DAT providers do not have 'access' to oversight credit as applied in the other aviation domains.

2.4.2. Options

Three options have been considered.

Table 1: Selected policy options

Option No	Short title	Description
0	Do nothing	Leave the Basic Regulation not implemented and maintain the current double regulatory framework (i.e. SES and EASA) leading to multiple oversight.
1	'Pure transposition of the current LoA concept' into certification scheme and regulating only the Navigation databases used in the context of flight operation	<p>State data published by the AIS providers for the purpose of navigation databases would be overseen, while the same data is used for other applications as well, such as awareness application and situational awareness application that would be excluded from the oversight process.</p> <p>The oversight process is improved compared to Option 0 by avoiding multiple auditing system for DAT providers of navigation databases.</p> <p>With this approach, the Agency would transfer the voluntary oversight system into the issue of a certificate to the European DAT providers in accordance with Article 8b of the Basic Regulation.</p>
2	Option 1 plus the extension of the scope from the navigation databases to aeronautical databases ⁹	<p>Alignment with the scope laid down by FAA with AC 20-153A on 'Acceptance of Aeronautical Data Processes and Associated Databases' however, at this stage, the requirements imposed by the FAA are on a voluntary basis, while within Europe the obligatory certification scheme will apply.</p> <p>In addition to the benefits of Option 1, Option 2 would allow the aircraft operators to take credit from the oversight process once the DAT provider is certified for databases which are not only navigation ones.</p>

⁹ In reference to the navigation database the oversight is currently limited only when the databases are used for the navigation function, while the aeronautical database is purely presenting information without link to the navigation function.

2.4.3. Summary of the impact analysis

The summary of the impacts for each option is provided in the following table.

Type of impacts	Option 0	Option 1	Option 2
Safety impacts	0	0/+	+
Economic impacts	0	+	+
Proportionality issues	0	+	+
'Better Regulation' and harmonisation	0	0/+	+
Overall impact	0	0/+	+

The oversight of DAT providers of navigation and aeronautical databases by the Agency (Option 2) is considered to be the preferred option by providing the highest benefits in terms of decrease of workload for DAT providers and the airlines operators. This oversight will enable the DAT providers to show compliance with the minimum requirements ensuring data quality, thus relieving the airlines operators to perform audits on DAT providers. In addition, Option 2 brings a full harmonisation in terms of scope between the Agency and the FAA regarding regulatory requirements for these types of databases.

In section 4.5.4. of the RIA, there are issues where the Agency explicitly invites stakeholders to express their opinion or to answer to questions. The Agency is addressing stakeholders in order to receive further guidance during the consultation of this NPA with a view to gaining additional information and the opinion of a wider audience.

2.5. Overview of the proposed amendments**2.5.1. Proposed amendments to the draft Regulation on 'Requirements for service providers and the oversight thereof'**

Following the structure of the draft rule on 'Requirements for service providers and the oversight thereof' as proposed in CRD to NPA 2013-08, the proposed amendments are presented highlighting the differences with regard to Opinion No 01/2005 and justifying these modifications. Appendix I to this Explanatory Note contains the cross references table between said EASA Opinion and the proposed provisions.

2.5.2. Definitions

The introduction of Part-DAT leads to using new terms. Article 2.2(d) of the Basic Regulation mandates to duly take into account ICAO provisions when establishing implementing rules. It is, hence, necessary to introduce new definitions for:

- 'aeronautical data';
- 'aeronautical database';
- 'aeronautical information';
- 'aerodrome mapping data';
- 'data quality';
- 'data quality requirements';

- ‘obstacle’; and
- ‘terrain’.

Taking into account the forthcoming amendments of ICAO Annex 15, the Rulemaking group has advised the Agency to consider the future revision of the definitions in question and to align them already with the improved text.

Furthermore, definitions of ‘DAT provider’ ‘authoritative source’ and ‘tailored data’ were also deemed necessary to be added for the purpose of this rule. To avoid any misunderstanding, a GM to the definition of ‘DAT provider’ is proposed to clarify that the service provided by the DAT provider that processes aeronautical data and provides an aeronautical database for use by airspace users is considered to be a pan-European service.

The already proposed definitions in Annex I are not affected.

2.5.3. Transitional provisions

The proposed amendment to Article 8 has not been introduced. Adequate transitional provisions can only be proposed after the consultation of the relevant provision, and the evaluation of the comments to be received during the subject NPA consultation. It will be proposed in the Agency’s Opinion to the European Commission, and it will thereafter further discussed during Comitology procedure. Therefore, to obtain the stakeholders’ views on the subject, the Agency, based on the draft rule presented in this NPA and the advice received from the Rulemaking group during the rule development, would like to propose the following transitional provisions:

- 18 months adaptation time to allow the competent authority to ensure compliance with and adapt itself to the new requirements; and
- 36 months for DAT providers for implementing the requirements and to be certified by the Agency acting as competent authority for pan-European service providers.

Stakeholders are invited to comment on the Agency’s proposal for transitional provisions.

2.5.4. Certificate template

Following the draft certificate template presented in CRD to NPA 2013-08, an amendment to the attachment of the service provider’s certificate is proposed, introducing in the template the different type of data services provided — Type 1 and Type 2.

2.5.5. Management system

Investigating the requirements in Annex III on common requirements for service providers and especially the provisions on management system and their associated AMC, the Rulemaking group members recognised that the AMCs by which the DAT providers would show compliance should be different for the different type DAT providers. Therefore, an EN ISO 9001 certificate is proposed to be considered as a sufficient means of compliance for DAT providers Type 1, while for DAT providers Type 2, the compliance would be shown through EN ISO 9100.

Stakeholders are invited to comment whether the proposed AMC1 ATM/ANS.OR.B.005 Management system — DAT providers Type 1 and AMC1 ATM/ANS.OR.B.005 Management system — DAT provider Type 2 should be kept, removed or amended and to provide justifications for it.

In addition to the mentioned AMCs, further AMCs and GMs applicable only for DAT providers are introduced which relate to the application for service provider certificate, demonstration of compliance, findings and corrective actions, occurrence reporting and record keeping. With the transposition of Opinion No 01/2005, it was recognised that an AMC on a change of the ownership and/or location of the facilities of the service providers should be introduced and apply to all service providers.

2.5.6. Annex VII — Specific requirements for the provision of data for airspace users for the purpose of air navigation

The specific provisions to be complied with by the DAT providers, in addition to the common requirements in Annex III of the draft rule, are proposed in Annex VII based on Opinion No 01/2005 and the Agency's conditions for the issuance of LoA for navigation database suppliers.

It is subdivided into 2 subparts:

- SUBPART A — Additional organisation requirements for the provision of data for airspace users for the purpose of air navigation (DAT.OR);
- SUBPART B — Technical requirements for the provision of data for airspace users for the purpose of air navigation (DAT.TR)

DAT.OR.100 on aeronautical data and information sets up the objectives and the scope of DAT providers' activities, i.e. to receive, assemble, translate, select, format, distribute and/or integrate aeronautical information that is released by an authoritative source for use in aeronautical databases on aircraft systems. In specific cases, if aeronautical data is not provided by an authoritative source or does not meet the applicable data quality requirements, that aeronautical data may be originated by a DAT provider itself. Furthermore, when so requested, the DAT provider should process tailored data provided by the aircraft operator or originating from other DAT providers for use by that aircraft operator. The associated AMC and GM further support the interpretation of the rule and illustrate the meaning of the provision.

DAT.OR.105 on technical and operational competence and capability derives mainly from A.163 of Agency's conditions for the issuance of LoA. It requires a statement of conformity to be issued by a DAT provider that the aeronautical databases it has produced are produced in accordance with this Regulation and the applicable industry standards. The associated AMC on the statement of conformity is proposed. No consensus has been reached in the Rulemaking group with regard to the level of details of said statement, especially point 4 'Database identification'. The Agency believes that there is a need to link a given database and the statement of conformity as a means of ensuring the data integrity. This would be facilitated through the subject database identification. Moreover, to the Agency's understanding, if the DAT providers continue to issue the subject statement the way they do it today (in accordance with Opinion No 01/2005), they would comply with the proposed rule as well.

Stakeholders are invited to comment on the Agency's proposals for 'Statement of conformity' and to provide justification elements on the possible safety, social, and economic impact, or alternatively to propose another suitable and justified solution to the above issue.

When transposing the eligibility criteria laid down in A.133 of the said conditions, the Agency believes that the requirement for DAT provider Type 2 to ensure satisfactory

coordination through an appropriate arrangement with the specific equipment design organisation or an applicant for an approval of that specific design should remain in the draft rule and be addressed in this DAT.TR.105(a)(1). However, the Rulemaking group has not supported fully this proposal as the requirement would contain unexpected implications and it considers that the subject would require further discussion based on the comments received from this NPA consultation.

Since the draft Regulation on 'Requirements for service providers and the oversight thereof' proposed with CRD to NPA 2013-08 already included requirements on continued validity, management system and record keeping contained in Annex III (Common requirements for service providers (ATM/ANS.OR), Subpart A of Annex VII addresses only the additional specific organisation requirements on the subjects in **DAT.OR.110**, **DAT.OR.115** and **DAT.OR.120**.

DAT.OR.200 is transposing A.165 (e) and (f) from the Agency's conditions for the issuance of LoA as laid down in Opinion No 01/2005, with regard to the reporting obligations of DAT providers. Furthermore, it provides the flexibility for the internal reporting system to be integrated into the management system of the DAT provider, if it decides so.

The technical requirements for DAT providers contained in Subpart B of Annex VII address the working methods and operating procedures and necessary operational interfaces.

DAT.TR.100 derives from A.145 Conditions from the Agency's LoA conditions (EASA Opinion 01/2005). To support the implementation the requirements, the necessary AMCs and GMs have been developed by the Rulemaking group and presented in this NPA. To support data integrity, a GM is proposed to promote that the DAT provider may use digital data sets as a preferred means of data exchange.

One of the most essential rules, purposed to ensure that the SES objectives on interoperability with respect to data are achieved, is provided in **DAT.TR.105** on required interfaces and its associated AMC. It requires the DAT provider to ensure the necessary operational interfaces with aeronautical data source and/or other DAT providers; the equipment design approval holder for Type 2 DAT provision; and aircraft operators, as applicable.

2.5.7. Proposed amendments to Regulation (EU) No 965/2012 laying down technical requirements and administrative procedures related to air operations

The applicable requirements for Air Operations related to the management of aeronautical databases are amended as follows:

CAT.IDE.A.355 & NCC.IDE.A.260

The scope of these requirements is extended from navigation data to all aeronautical databases used on certified aircraft systems applications.

The requirement for navigation data used in applications needed for operations approved under Part-SPA is deleted as it is considered to fall under the intended use of the data. This is now explained at GM level.

The obligation for the operator to monitor the integrity of the databases and the related processes is deleted as this aspect is covered by the certification of the database provider.

A new requirement is added under paragraph (c) for the operator to report to the data provider any erroneous, inconsistent or missing data that may be detected during operations. In such cases, the operator shall ensure that the affected data is not used.

AMC1 CAT.IDE.A.355**AERONAUTICAL DATABASES**

This AMC is changed to clarify in which cases the database provider should be a Type 2 DAT provider certified in accordance with Regulation .../..., or equivalent. The previous references to the Type 2 LoA are rendered obsolete by the certification of the database provider.

GMs are modified and added to:

- provide additional information on the certification of data providers;
- provide guidance on the timely distribution of current databases; and
- specify standards for databases and data providers.

The above-described provisions and changes are extended to helicopter operations, for which purpose the following implementing rules and the related AMCs and GMs are added:

- CAT.IDE.H.355; and
- NCC.IDE.H.260.

Similar provisions have been also developed for non-commercial operations of other-than-complex aeroplanes and helicopters (falling under Part-NCO) and for specialised operations of the all motor-powered aircraft (falling under Part-SPO). The following implementing rules and the related AMCs and GMs are, therefore, added:

- NCO.IDE.A.205;
- NCO.IDE.H.205;
- SPO.IDE.A.230; and
- SPO.IDE.H.230

In the case of non-commercial operations of other-than-complex aeroplanes and helicopters, the requirements are simplified and limited to databases used for primary navigation purposes only. AMCs and GMs also reflect this approach.

Being SPO rules applicable to complex and other-than-complex motor-powered aircraft, they combine the requirements developed for Part-NCC and Part-NCO respectively.

3. Proposed amendments

The text of the amendment is arranged to show deleted text, new or amended text as shown below:

- (a) deleted text is marked with ~~strike through~~;
- (b) new or amended text is highlighted in **grey**;
- (c) an ellipsis (...) indicates that the remaining text is unchanged in front of or following the reflected amendment.

3.1. Draft Regulation (Draft EASA Opinion)

Proposed amendments to draft Regulation (EU) No .../... on 'Requirements for service providers and the oversight thereof'

ANNEX I

DEFINITIONS FOR TERMS USED IN ANNEXES II TO XIII

For the purposes of this Regulation, the following definitions shall apply:

(...);

aa. 'Aeronautical data' means a representation of aeronautical facts, concepts or instructions in a formalised manner suitable for communication, interpretation or processing.

bb. 'Aeronautical database' means a collection of current aeronautical data, stored electronically on airborne system, which is valid for a dedicated period and may be updated in accordance with the ICAO AIRAC regulation .

cc. 'Aeronautical information' means information resulting from the assembly, analysis and formatting of aeronautical data.

dd 'Aerodrome mapping data' means data collected for the purpose of compiling aerodrome mapping information for aeronautical use.

ee. 'Authoritative source' means:

- a State authority organisation, or
- an organisation formally recognised by the State authority to originate or publish data which meets specified data quality requirements for air navigation.

ff. 'Data quality' means a degree or level of confidence that the data provided meets the requirements of the data user in terms of accuracy, resolution and integrity (or equivalent assurance level), traceability, timeliness, completeness, and format.

gg. 'Data quality requirements' means a specification of the characteristics of data to ensure that the data is compatible with its intended use.

hh. 'Data Services Provider (DAT provider)' means an organisation, which is:

- Type 1 DAT provider that processes aeronautical data and provides an aeronautical database for use on aircraft in a generic format under controlled conditions for which no corresponding airborne application/equipment compatibility has been determined.
- Type 2 DAT provider that processes aeronautical data and provides an aeronautical database for the use in corresponding airborne application/equipment in a specific

format compatible with the aircraft system with a defined intended function and data quality requirements.

ii. 'Obstacle' means all fixed (whether temporary or permanent) and mobile objects, or parts thereof, that:

- are located on an area intended for the surface movement of aircraft; or
- extend above a defined surface intended to protect aircraft in flight; or
- stand outside those defined surfaces and that have been assessed as being a hazard to air navigation.

jj. 'Tailored data' means data which is provided by the aircraft operator or DAT provider on the aircraft operator's behalf and produced for this aircraft operator; the aircraft operator takes full responsibility for this data and its subsequent updates as required.

kk. 'Terrain' means the surface of the Earth containing naturally occurring features such as mountains, hills, ridges, valleys, bodies of water, permanent ice and snow, and excluding obstacles.

(...)

ANNEX II

**REQUIREMENTS FOR COMPETENT AUTHORITIES — PROVISION OF SERVICES
AND OTHER ATM NETWORK FUNCTIONS**

(Part-ATM/ANS.AR)

APPENDIX 1 TO ANNEX II

CERTIFICATE FOR SERVICE PROVIDER

EUROPEAN UNION

COMPETENT AUTHORITY

SERVICE PROVIDER CERTIFICATE

[CERTIFICATE NUMBER/ISSUE No]

Pursuant to Regulation (EU) No .../... (and to Regulation (EU) No .../...) and subject to the conditions specified below, the [competent authority] hereby certifies

[NAME OF THE SERVICE PROVIDER]

[ADDRESS OF THE SERVICE PROVIDER]

as a Service Provider with the privileges, as listed in the attached service provision conditions.

CONDITIONS:

This certificate is limited to the conditions and the scope of providing services as listed in the attached service provision conditions.

This certificate is valid whilst the certified service provider remains in compliance with Regulation (EU) No .../... and other applicable regulations and, when relevant, with the procedures in the service provider's documentation as required by Regulation (EU) No .../..., Part-XXX.

Subject to compliance with the foregoing conditions, this certificate shall remain valid unless the certificate has been surrendered, superseded, limited, suspended or revoked.

Date of issue:

Signed:

[Competent authority]

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SERVICE PROVIDER CERTIFICATE SERVICE PROVISION CONDITIONS

Attachment to the service provider's certificate:

[CERTIFICATE NUMBER/ISSUE No]

[NAME OF THE SERVICE PROVIDER]

has obtained the privileges to provide the following scope of services:

'Delete lines as appropriate'

Services	Type of Service	Scope of Service	Limitations*
<input type="checkbox"/> Data Services (DAT)	<input type="checkbox"/> Type 1	Provision of DAT Type 1 authorises the supply of the following formats: [list of the generic data formats] Provision of DAT Type 1 does not authorise the supply of aeronautical databases directly to end users/operators.	
	<input type="checkbox"/> Type 2	Provision of DAT Type 2 authorises the supply of aeronautical databases to end users/operators for the following system, for which compatibility has been demonstrated: [Manufacturer] Certified Application/Equipment Model [XXX], Part No [YYY]	
Conditions:			

Date of issue:

Signed: [Competent authority]

For the Member State/EASA

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* as prescribed by the competent authority

** where necessary

*** if the competent authority considers it necessary.

ANNEX VII**SPECIFIC REQUIREMENTS FOR THE PROVISION OF DATA FOR AIRSPACE
USERS FOR THE PURPOSE OF AIR NAVIGATION****(Part-DAT)****SUBPART A — ADDITIONAL ORGANISATION REQUIREMENTS FOR THE
PROVISION OF DATA FOR AIRSPACE USERS FOR THE PURPOSE OF AIR
NAVIGATION (DAT.OR)****Section 1 — General requirements****DAT.OR.100 Aeronautical data and information**

- (a) The DAT provider shall receive, assemble, translate, select, format, distribute and/or integrate aeronautical information for use in aeronautical databases on certified aircraft systems that is released by authoritative source.

In specific cases, if aeronautical data is not provided by an authoritative source or does not meet the applicable data quality requirements, that aeronautical data may be originated by the DAT provider itself.

- (b) When so requested, the DAT provider shall process tailored data provided by the aircraft operator or originating from other DAT providers for use by that aircraft operator.

DAT.OR.105 Technical and operational competence and capability

- (a) The DAT provider shall:

(1) perform the reception, assembly, translation, selection, formatting, distribution and/or integration of information that is released by aeronautical data source provider(s) into electronic databases for aircraft systems under the applicable requirements; DAT provider Type 2 shall ensure satisfactory coordination through an appropriate arrangement with the specific equipment design organisation or an applicant for an approval of that specific design.

(2) issue a Statement of Conformity that the aeronautical databases it has produced are produced in accordance with Commission Regulation (EU) No.../... and the applicable industry standards; and

(3) provide assistance to the equipment design approval holder in dealing with any continuing airworthiness actions that are related to the aeronautical databases that have been produced.

- (b) For release of databases, the accountable manager shall nominate attesting staff identified in DAT.TR.100(c) and allocate its responsibilities in an independent manner to attest that data and processes qualify for Statements of Conformity. The ultimate responsibility for the databases release statements signed by the attesting staff remains with the accountable manager of the DAT provider.

DAT.OR.110 Continued validity

In addition to the requirements laid down in ATM/ANS.OR.A.025, the certificate for the provision of DAT shall remain valid unless:

- (a) there is evidence that the DAT provider cannot maintain satisfactory control of reception, assembly, translation, selection, formatting, distribution and/or integration of information that is released by aeronautical data source providers or originates from the DAT provider itself into aeronautical databases for aircraft systems; or
- (b) the DAT provider no longer meets the conditions of DAT.TR.105 (a) to (c).

DAT.OR.115 Management system

In addition to ATM/ANS.OR.B.005, the DAT provider, as applicable for the type of DAT provision, shall establish and maintain a management system that includes control procedures for:

- (a) document issue, approval, or change;
- (b) verification that incoming data has been produced in accordance with the applicable standards;
- (c) continuous update of the data used;
- (d) identification and traceability;
- (e) processes for reception, assembly, translation, selection, formatting, distribution and/or integration of data into a generic database or database compatible with the specific target aircraft system;
- (f) data verification and validation techniques;
- (g) identification of tools, including configuration management and tools qualification, as necessary;
- (h) non-conforming item control;
- (i) coordination with the aeronautical data source provider(s) and/or DAT provider(s); and with the equipment design approval holder when providing Type 2 DAT;
- (c) issue of Statement of Conformity; and
- (j) controlled distribution of databases to users.

DAT.OR.120 Record keeping

In addition to the records required in ATM/ANS.OR.B.030, the DAT provider shall include in its system of record keeping:

- (a) records completion and retention; and
- (b) the elements indicated in DAT.OR.115

Section 2 — Specific requirements**DAT.OR.200 Reporting requirements**

- (a) The DAT provider shall:
 - (1) report to the customer, and where applicable the equipment design approval holder, all cases where aeronautical databases have been released by the DAT

- provider and subsequently identified as having possible deficiencies and/or deviations from the applicable data requirements;
- (2) report to the competent authority the deviations which could lead to an unsafe condition identified according to subparagraph (1). Such reports shall be made in a form and manner acceptable to the competent authority;
 - (3) where the certified DAT provider is acting as a supplier to another DAT provider, report also to that other organisation all cases where it has released aeronautical databases to that organisation and subsequently identified them as having possible errors; and
 - (4) report to the aeronautical data source provider instances of erroneous, inconsistent or missing data to the aeronautical source.
- (b) The DAT provider shall establish and maintain an internal reporting system in the interest of safety, to enable the collection and assessment of reports in order to identify adverse trends or to address deficiencies, and to extract reportable events and actions. This system shall include evaluation of relevant information relating to the promulgation of related information.
- It may be integrated into the management system as required in ATM/ANS.OR.B.015.

SUBPART B — TECHNICAL REQUIREMENTS FOR THE PROVISION OF DATA FOR AIRSPACE USERS FOR THE PURPOSE OF AIR NAVIGATION (DAT.TR)

Section 1 — General requirements

DAT.TR.100 Working methods and operating procedures

The DAT provider shall demonstrate that:

- (a) with regard to all the necessary data, it:
 - (1) shall be in receipt of information from the equipment design approval holder, either directly or through another DAT provider, to determine compatibility with the documented data quality requirements;
 - (2) shall use data from an authoritative source(s) and if required other aeronautical data verified by the DAT provider itself and/or other DAT provider(s);
 - (3) shall establish a procedure to ensure that the data is correctly incorporated into its production data; and
 - (4) shall establish and implement processes to ensure that the tailored data provided or requested by an aircraft operator or other DAT provider shall only be distributed to the requester itself; and
- (b) with regard to management and staff:
 - (1) the responsibility of the accountable manager appointed in accordance with ATM/ANS.OR.B.025 within the organisation shall include ensuring that the production of aeronautical databases is performed to the required standards and that the DAT provider is continuously in compliance with the applicable requirements;

- (2) a person or group of persons has (have) been nominated by the DAT provider to ensure that the organisation is in compliance with the requirements, and is (are) identified, together with the extent of their authority. Such person(s) shall act under the direct authority of the accountable manager referred to in subparagraph (1). The person(s) nominated shall be able to demonstrate the appropriate knowledge, background and experience to discharge their responsibilities; and
 - (3) staff at all levels have been given appropriate authority to be able to discharge their allocated responsibilities and that there is full and effective coordination within the DAT provider organisation; and
- (c) with regard to attesting staff, authorised by the DAT provider, to sign the statements issued under DAT.OR.105:
- (1) the knowledge, background (including other functions in the organisation), and experience of the attesting staff are appropriate to discharge their allocated responsibilities;
 - (2) it maintains a record of all attesting staff which shall include details of the scope of their authorisation; and
 - (3) attesting staff are provided with evidence of the scope of their authorisation.

DAT.TR.105 Required interfaces

The DAT provider shall ensure the necessary operational interfaces with:

- (a) aeronautical data source and/or other DAT providers;
- (b) the equipment design approval holder for Type 2 DAT provision; and
- (c) aircraft operators, as applicable.

Proposed amendments to Annex IV to Regulation (EU) No 965/2012 — Part-CAT**CAT.IDE.A.355 ~~Electronic navigation data management~~ Management of aeronautical databases**

- (a) The operator shall only use ~~electronic navigation data products that support a navigation application~~ aeronautical databases on certified aircraft system applications meeting standards of integrity that are adequate for the intended use of the data.
- (b) ~~When the electronic navigation data products support a navigation application needed for an operation for which Annex V (Part SPA) requires an approval, the operator shall demonstrate to the competent authority that the process applied and the delivered products meet standards of integrity that are adequate for the intended use of the data.~~
- (c) ~~The operator shall continuously monitor the integrity of both the process and the products, either directly or by monitoring the compliance of third party providers.~~
- (db) The operator shall ensure the timely distribution and insertion of current and unaltered ~~electronic navigation data~~ aeronautical databases to all aircraft that require it.

- (c) Notwithstanding any other occurrence reporting requirements as defined in Regulation (EU) No 376/2014, the operator shall report to the database provider instances of erroneous, inconsistent or missing data that might be reasonably expected to constitute a hazard to flight. In such cases, the operator shall establish procedures to inform flight crew and other concerned personnel and ensure that the affected data is not used.

CAT.IDE.H.355 Management of aeronautical databases

- (a) The operator shall only use aeronautical databases on certified aircraft system applications meeting standards of integrity that are adequate for the intended use of the data.
- (b) The operator shall ensure the timely distribution and insertion of current and unaltered aeronautical databases to all aircraft that require it.
- (c) Notwithstanding any other occurrence reporting requirements as defined in Regulation (EU) No 376/2014, the operator shall report to the database provider instances of erroneous, inconsistent or missing data that might be reasonably expected to constitute a hazard to flight. In such cases, the operator shall establish procedures to inform flight crew and other concerned personnel and ensure that the affected data is not used.

Proposed amendments to Annex VI to Regulation (EU) No 965/2012 – Part-NCC

NCC.IDE.A.260 ~~Electronic navigation data management~~ Management of aeronautical databases

- (a) The operator shall only use ~~electronic navigation data products that support a navigation application~~ aeronautical databases on certified aircraft system applications meeting standards of integrity that are adequate for the intended use of the data.
- (b) ~~When the electronic navigation data products support a navigation application needed for an operation for which Annex V (Part SPA) to Regulation (EC) No 965/2012 requires an approval, the operator shall demonstrate to the competent authority that the process applied and the delivered products meet standards of integrity that are adequate for the intended use of the data.~~
- (c) ~~The operator shall continuously monitor both the process and the products, either directly or by monitoring the compliance of third party providers.~~
- (db) The operator shall ensure the timely distribution and insertion of current and unaltered ~~electronic navigation data~~ aeronautical databases to all aircraft that require it.
- (c) Notwithstanding any other occurrence reporting requirements as defined in Regulation (EU) No 376/2014, the operator shall report to the database provider instances of erroneous, inconsistent or missing data that might be reasonably expected to constitute a hazard to flight. In such cases, the operator shall establish procedures to inform flight crew and other concerned personnel and ensure that the affected data is not used.

NCC.IDE.H.260 Management of aeronautical databases

- (a) The operator shall only use aeronautical databases on certified aircraft system applications meeting standards of integrity that are adequate for the intended use of the data.
- (b) The operator shall ensure the timely distribution and insertion of current and unaltered aeronautical databases to all aircraft that require it.
- (c) Notwithstanding any other occurrence reporting requirements as defined in Regulation (EU) No 376/2014, the operator shall report to the database provider instances of erroneous, inconsistent or missing data that might be reasonably expected to constitute a hazard to flight. In such cases, the operator shall ensure that the affected data is not used.

Proposed amendments to Annex VII to Regulation (EU) No 965/2012 – Part-NCO**NCO.IDE.A.205 Management of aeronautical databases**

- (a) The operator shall only use aeronautical databases on certified aircraft system applications for the purpose of primary navigation meeting standards of integrity that are adequate for the intended use of the data.
- (b) The operator shall ensure the timely distribution and insertion of current and unaltered aeronautical databases to all aircraft that require it.
- (c) Notwithstanding any other occurrence reporting requirements as defined in Regulation (EU) No 376/2014, the operator shall report to the database provider instances of erroneous, inconsistent or missing data that might be reasonably expected to constitute a hazard to flight. In such cases, the operator shall ensure that the affected data is not used.

NCO.IDE.H.205 Management of aeronautical databases

- (a) The operator shall only use aeronautical databases on certified aircraft system applications for the purpose of primary navigation meeting standards of integrity that are adequate for the intended use of the data.
- (b) The operator shall ensure the timely distribution and insertion of current and unaltered aeronautical databases to all aircraft that require it.
- (c) Notwithstanding any other occurrence reporting requirements as defined in Regulation (EU) No 376/2014, the operator shall report to the database provider instances of erroneous, inconsistent or missing data that might be reasonably expected to constitute a hazard to flight. In such cases, the operator shall ensure that the affected data is not used.

Proposed amendments to Annex XX to Regulation (EU) No 965/2012 – Part-SPO**SPO.IDE.A.230 Management of aeronautical databases**

- (a) For complex motor-powered aircraft, the operator shall only use aeronautical databases on certified aircraft system applications meeting standards of integrity that are adequate for the intended use of the data.

- (b) For other-than-complex motor-powered aircraft, the operator shall only use aeronautical databases on certified aircraft system applications for the purpose of primary navigation meeting standards of integrity that are adequate for the intended use of the data.
- (c) The operator shall ensure the timely distribution and insertion of current and unaltered aeronautical databases to all aircraft that require it.
- (d) Notwithstanding any other occurrence reporting requirements as defined in Regulation (EU) No 376/2014, the operator shall report to the database provider instances of erroneous, inconsistent or missing data that might be reasonably expected to constitute a hazard to flight. In such cases, the operator shall ensure that the affected data is not used.

SPO.IDE.H.230 Management of aeronautical databases

- (a) For complex motor-powered aircraft, the operator shall only use aeronautical databases on certified aircraft system applications meeting standards of integrity that are adequate for the intended use of the data.
- (b) For other-than-complex motor-powered aircraft the operator shall only use aeronautical databases on certified aircraft system applications for the purpose of primary navigation meeting standards of integrity that are adequate for the intended use of the data.
- (c) The operator shall ensure the timely distribution and insertion of current and unaltered aeronautical databases to all aircraft that require it.
- (d) Notwithstanding any other occurrence reporting requirements as defined in Regulation (EU) No 376/2014, the operator shall report to the database provider instances of erroneous, inconsistent or missing data that might be reasonably expected to constitute a hazard to flight. In such cases, the operator shall ensure that the affected data is not used.

3.2. Draft Acceptable Means of Compliance and Guidance Material (Draft EASA Decision)

The following new AMC and GM are introduced:

Proposed amendments to AMC/GM to Annex I – Definitions of terms used in Annexes II to XIII to draft Regulation (EU) No .../... on 'Requirements for service providers and the oversight thereof'

GM1 hh 'Data Services Provider (DAT provider)' SERVICES

The service provided by the DAT provider that processes aeronautical data and provides an aeronautical database for use by airspace users is considered to be a pan-European services.

Proposed amendments to AMC/GM to Part-ATM/ANS.AR to draft Regulation (EU) No .../... on 'Requirements for service providers and the oversight thereof'

(...)

AMC1 ATM/ANS.AR.C.050 Findings, corrective actions, and enforcement measures – DAT provider CORRECTIVE ACTION AND CORRECTIVE ACTION IMPLEMENTATION PERIOD

- (a) In case of a Level 1 finding, the competent authority may extend the initial 21-working day period for demonstration of corrective action by the DAT provider, depending on the nature of the finding.
- (b) In case of Level 2 findings, the initial corrective action implementation period granted by the competent authority should be appropriate to the nature of the finding but should not, in any case, exceed 3 months. At the end of this period and subject to the nature of the finding, the competent authority may extend the 3-month period subject to a satisfactory corrective action plan agreed by the competent authority.

(...)

Proposed amendments to AMC/GM to Part-ATM/ANS.OR to draft Regulation (EU) No .../... on 'Requirements for service providers and the oversight thereof'

SUBPART A – GENERAL COMMON REQUIREMENTS (ATM/ANS.OR.A)

(...)

AMC1 ATM/ANS.OR.A.005 Application for service provider certificate – DAT provider EXPOSITION

- (a) The DAT provider should submit to the competent authority an exposition providing the following information:
 - (1) A statement signed by the accountable manager confirming that the exposition and any associated manuals which define the organisation's compliance with the requirements will be complied with at all times.

- (2) The title(s), name(s) and appropriate knowledge, background and experience of managers to be notified to the competent authority in accordance with DAT.TR.100 (b).
 - (3) The duties and responsibilities of the manager(s) as required by DAT.TR.100(c)(2) including matters on which they may deal directly with the competent authority on behalf of the organisation.
 - (4) An organisational chart showing lines of responsibility and accountabilities of the managers as required by DAT.TR.100 (1) and (2).
 - (5) A list of attesting staff as referred to in DAT.TR.100(c).
 - (6) A general description of manpower resources.
 - (7) A general description of the facilities of the DAT provider.
 - (8) A general description of the activities for which the DAT provider's certificate is requested.
 - (9) The procedure for the notification of organisational changes to the competent authority.
 - (10) The amendment procedure for the exposition.
 - (11) A description of the management system and the procedures as required by DAT.OR.115 (a) to (k).
 - (12) A list of those contracted organisations referred to in ATM/ANS.OR.B.015(b).
- (b) The exposition shall be amended as necessary to remain an up-to-date description of the organisation, and copies of any amendments shall be supplied to the competent authority.

GM1 ATM/ANS.OR.005 Application for service provider certificate — DAT provider EXPOSITION

The exposition could have the following table of contents:

1. General

Table of Contents, Document Revision History, Abbreviations & Terms

2. Introduction

Purpose, Scope, Standards Declaration and Reference Documents

3. Company Description and Policy

Description of the Company, Products and Services, Quality Policy and Objectives, Customer Requirements

4. Terms of Approval

Scope of Work, Notification of Changes to terms of Approval, Control of Documents and Records

5. Management/Resources Responsibilities

Management Team and Personnel, Organisation Charts, Duties and Responsibilities of Personnel

Management Review, Human Resources, Competence, Awareness and Training

6. Production Processes

Data Production Procedures, Arrangements with Suppliers, Users/Customers and other DAT providers, Data Receiving Inspection and Testing, data release, Data Distribution Process, Data Products Identification and Quality checks, Tailored Data, Data Error Reporting.

7. Management System

Introduction, Document Control, Quality Assurance, Internal System Audits, Standards Compliance Plan Audits, Methods of Improvement, Occurrence Management and Reporting, and record-keeping.

Appendix 1 List of relevant personnel

GM2 ATM/ANS.OR.A005 Application for service provider certificate – DAT provider

QUALITY MANAGEMENT SYSTEM

One means to develop the exposition may be by cross-referring to the procedures of the quality manual which are needed to show compliance with these requirements.

(...)

GM1 ATM/ANS.OR.A.035 Demonstration of compliance – DAT provider

GENERAL

- (a) The applicant for DAT provider's certificate should produce a Compliance Matrix/Check List detailing how its data production processes relate to EUROCAE ED-76/RTCA DO-200A.
- (b) In addition to the applicable requirements, the audit should assess the standards and processes applied by the applicant to determine the characteristics of the delivered database. The following paragraphs identify specific areas that should be audited against EUROCAE ED-76/RTCA DO-200A:
 - (1) plans and procedures, including:
 - (i) concession procedures (i.e. those procedures that control and agree data alteration);
 - (ii) data validation (including the procedures that define the level of checking of the database prior to release). These procedures should be reviewed by a team of specialists to ensure adequacy;
 - (iii) error reporting and handling procedures;
 - (iv) safety reporting procedures (including occurrence reporting);
 - (v) data configuration management;
 - (vi) data transmission practices;
 - (vii) tool qualification; and
 - (viii) internal audit checks and response mechanisms;
 - (2) declared standards; and

(3) data quality requirements definition.

AMC1 ATM/ANS.OR.A.040(a)(2) Changes
CHANGE OF THE OWNERSHIP

A change of the service provider's ownership and/or of the location of its facilities should be deemed significant and should comply with ATM/ANS.OR.A.040(a)(2).

(...)

AMC1 ATM/ANS.OR.A.055 Findings and corrective actions – DAT provider
CORRECTIVE ACTION IMPLEMENTATION PERIOD

In case of a Level 1 finding, the DAT provider should demonstrate corrective action to the satisfaction of the competent authority within a period of no more than 21 working days after written confirmation of the finding. At the end of this period and subject to the nature of the finding, the 21-working day period may be extended and agreed by the competent authority when the safety issue is mitigated.

(...)

GM2 ATM/ANS.OR.A.065(b) Occurrence reporting – DAT providers
GENERAL

The DAT provider should notify the competent authority using the occurrence reporting form on:

- (a) errors/deficiencies affecting safe operations in an airspace segment/block;
- (b) errors/deficiencies with negative impact on safety stemming from a source in a Member State or a FAB; and
- (c) errors/deficiencies with negative impact on safety stemming from erroneous processing of the data or information within the intended aircraft system.

SUBPART B – MANAGEMENT (ATM/ANS.OR.B)

(...)

AMC1 ATM/ANS.OR.B.005 Management system – DAT providers Type 1
ISO 9001 CERTIFICATE FOR DAT PROVIDERS

An EN ISO 9001 certificate, issued by an appropriately accredited organisation addressing all the elements required in this Subpart should be considered as a sufficient means of compliance for a DAT provider Type 1. In this case, the DAT provider Type 1 should accept the disclosure of the documentation related to the certification to the competent authority upon the latter's request.

AMC1 ATM/ANS.OR.B.005 Management system — DAT providers Type 2
ISO 9100 CERTIFICATE FOR DAT PROVIDERS

An EN ISO 9100 certificate, issued by an appropriately accredited organisation addressing all the elements required in this Subpart should be considered as a sufficient means of compliance for a DAT provider Type 2. In this case, the DAT provider Type 2 should accept the disclosure of the documentation related to the certification to the competent authority upon the latter's request.

(...)

AMC1 ATM/ANS.OR.B.030 Record keeping — DAT provider
DATABASE

The DAT provider should keep the records for a period of at least 3 years after the end of the validity period of the database unless otherwise specified by other applicable requirements.

(...)

ANNEX VII**SPECIFIC REQUIREMENTS FOR THE PROVISION OF DATA FOR AIRSPACE**
USERS FOR THE PURPOSE OF AIR NAVIGATION**(PART-DAT)****SUBPART A — ADDITIONAL ORGANISATION REQUIREMENTS FOR THE**
PROVISION OF DATA FOR AIRSPACE USERS FOR THE PURPOSE OF AIR
NAVIGATION (DAT.OR)**Section 1 — General requirements****AMC1 DAT.OR.100 Aeronautical data and information**
GENERAL

- (a) Data/information in this respect should consist of:
- (1) integrated aeronautical information package (IAIP); and/or
 - (2) obstacle data; and/or
 - (3) terrain data; and/or
 - (4) aerodrome mapping data (AMD); and/or
 - (5) other data/information that is validated by the DAT provider for the purpose of provision of its service.
- (b) Aeronautical databases should be databases that support the flight operation of the aircraft used on certified aircraft system applications.
- (c) The scope should not address airborne system databases that are used by an airborne system and approved as part of the type design of the aircraft or engine. Examples of airborne system databases include engine power settings (take-off, climb, Maximum Continuous Thrust (MCT), Cruise) and aircraft performance data (e.g. take-off distance, V speeds).

GM1 DAT.OR.100 Aeronautical data and information**GENERAL**

The origination and provision of tailored data by aircraft operators or on their behalf for the purpose of air operation is not part of the scope.

The use of tailored data is related and limited to the operational purposes of the aircraft operator that requested the insertion of the tailored data.

GM2 DAT.OR.100 Aeronautical data and information**GENERAL**

(a) Aeronautical databases in this context should include databases that support the flight operation of aircraft used on certified aircraft system applications for the purpose of primary communication, navigation and surveillance (CNS) or supplementing primary CNS.

(1) The primary CNS applications include, but are not limited to:

(i) FMS navigation database;

(ii) Database for Synthetic Vision systems, etc.

(2) The supplementary primary CNS applications include, but are not limited to, systems generating alerts and used for awareness having the following databases:

(i) Terrain database (TAWS/EGPWS);

(ii) Obstacle databases (TAWS)

(iii) Aerodrome mapping database (AMDB),

(iv) Brake to vacate (BTV),

(v) Runway awareness and advisory system (RAAS),

(vi) etc.

(b) Databases for which the DAT provider is not required to be certified in accordance with this Regulation include, but are not limited to:

(1) databases provided and/or used by the operator of the aircraft that are monitored under the operator's responsibility and not loaded into certified aircraft systems applications (e.g. airport moving map, take-off and landing performance used in EFBs); and

(2) databases used for passenger in-flight entertainment (IFE) systems outside of the flight deck; and

(3) databases used on VFR certified aircraft, except those used for primary navigation.

GM1 DAT.OR.105 (a)(1) Technical and operational competence and capability**AERONAUTICAL DATA SOURCE PROVIDER**

Aeronautical data source providers should be considered at least, but are not limited to:

(a) organisations providing authoritative data for the purpose of air navigation (e.g. AIS providers);

(b) the DAT provider itself or another DAT provider;

- (c) the aircraft operator(s) for tailored data; and
- (d) the aerodrome operator(s), in case the information is not provided in the AIPs.

AMC1 DAT.OR.105(a)(2) Technical and operational competence and capability
STATEMENT OF CONFORMITY FOR AERONAUTICAL DATABASE

Logo Of The DAT Provider	Statement of Conformity for Aeronautical Databases	
1. DAT provider certificate number:	Nr.....	
2. DAT provider Type 1/Type 2*: <i>* delete as appropriate</i>	Name	
3. Address	Address	
4. Database Identification:	Identification	
5. Database use:	Applications/standards	
6. Deviations	Deviations	
7. New database release:	8. Additional database release (correction):	
9. Declaration of Conformity: [XXX] databases released and distributed are produced in compliance with Regulation (EU) No .../.....		
10. Attesting Staff:		
Date:	Name: Name	Signature: Signature
AIRAC cycle/ validity period:		

Information to be entered into Statement of Conformity for DAT form:

Field 4: list all the identifications of the databases covered under this release or make reference to the document listing all identifications of the released databases

Field 5:

in case of DAT provider Type 1, list the standard data formats

in case of DAT provider Type 2, list the equipment models and part numbers where compatibility has been demonstrated or make reference to the document containing equipment models and part numbers where compatibility has been demonstrated

Field 6 list deviations and make reference where the deviation information can be found

Field 10: signature of an authorised representative of the applicant

AMC2 DAT.OR.105(a)(2) Technical and operational competence and capability
PRODUCING AND UPDATING OF AERONAUTICAL DATABASES

The processes of producing and updating aeronautical databases should meet the standards specified in EUROCAE ED-76/RTCA DO-200A Standards for Processing Aeronautical Data, dated October 1998 or subsequent revisions.

GM1 DAT.OR.105(b) Technical and operational competence and capability
INDEPENDENCE

A DAT provider should ensure that the attesting staff and the person involved in the production of database release is not a single person (i.e. four eyes principle).

AMC1 DAT.OR.115(7) Management system
TOOL QUALIFICATION

Tool qualification should meet the standards specified in EUROCAE ED-76/RTCA DO-200A Standards for Processing Aeronautical Data, dated October 1998 or subsequent revisions.

SUBPART B — TECHNICAL REQUIREMENTS FOR THE PROVISION OF DATA FOR AIRSPACE USERS FOR THE PURPOSE OF AIR NAVIGATION (DAT.TR)

Section 1 — General requirements

AMC1 DAT.TR.100(a)(1) Working methods and operating procedures — DAT provider Type 2
COMPATIBILITY WITH DOCUMENTED DATA QUALITY REQUIREMENTS

The DAT Provider Type 2 should perform tests to ensure that the database works as intended with the application by performing sampling checks on individual data sets (e.g. in a simulation/test bench environment).

AMC1 DAT.TR.100(a)(2) Working methods and operating procedures
DATA SOURCE

The DAT provider should use data coming from authoritative source(s). If such data is not formally made available but is required by end users, the DAT provider may use data from other (non-authoritative) sources provided these have been validated to conform with relevant standards and data quality requirements.

If a non-authoritative source is used for the data release, the DAT provider may issue a statement at its discretion.

GM1 DAT.TR.100(a)(2) Working methods and operating procedures**DATA EXCHANGE**

To support data integrity, the DAT provider may use digital data sets as a preferred means of data exchange.

GM1 DAT.TR.100 to AMC1 DAT.TR.100(a)(2) Working methods and operating procedures**NON-AUTHORITATIVE SOURCE**

A non-authoritative source should be an organisation other than those defined in point ee of Annex I, but providing and/or publishing data derived from local data gathering or measuring performed, e.g. by aircraft operators, air crew, DAT providers or other similar operational organisations.

When validating a non-authoritative source, the DAT provider should process by using either additional information sources to verify this data (like satellite imagery, data or manuals from other providers, users, military, etc.), or data which has been tested and confirmed through operations.

GM1 DAT.TR.100(c) Working methods and operating procedures**SIGNATURE**

The attesting staff, authorised by the DAT provider, may sign the statements issued in accordance with DAT.OR.105 manually or in a digital manner (e.g. digital signature).

AMC1 DAT.TR.100(c)(1) Working methods and operating procedures**ATTESTING STAFF**

- (a) To qualify as attesting staff, appropriate knowledge, background, experience and specific training or testing established by the DAT provider should be required.
- (b) Training should be provided to develop a satisfactory level of knowledge of organisational procedures, processes and products, aviation legislation, and associated implementing rules, AMC and GM, relevant to the particular role.
- (c) In addition to the general training policy, the DAT provider should define its own standards for training, including qualification standards, for personnel to be identified as attesting staff.
- (d) The training should be updated in response to experience gained and changes in technology.

AMC1 DAT.TR.100(c)(2) Working methods and operating procedures**RECORD OF ATTESTING STAFF**

- (a) The following is the minimum information that should be recorded by the DAT provider in respect of each attesting staff member:
 - (1) name;
 - (2) general training and standard attained;
 - (3) specific training and standard attained;
 - (4) continuation training, if appropriate;
 - (5) background experience;
 - (6) scope of the authorisation; and

- (7) date of first issue of the authorisation.
- (b) The record should be kept in an appropriate format and should be controlled through an internal procedure of the organisation. This procedure could be part of the management system.
- (c) The DAT provider should ensure that the number of persons authorised to access the system is limited and an appropriate access control mechanism is in place.
- (d) The attesting staff member should be given access on request to his or her own records.
- (e) The DAT provider should keep the record for at least two years after the attesting staff member has ceased employment with the organisation or the withdrawal of the authorisation, whichever occurs earlier.

GM1 DAT.TR.100(c)(2) Working methods and operating procedures
RECORD OF ATTESTING STAFF

Records of the attesting staff may be stored electronically.

AMC1 DAT.TR.100(c)(3) Working methods and operating procedures
EVIDENCE OF THE SCOPE OF THEIR AUTHORISATION

- (a) The authorisation document should clearly indicate the scope of the authorisation to allow the attesting staff and any other authorised persons to verify the privileges.
- (b) Attesting staff should make the authorisation document available to the competent authority upon request.

AMC1 DAT.TR.105(a) Required interfaces
INTERFACE WITH THE AERONAUTICAL DATA SOURCE AND/OR OTHER DAT PROVIDERS

- (a) The DAT provider should demonstrate that robust and effective interfaces with aeronautical data source or other DAT providers are implemented. Procedures should be established to communicate instances of erroneous, inconsistent or missing data to such providers and that timely and effective responses are received and remedial action undertaken.
- (b) Where resolution could not be obtained for data that has been called into question, the DAT provider's procedures for dealing with this situation would be audited. Such audits should confirm that effective controls are in place to ensure that an unsafe product is not released and that such concerns are communicated to customers in accordance with the requirements laid down in DAT.OR.200.

AMC1 DAT.TR.105(b) Required interfaces
INTERFACE WITH NAVIGATION EQUIPMENT DESIGN APPROVAL HOLDER FOR TYPE 2 DAT PROVISION

The DAT provider should demonstrate that robust and effective interfaces exist with the equipment design approval holder. In particular, the DAT provider's procedures should ensure that the equipment design approval holder communicates and responds to issues and constraints concerning compatibility/eligibility for installation between their equipment and the databases to the DAT provider.

AMC1 DAT.TR.105(c) Required interfaces**INTERFACE WITH AIRCRAFT OPERATORS**

The DAT provider should demonstrate that a robust and effective interface with aircraft operators is in place, as applicable, to confirm that operators' requests are clearly defined and subject to review.

Proposed amendments to ED Decision 2014/015/R – Part-CAT**AMC1 CAT.IDE.A.355 ~~Electronic navigation data management~~ Management of aeronautical databases****ELECTRONIC NAVIGATION DATA PRODUCTS AND AERONAUTICAL DATABASES**

- ~~(a) When the operator of a complex motor powered aeroplane uses a navigation database that supports an airborne navigation application as a primary means of navigation, the navigation database supplier should hold a Type 2 letter of acceptance (LoA), or equivalent.~~
- ~~(b) If this airborne navigation application is needed for an operation requiring a specific approval in accordance with Annex V (Part SPA), the operator's procedures should be based upon the Type 2 LoA acceptance process.~~

When the operator of an aircraft uses an aeronautical database that supports an airborne navigation application as a primary means of navigation, the database provider should be a type 2 DAT provider certified in accordance with Regulation (EU) No .../..., or equivalent.

GM1 CAT.IDE.A.355 ~~Electronic navigation data management~~ Management of aeronautical databases**CERTIFICATES AND STANDARDS FOR ELECTRONIC NAVIGATION DATA PRODUCTS AND AERONAUTICAL DATABASE APPLICATIONS**

- ~~(a) A Type 2 LoA is issued by the Agency in accordance with the Agency's Opinion No 01/2005 on The Acceptance of Navigation Database Suppliers. The definitions of navigation database, navigation database supplier, data application integrator, Type 1 LoA and Type 2 LoA can be found in Opinion No 01/2005.~~
- ~~(b) Equivalent to a Type 2 LoA is the FAA Type 2 LoA, issued in accordance with the Federal Aviation Administration (FAA) Advisory Circular AC 20-153 or AC 20-153A, and the Transport Canada Civil Aviation (TCCA) 'Acknowledgement Letter of an Aeronautical Data Process', which uses the same basis.~~
- ~~(c) EUROCAE ED-76/Radio Technical Commission for Aeronautics (RTCA) DO-200A Standards for Processing Aeronautical Data contains guidance relating to the processes that the supplier may follow.~~
- (a) Applications using aeronautical databases for which Type 2 DAT providers should be certified in accordance with Regulation (EU) No .../.... may be found in GM2 DAT.OR.100.
- (b) The intended use of the data referred to in CAT.IDE.A.355 (a) includes operations for which a specific approval in accordance with Annex V (Part-SPA) is required.
- (c) The certification of a Type 2 DAT provider in accordance with Regulation (EU) No .../.... ensures the integrity of the data and the processes in use.

GM2 CAT.IDE.A.355 Management of aeronautical databases**TIMELY DISTRIBUTION**

The operator should distribute current and unaltered aeronautical databases to all aircraft requiring it in accordance with the validity period of the databases or in accordance with a procedure established in the operations manual if no validity period is defined.

GM3 CAT.IDE.A.355 Management of aeronautical databases**STANDARDS FOR AERONAUTICAL DATABASES AND DAT PROVIDERS**

- (a) A 'Type 2 DAT provider' is an organisation capable of 'Type 2 DAT provision' in accordance with Regulation (EU) No .../....
- (b) Equivalent to a certified 'Type 2 DAT provider' is defined in any Aviation Safety Agreement between the European Union and a third country, including any Technical Implementation Procedures, or a Working Arrangement between EASA and the competent authority of a third country.

AMC1 CAT.IDE.H.355 Management of aeronautical databases**AERONAUTICAL DATABASES**

When the operator of an aircraft uses an aeronautical database that supports an airborne navigation application as a primary means of navigation, the database provider should be a Type 2 DAT provider certified in accordance with Regulation (EU) No .../...., or equivalent.

GM1 CAT.IDE.H.355 Management of aeronautical databases**AERONAUTICAL DATABASE APPLICATIONS**

- (a) Applications using aeronautical databases for which Type 2 DAT providers should be certified in accordance with Regulation (EU) No .../....may be found in GM2 DAT.OR.100.
- (b) The intended use of the data referred to in CAT.IDE.H.355(a) includes operations for which a specific approval in accordance with Annex V (Part-SPA) is required.
- (c) The certification of a Type 2 DAT provider in accordance with Regulation (EU) No .../....ensures the integrity of the data and the processes in use.

GM2 CAT.IDE.H.355 Management of aeronautical databases**TIMELY DISTRIBUTION**

The operator should distribute current and unaltered aeronautical databases to all aircraft requiring it in accordance with the validity period of the databases or in accordance with a procedure established in the operations manual if no validity period is defined.

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- (b) Equivalent to a certified 'Type 2 DAT provider' is defined in any Aviation Safety Agreement between the European Union and a third country, including any Technical Implementation Procedures, or a Working Arrangement between EASA and the competent authority of a third country.

Resulting text of proposed amendments to ED Decision 2013/021/R – Part-NCC

AMC1 NCC.IDE.A.260 ~~Electronic navigation data management~~ Management of aeronautical databases

ELECTRONIC NAVIGATION DATA PRODUCTS AND AERONAUTICAL DATABASES

- (a) ~~When the operator of a complex motor powered aeroplane uses a navigation database that supports an airborne navigation application as a primary means of navigation, the navigation database supplier should hold a Type 2 letter of acceptance (LoA), or equivalent.~~
- (b) ~~If this airborne navigation application is needed for an operation requiring a specific approval in accordance with Annex V (Part SPA), the operator's procedures should be based upon the Type 2 LoA acceptance process.~~

When the operator of an aircraft uses an aeronautical database that supports an airborne navigation application as a primary means of navigation, the database provider should be a Type 2 DAT provider certified in accordance with Regulation (EU) No .../...., or equivalent.

GM1 NCC.IDE.A.260 ~~Electronic navigation data management~~ Management of aeronautical databases

LETTERS OF ACCEPTANCE CERTIFICATES AND STANDARDS FOR ELECTRONIC NAVIGATION DATA PRODUCTS AND AERONAUTICAL DATABASE APPLICATIONS

- (a) ~~A Type 2 LoA is issued by the Agency in accordance with the Agency's Opinion No 01/2005 on The Acceptance of Navigation Database Suppliers (hereinafter referred to as the Agency's Opinion No 01/2005). The definitions of navigation database, navigation database supplier, data application integrator, Type 1 LoA and Type 2 LoA can be found in the Agency's Opinion No 01/2005.~~
- (b) ~~Equivalent to a Type 2 LoA is the FAA Type 2 LoA, issued in accordance with the Federal Aviation Administration (FAA) Advisory Circular AC 20-153 or AC 20-153A, and the Transport Canada Civil Aviation (TCCA) 'Acknowledgement Letter of an Aeronautical Data Process', which uses the same basis.~~
- (c) ~~EUROCAE ED-76/Radio Technical Commission for Aeronautics (RTCA) DO-200A Standards for Processing Aeronautical Data contains guidance relating to the processes which the supplier may follow.~~

- (a) Applications using aeronautical databases for which Type 2 DAT providers should be certified in accordance with Regulation (EU) No .../.... may be found in GM2 DAT.OR.100.
- (b) The intended use of the data referred to in NCC.IDE.A.260(a) includes operations for which a specific approval in accordance with Annex V (Part-SPA) is required.
- (c) The certification of a Type 2 DAT provider in accordance with Regulation (EU) No .../.... ensures the integrity of the data and the processes in use.

GM2 NCC.IDE.A.260 Management of aeronautical databases

TIMELY DISTRIBUTION

The operator should distribute current and unaltered aeronautical databases to all aircraft requiring it in accordance with the validity period of the databases or in accordance with a procedure established in the operations manual if no validity period is defined.

GM3 NCC.IDE.A.260 Management of aeronautical databases
STANDARDS FOR AERONAUTICAL DATABASES AND DAT PROVIDERS

- (a) A 'Type 2 DAT provider' is an organisation capable of 'Type 2 DAT provision' in accordance with Regulation (EU) No .../.....
- (b) Equivalent to a certified 'Type 2 DAT provider' is defined in any Aviation Safety Agreement between the European Union and a third country, including any Technical Implementation Procedures, or a Working Arrangement between EASA and the competent authority of a third country.

AMC1 NCC.IDE.H.260 Management of aeronautical databases
AERONAUTICAL DATABASES

When the operator of an aircraft uses an aeronautical database that supports an airborne navigation application as a primary means of navigation, the database provider should be a Type 2 DAT provider certified in accordance with Regulation (EU) No .../....., or equivalent.

GM1 NCC.IDE.H.260 Management of aeronautical databases
AERONAUTICAL DATABASE APPLICATIONS

- (a) Applications using aeronautical databases for which Type 2 DAT providers should be certified in accordance with Regulation (EU) No .../.....may be found in GM2 DAT.OR.100.
- (b) The intended use of the data referred to in NCC.IDE.H.260 (a) includes operations for which a specific approval in accordance with Annex V (Part-SPA) is required.
- (c) The certification of a Type 2 DAT provider in accordance with Regulation (EU) No .../.....ensures the integrity of the data and the processes in use.

GM2 NCC.IDE.H.260 Management of aeronautical databases
TIMELY DISTRIBUTION

The operator should distribute current and unaltered aeronautical databases to all aircraft requiring it in accordance with the validity period of the databases or in accordance with a procedure established in the operations manual if no validity period is defined.

GM3 NCC.IDE.H.260 Management of aeronautical databases
STANDARDS FOR AERONAUTICAL DATABASES AND DAT PROVIDERS

- (a) A 'Type 2 DAT provider' is an organisation capable of 'Type 2 DAT provision' in accordance with Regulation (EU) No .../.....
- (b) Equivalent to a certified 'Type 2 DAT provider' is defined in any Aviation Safety Agreement between the European Union and a third country, including any Technical Implementation Procedures, or a Working Arrangement between EASA and the competent authority of a third country.

Resulting text of proposed amendments to ED Decision 2014/016/R – Part-NCO**AMC1 NCO.IDE.A.205 Management of aeronautical databases****AERONAUTICAL DATABASES**

When the operator of an aircraft uses an aeronautical database that supports an airborne navigation application as a primary means of navigation, the database provider should be a Type 2 DAT provider certified in accordance with Regulation (EU) No .../..., or equivalent.

GM1 NCO.IDE.A.205 Management of aeronautical databases**AERONAUTICAL DATABASE APPLICATIONS**

- (a) The intended use of the data referred to in NCO.IDE.A.205(a) includes operations for which a specific approval in accordance with Annex V (Part-SPA) is required.
- (b) The certification of a Type 2 DAT provider in accordance with Regulation (EU) No .../... ensures the integrity of the data and the processes in use.

GM2 NCO.IDE.A.205 Management of aeronautical databases**TIMELY DISTRIBUTION**

The operator should distribute current and unaltered aeronautical databases to all aircraft requiring it in accordance with the validity period of the databases or in accordance with a procedure established in the operations manual if no validity period is defined.

GM3 NCO.IDE.A.205 Management of aeronautical databases**STANDARDS FOR AERONAUTICAL DATABASES AND DAT PROVIDERS**

- (a) A 'Type 2 DAT provider' is an organisation capable of 'Type 2 DAT provision' in accordance with Regulation (EU) No .../...
- (b) Equivalent to a certified 'Type 2 DAT provider' is defined in any Aviation Safety Agreement between the European Union and a third country, including any Technical Implementation Procedures, or a Working Arrangement between EASA and the competent authority of a third country.

AMC1 NCO.IDE.H.205 Management of aeronautical databases**AERONAUTICAL DATABASES**

When the operator of an aircraft uses an aeronautical database that supports an airborne navigation application as a primary means of navigation, the database provider should be a Type 2 DAT provider certified in accordance with Regulation (EU) No .../..., or equivalent.

GM1 NCO.IDE.H.205 Management of aeronautical databases**AERONAUTICAL DATABASE APPLICATIONS**

- (a) The intended use of the data referred to in NCO.IDE.H.205(a) includes operations for which a specific approval in accordance with Annex V (Part-SPA) is required.
- (b) The certification of a Type 2 DAT provider in accordance with Regulation (EU) No .../... ensures the integrity of the data and the processes in use.

GM2 NCO.IDE.H.205 Management of aeronautical databases
TIMELY DISTRIBUTION

The operator should distribute current and unaltered aeronautical databases to all aircraft requiring it in accordance with the validity period of the databases or in accordance with a procedure established in the operations manual if no validity period is defined.

GM3 NCO.IDE.H.205 Management of aeronautical databases
STANDARDS FOR AERONAUTICAL DATABASES AND DAT PROVIDERS

- (a) A 'Type 2 DAT provider' is an organisation capable of 'Type 2 DAT provision' in accordance with Regulation (EU) No .../....
- (b) Equivalent to a certified 'Type 2 DAT provider' is defined in any Aviation Safety Agreement between the European Union and a third country, including any Technical Implementation Procedures, or a Working Arrangement between EASA and the competent authority of a third country.

Resulting text of proposed amendments to ED Decision 2014/018/R – Part-SPO**AMC1 SPO.IDE.A.230 Management of aeronautical databases**
AERONAUTICAL DATABASES

When the operator of an aircraft uses an aeronautical database that supports an airborne navigation application as a primary means of navigation, the database provider should be a Type 2 DAT provider certified in accordance with Regulation (EU) No .../..., or equivalent.

GM1 SPO.IDE.A.230 Management of aeronautical databases
AERONAUTICAL DATABASE APPLICATIONS

- (a) Applications using aeronautical databases for which Type 2 DAT providers should be certified in accordance with Regulation (EU) No .../... may be found in GM2 DAT.OR.100.
- (b) The intended use of the data referred to in SPO.IDE.A.230(a) and SPO.IDE.A.230(b) includes operations for which a specific approval in accordance with Annex V (Part-SPA) is required.
- (c) The certification of a Type 2 DAT provider in accordance with Regulation (EU) No .../... ensures the integrity of the data and the processes in use.

GM2 SPO.IDE.A.230 Management of aeronautical databases
TIMELY DISTRIBUTION

The operator should distribute current and unaltered aeronautical databases to all aircraft requiring it in accordance with the validity period of the databases or in accordance with a procedure established in the operations manual if no validity period is defined.

GM3 SPO.IDE.A.230 Management of aeronautical databases
STANDARDS FOR AERONAUTICAL DATABASES AND DAT PROVIDERS

- (a) A 'Type 2 DAT provider' is an organisation capable of 'Type 2 DAT provision' in accordance with Regulation (EU) No .../....
- (b) Equivalent to a certified 'Type 2 DAT provider' is defined in any Aviation Safety Agreement between the European Union and a third country, including any Technical

Implementation Procedures, or a Working Arrangement between EASA and the competent authority of a third country.

AMC1 SPO.IDE.H.230 Management of aeronautical databases
AERONAUTICAL DATABASES

When the operator of an aircraft uses an aeronautical database that supports an airborne navigation application as a primary means of navigation, the database provider should be a Type 2 DAT provider certified in accordance with Regulation (EU) No .../..., or equivalent.

GM1 SPO.IDE.H.230 Management of aeronautical databases
AERONAUTICAL DATABASE APPLICATIONS

- (a) Applications using aeronautical databases for which Type 2 DAT providers should be certified in accordance with Regulation (EU) No .../... may be found in GM2 DAT.OR.100.
- (b) The intended use of the data referred to in SPO.IDE.H.230(a) and SPO.IDE.H.230(b) includes operations for which a specific approval in accordance with Annex V (Part-SPA) is required.
- (c) The certification of a Type 2 DAT provider in accordance with Regulation (EU) No .../... ensures the integrity of the data and the processes in use.

GM2 SPO.IDE.H.230 Management of aeronautical databases
TIMELY DISTRIBUTION

The operator should distribute current and unaltered aeronautical databases to all aircraft requiring it in accordance with the validity period of the databases or in accordance with a procedure established in the operations manual if no validity period is defined.

GM3 SPO.IDE.H.230 Management of aeronautical databases
STANDARDS FOR AERONAUTICAL DATABASES AND DAT PROVIDERS

- (a) A 'Type 2 DAT provider' is an organisation capable of 'Type 2 DAT provision' in accordance with Regulation (EU) No .../....
- (b) Equivalent to a certified 'Type 2 DAT provider' is defined in any Aviation Safety Agreement between the European Union and a third country, including any Technical Implementation Procedures, or a Working Arrangement between EASA and the competent authority of a third country.

4. Regulatory Impact Assessment (RIA)

4.1. Issues to be addressed

4.1.1. Legislative background

ICAO Annex 15

ICAO Annex 15 defines how an AIS provider shall receive and/or originate, collate or assemble, edit, format, publish/store and distribute specified aeronautical information/data. It specifies the State's obligations and requirements for data published into the Aeronautical Information Publications (AIP).

Single European Sky development

In 2004, the **Single European Sky (SES)** initiative was launched to enhance air traffic management (ATM) standards, to contribute to the sustainable development of the air transport system and to improve the overall performance of ATM and ANS for general air traffic in Europe. With a view to meeting these objectives, Regulation (EU) No 73/2010 of 26 January 2010 lays down the requirements on the quality of aeronautical data and aeronautical information for SES.

Regulation (EU) No 73/2010 of 26 January 2010 (on requirements on the quality of aeronautical data and aeronautical information for the single European sky) regulates the quality of aeronautical data (services for the origination and provision of survey data and applicable to the entities providing procedure design services) and aeronautical information (covered by the mentioned ICAO Annex 15) in terms of accuracy, resolution and integrity.

Taking into account the definition of ATM/ANS as regulated in Article 3(q) of the Basic Regulation, the services consisting in the origination and processing of data and formatting and delivering data for the purpose of air navigation *are different from ANS services as defined in Regulation (EC) No 549/2004* (the framework Regulation). The **Basic Regulation** sets the safety objective for services consisting in the origination and processing of data and formatting and delivering data to general air traffic for the purpose of safety-critical air navigation.

JAA/FAA/TCCA

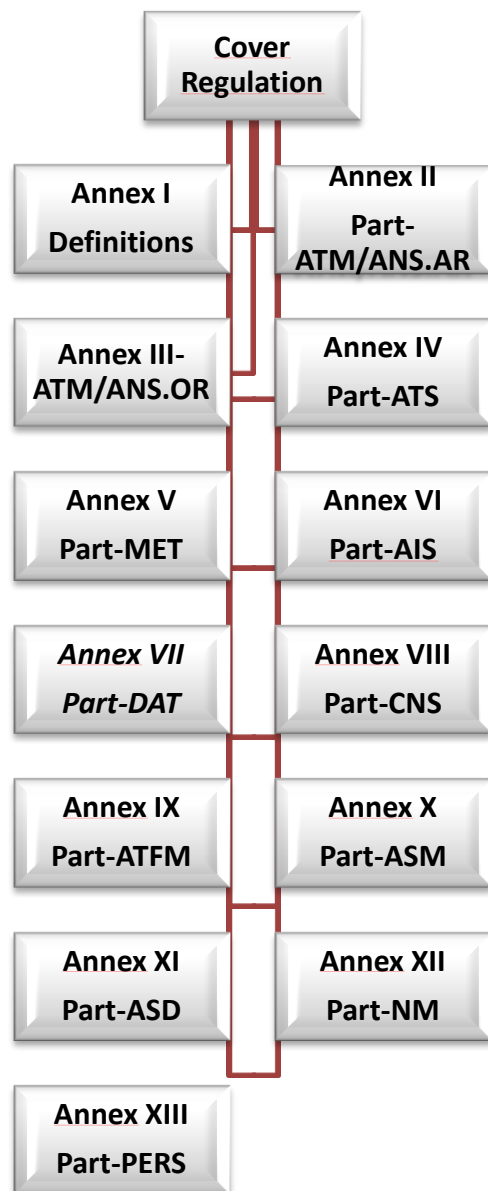
At the 2003 FAA/JAA International Conference, it was agreed that an improved control of data held in aircraft navigational databases was necessary to support the implementation of RNAV and RNP concepts (now to be replaced by PBN). Acknowledging the importance of the aeronautical information and data as an enabler for RNAV and RNP implementation and following a joint effort, the FAA has issued AC No: 20-153. Later, TCCA has adopted said AC into its system.

European Aviation Safety Agency development

Continuing the JAA effort on database oversight, the Agency issued Opinion No 01/2005 and associated guidance. It does not constitute a mandatory requirement since it is not a mandatory certification attesting compliance with a binding act. The conditions and associated guidance are applied on a purely voluntary basis at the request of the applicant. This Opinion requires further elaboration in order to ensure that the required links to the AIS provider and, where appropriate (for DAT provider Type 2), to the design holder responsible for the navigation equipment are properly established.

With the amended Basic Regulation, the Agency's remit has been extended to the safety regulation of ATM/ANS. In this context and in accordance with Article 8b(1) of the Basic Regulation, the provision of ATM/ANS shall comply with the Essential Requirements set out in Annex Vb and, as far as practicable, Annex Va. As a consequence, the provision of data for the airspace users for the purpose of air navigation shall comply with the objectives set out in point 2(a) of the Annex Vb. For this purpose, the Agency shall develop requirements for the provision of data services. These requirements shall also contain the transposition of ICAO SARP's and supporting ICAO documents, related to the provision of data for the airspace users for the purpose of air navigation and shall be built on the requirements for the existing SES Regulations, as far as they exist. The implementing measures should be structured to enable the new operational concepts that support the continued development and performance of European airspace.

With the forthcoming adoption of the draft Regulation on 'Requirements for service providers and the safety oversight thereof', proposed by NPA 2013-08 and the CRD thereto, all service providers (including DAT providers) will be subject to general common requirements (Annex III, Part-ATM/ANS.OR) and will be required to hold a certificate as established by Article 8b(2). This Annex is followed by other Annexes (from IV to XIII) that include more specific requirements for the provision of each service, including Annex VII reserved for the specific requirements for the provision of data for airspace users for the purpose of air navigation (Part-DAT).



- **Cover Regulation**
- **Annex I:** Definitions
- **Annex II:** Requirements for Authorities
- **Annex III:** Common requirements for service providers
- **Annex IV:** Requirements for Air Traffic Services
- **Annex V:** Requirements for Meteorological Services
- **Annex VI:** Requirements for Aeronautical Information Services
- **Annex VII:** Requirements for the provision of data for airspace users
- **Annex VIII:** Requirements for Communication, Navigation & Surveillance
- **Annex IX:** Requirements for Air Traffic Flow Management
- **Annex X:** Requirements for Air Space Management
- **Annex XI:** Requirements for Air Space Design
- **Annex XII:** Requirements for the provision of other ATM network functions
- **Annex XIII:** Requirements for Personnel

Figure 1 – Structure of the future service providers rule proposed with NPA 2013-08 and the CRD thereto

Figure 1 above shows the envisaged structure of the future regulation on service providers, including three relevant annexes (Annex VI, Annex VII and Annex XI) that are related to the 'aeronautical information management' as part of the total aeronautical information/data chain. Such specific annexes for the provision of each service would contain the specific requirements related to aeronautical information and data. In order to implement the Essential Requirements in point 2, especially paragraphs (a) and (i), of Annex Vb to the Basic Regulation, the Agency has planned different RMTs: RMT.0445 & RMT.0446 on 'Technical requirements and operational procedures for airspace design (ASD), including procedure design; RMT.0477 & RMT.0478 on 'Technical requirements and operational procedures for AIS/AIM' and RMT.0593 & RMT.0594 on 'Technical requirements and operational procedures for the provision of data to the end users for the purpose of air navigation' (the outcome of said RMT.0593 & RMT.0594 is presented with this NPA).

4.1.2. Description of the issues

Multiple oversight for DAT providers

In 2004, the implementation of P-RNAV was seen in Europe as a priority and the Agency made an effort to facilitate this measure aiming to improve the efficiency of the air transport system. As this requires an improved control of data held in aircraft navigational databases, the Agency agreed to continue the JAA activity in this field and established a voluntary audit system as defined in Opinion No 01/2005. This auditing system resulted in the issuance of a Letter of Acceptance (LoA) to the European database supplier that was compatible with the then FAA provisions in AC 20-153 (now at revision A).

In line with the need to implement P-RNAV, Opinion No 01/2005 established a stand-alone 3-part document to be used by navigation database suppliers in Europe and, after satisfactory demonstration of compliance, for the issue of a LoA. The first part ('Conditions') was based on production organisation approval requirements (Part-21, Section A Subpart G) tailored to the specific case of navigation database suppliers. It was decided to stay as close as possible to the original text to enable the use of existing POA approval procedures. The second part ('Guidance') consists of guidance to the above conditions. The third part ('Compliance checklist') was developed to facilitate the work of the investigation team and to allow for a better preparation by the organisation to be assessed. The LoA does not constitute a mandatory requirement since it is not a mandatory certification attesting compliance with a binding act. The LoA concept attests that the data produced by these data organisations can be used by aircraft operators without further verification and that the organisation has put in place an appropriate quality system for the control of the processing of data. This eases the obligation on the aircraft operator to verify that the data is appropriate for the intended operation and facilitate the aircraft operators' oversight by the national competent authorities. The outcome of the LoA concept is a significant decrease of audits by aircraft operators to DAT providers when the DAT provider can prove that the Agency is performing the oversight of these data.

Example:

DAT providers indicated the following:

- before LoA process = 12 airlines operators audits (note that operators did not always audited DAT providers, so this number should have been higher),
- after LoA process, DAT providers put in place different approaches for these airlines operators audits:
 - 3 audits per year for DAT provider,
 - 1 quality audit conference for all airlines operators (e.g. could be up to 60¹⁰) with few annual audits for the ones who cannot attend.

In 2004, the Single European Sky (SES) initiative was launched to enhance air traffic management (ATM) standards, to contribute to the sustainable development of the air transport system and to improve the overall performance of ATM and ANS for general air traffic in Europe. With a view to meeting these objectives, Regulation (EU) No 73/2010 of 26 January 2010 lays down the requirements on the quality of aeronautical data and

¹⁰ This number is definitely higher than the 12 before the LoA process: this could show that another benefit of LoA process was to facilitate safely and cost-efficiently the compliance of the airlines operators with the regulations.

aeronautical information for SES. This Regulation was a result of the mandate issued to Eurocontrol (ADQ1) in 2005 and its scope covers data origination to publication of the aeronautical information by the AIS provider, i.e. data provision after publication of the AIP is out of the scope. The Commission subsequently issued the ADQ2 mandate to Eurocontrol, to address the full data supply chain via another SES Implementing Regulation.

On the one hand, the Agency applies a voluntary audit system leading to the issue of a LoA to the European database suppliers while the service providers, including the DAT providers shall hold a certificate in accordance with Article 8b of the Basic Regulation. In addition, SES requires an oversight according to Regulation (EU) No 73/2010 of 26 January 2010 which lays down the requirements on the quality of aeronautical data and aeronautical information for SES.

This situation would lead to multiple oversight of these DAT providers by the competent authority and by each aircraft operator contracting their services (i.e. using the data).

In order to avoid this multiple oversight, and as it was recognised that the ADQ2 overlapped with the Essential requirements of the Basic regulation to be implemented by the Agency, the Commission reassessed the need for two Regulations based on different legal basis with respect to the data quality. Based on this analysis, the Commission has requested the Agency to lead the development of the appropriate Regulation to be integrated within the EASA regulatory structure¹¹.

The need to extend the scope

Opinion No 01/2005 (EASA) and AC 20-153A (FAA) have a different scope. Currently, the EASA LoA concept is not completely aligned with the scope laid down by FAA with AC 20-153A on Acceptance of aeronautical Data Processes and Associated Databases. The EASA LoA concept refers to navigation databases, while the AC 20-153A scope includes the aeronautical databases¹².

This approach allows the European aircraft operators to take credit from the oversight process, because the DAT providers are currently voluntarily 'overseen', but primarily for navigation databases. Initially, the Agency had limited this voluntary service to pure Flight Management system applications but expanded the scope to applications supporting the navigation like map databases. The database shall be loaded into on-board aircraft applications and support the navigation domain.

Growing the volume of data loaded on aircraft made it impossible to verify its contents even by large airline operators. On the other hand, the ATM system is depending more and more on the use of correct aeronautical data. Therefore, **the data loaded on certified aircraft applications** intended to be used for operating the aircraft requires to be provided following a certified process.

The current definition of 'Navigation database' does not address adequately the different types of electronic databases intended for on-board aircraft operational use and supporting the navigation domain, including the corresponding awareness functionality.

¹¹ Letter of 17 October 2012.

¹² In reference to the navigation database, the oversight is currently limited only when the databases are used for the navigation function, while the aeronautical database is purely presenting information without link to navigation function.

4.1.3. Safety risk assessment

This rulemaking task is not directly driven by safety events occurred in the past, however, the criticality of the data used for an on-board aircraft application that supports the navigation domain, including the corresponding awareness functionality is considered as an essential element to ensure safe flight operations within the European airspace. Furthermore, the rulemaking task acknowledges the cost-efficiency and harmonisation aspects.

4.1.4. Who is affected?

DAT providers

There are today 3 DAT providers Type 1 and 1 DAT provider Type 2 'overseen' by the Agency. It is estimated that almost all DAT providers Type 1, potentially in the scope of this LoA framework, are already covered by the Agency oversight scheme on a voluntary basis. There might be a total of 3 to 10 DAT providers Type 2 affected in addition to the ones having already established an oversight. The Agency is affected as the competent authority for these DAT providers.

Airlines operators are auditing the DAT providers: this requires workload on both DAT providers and airlines operators to perform the audits (see Section 4.1.2, paragraph 'Multiple oversight for DAT providers').

4.1.5. How could the issue/problem evolve?

In the absence of appropriate, specific and proportionate rules, the current situation will continue due to the following issues:

- Multiple oversight of DAT providers by the competent authority and by each aircraft operator contracting their services (i.e. using the data); and
- The scope of the LoA (i.e. navigation databases) is too narrow compared to the FAA AC20-153A (which includes additional aeronautical databases):
 - Aircraft Operators can take credit from the oversight process, because the DAT providers are currently voluntarily 'overseen', but limited to navigation databases;
 - The regulatory framework does not support the equal treatment for the European industry as, currently, DAT providers do not have 'access' to oversight credit as applied in the other aviation domains.

4.2. Objectives

The overall objectives of the Agency are established by Article 2 of the Basic Regulation. An additional objective, in the fields covered by this Regulation, is 'to promote cost-efficiency in the regulatory and certification processes and to avoid duplication at national and European level' (Article 2.2(c)).

Taking into account the dual legal basis of this task (BR and SES), another general objective is to ensure that the SES objectives on interoperability with respect to data are achieved.

The development of specific organisational requirements and responsibilities applicable to DAT providers and associated technical requirements for the provision of data to airspace users have to meet the following specific objectives:

- (a) to promote cost-efficiency in the regulatory and certification processes and to avoid duplication at national and European level' (Article 2.2(c) of the Basic Regulation); and
- (b) to define a proper scope of the rules to ensure regulatory harmonisation with third countries.

4.3. Policy options

Table 2: Selected policy options

Option No	Short title	Description
0	Do nothing	<p>Leave the Basic Regulation not implemented and maintain the current double regulatory framework (i.e. SES and EASA) leading to multiple oversight.</p> <p>The ATM rules (coming from SES and the Basic Regulation) apply in a non-coordinated and inconsistent manner to non-ATM stakeholders, such as airworthiness, licensing, air operations or aerodromes.</p> <p>On another hand, the Agency will continue to apply the voluntary oversight system leading to the issuing of a LoA to the European database suppliers while the service providers, including the DAT providers, shall hold a certificate in accordance with Article 8b of the Basic Regulation.</p>
1	'Pure transposition of the current LoA concept' into the certification scheme and regulating only the navigation databases used in the context of flight operation	<p>State data published by the AIS providers for the purpose of navigation databases would be overseen, while the same data is used for other applications as well, such as awareness applications and situational awareness applications that would be excluded from the oversight process.</p> <p>The oversight process is improved compared to Option 0 by avoiding multiple oversight systems for DAT providers of navigation databases.</p> <p>With this approach, the Agency would transfer the voluntary oversight system into the issuance of a certificate to the European DAT providers in accordance with Article 8b of the Basic Regulation. However, it would be limited only to the navigation databases and would continue to put burden to the air operators as there would be no means to discharge their responsibilities on the oversight of aeronautical information databases used for certain applications such as airport moving map, terrain warning system, and break to vacate applications. Furthermore, discrepancies with the scope laid down by the FAA with AC 20-153A on acceptance of aeronautical data processes and associated databases will remain.</p>
2	Option 1 plus the extension of the scope from the navigation databases to aeronautical databases ¹³	<p>Alignment with the scope laid down by the FAA with AC 20-153A on acceptance of aeronautical data processes and associated databases, however, at this stage the requirements imposed by the FAA are on a voluntary basis, while within Europe the obligatory certification scheme will apply.</p> <p>In addition to the benefits of Option 1, Option 2 would allow the aircraft operators to take credit from the oversight process once the DAT provider is certified for databases which are not only navigation ones.</p>

¹³ In reference to the navigation database, the oversight is currently limited only when the databases are used for the navigation function by providing steering guidance, while the aeronautical database is purely presenting information without link to navigation function.

4.4. Analysis of impacts

4.4.1. Safety impact

As explained in the issues analysis, this rulemaking task is not directly driven by safety events occurred in the past, however, the criticality of the data used for an on-board aircraft application that supports the navigation domain, including the corresponding awareness functionality is considered as an essential element to ensure safe flight operations within the European airspace. Furthermore, the rulemaking task acknowledges the cost-efficiency and harmonisation aspects.

The situation might not facilitate the development of new ATM applications, which demand the accurate handling of aeronautical databases to ensure interoperability between the airborne and the ground domain.

Option 0 will leave the current situation as it might limit the deployment of new ATM applications.

Option 1 is limited to a mandatory certification of DAT providers for navigation databases. It will provide a safety improvement, which is impossible to assess in a quantitative way. In the absence of incidents/accidents linked to data quality, it is very difficult to estimate the magnitude of this improvement. All DAT providers Type 1 (i.e. role of data collection and issuance of data in a common format) are already voluntarily 'certified' according to the LoA process. Mainly the DAT providers Type 2 (i.e. data integrators) will be impacted. Only one DAT provider is currently a LoA Type 2 holder; between 5 to a maximum of 10 would be certified in the future. As a result of these new certified DAT providers, an increase in safety can be potentially estimated (indicated as 0 to + in the following table); however, it should be pointed out that this is one of the enablers for the PBN implementation.

Option 2 extends the scope of Option 1 to aeronautical databases. More DAT providers Type 2 compared to Option 1 would require to be certified. Therefore, the safety increase is potentially higher than with Option 1, but remains insignificant.

Type of impacts	Option 0	Option 1	Option 2
Safety impacts	0	0/+	+

4.4.2. Environmental impact

Not relevant

4.4.3. Social impact

Not relevant

4.4.4. Economic impact

Option 0 – Do nothing

It has been estimated that the Agency spends 100 hours in average per year and per applicant when an applicant requests a voluntary oversight in the field of the LoA framework. On the side of the applicant, a rough estimation is that it requires 500 hours in average per year to get and to maintain this LoA for navigation databases.

There are today three DAT providers Type 1 and 1 DAT provider Type 2 'certified' by the Agency. It is estimated that almost all DAT providers Type 1 potentially in the scope of this LoA framework are already covered by the Agency oversight scheme on a voluntary basis. There might be a total of 3 to 10 DAT providers Type 2 affected in addition to the ones having already established an oversight. This number assumes that the recognition of the oversight performed by the FAA and the TCCA can be considered in future as well as an alternative means of compliance.

Option 1 — 'Pure transposition of the current LoA concept' into the certification scheme and regulating only the navigation databases used in the context of flight operation

There is no impact for the current DAT providers who are LoA holders. The needed effort is considered to be part of the continuing activities.

Increase in workload for the Agency and applicants

For the DAT providers not yet 'certified' by the Agency, in the scope of Option 1, i.e. navigation databases, they would need to follow the certification process. In such cases, the same workload as in Option 0 would apply. As almost all DAT providers Type 1 are already overseen by the Agency in the scope of Option 1, only 1 to 2 new DAT providers Type 1 should apply for a certificate. Regarding new DAT providers Type 2, it would be from 2 to 9 additional ones.

The Agency will also need to ensure the relevant workforce to ensure the initial certification and continuing oversight of these DAT providers. The implementation of Option 1 will require to plan well in advance the Agency's necessary resources for this scope of initial certification and continuing oversight. However, this oversight by the Agency will fall under the scheme of Fees & Charges to recover the costs from certified DAT Providers. Consequently, the financial impact on the Agency will be neutral.

Total estimated workload increase per type of stakeholder (in addition to Option 0) :

- DAT providers already under oversight = 0 hours
- New DAT providers applications:
 - DAT providers Type 1 = 500 to 1 000 hours
 - DAT providers Type 2 = 1 000 to 4 500 hours
 - Total = 1 500 to 5 500 hours
- EASA = 300 to 1 100 hours

Note: The detailed calculations are provided in Appendix II.

Decrease of workload for applicants with the airlines operators' audits

The benefit of the LoA concept was to avoid the audits by airlines operators to DAT providers thanks to the proof of the LoA issued by the Agency. This significant reduction of workload for DAT providers who have applied for this LoA will also happen for the new DAT providers to be certified.

DAT providers have a benefit with the LoA issued by the Agency when the workload for the current airlines operators' audits is higher than the workload to get the LoA, i.e. estimated at 500 hours/year.

Without knowing the workload and the number of audits by airlines operators to DAT providers, the total decrease of workload cannot be quantified. However, it is assumed that the same significant benefits as with the implementation of the LoA concept will compensate the certification workload. As an example, an airline operator indicated that the current 32 annual man-hours workload to oversight a DAT provider would decrease to 2 annual man-hours, **i.e. 16 times less.**

Option 2 — Option 1 plus the extension of the scope from the navigation databases to aeronautical databasesIncrease in workload for the Agency and applicants

With the extension of Option 1 to the field of aeronautical databases, the current LoA holders will need to undergo a new certification process related to this extension. A similar workload as in Option 0 is envisaged on the Agency side: 100 hours per year per applicant.

On the first year of implementation of Option 2, an additional 250 hours is estimated for any applicant to get the aeronautical databases certification (compared to the 500 hours per year in Option 0), which means per DAT provider type:

Table 3: Additional estimated workload per DAT provider with Option 2

<u>Additional</u> estimated workload per DAT provider with Option 2 (compared to Option 0)	First year (certification)	Following years (oversight)
DAT providers already under EASA oversight	250 hours	0 hours (same workload as today, i.e. 500 hours)
New DAT providers application	750 hours	500 hours

The estimated total workload increase per type of stakeholder is summarised here:

Table 4: Total additional workload per type of stakeholder with Option 2

<i>Total additional workload per type of stakeholder with Option 2 (compared to Option 0)</i>	<i>First year (certification)</i>	<i>Following years (oversight)</i>
DAT providers already under EASA oversight - Total	1000 hours	0 hours (same workload as today)
• Type 1	750 hours	
• Type 2	250 hours	
New DAT providers application - Total	2250 to 8250 hours	1500 to 5500 hours
• Type 1	750 to 1500 hours	500 to 1000 hours
• Type 2	1500 to 6750 hours	1000 to 4500 hours
EASA	700 to 1500 hours	700 to 1500 hours

Note: The detailed calculations are provided in Appendix II.

Especially on the Agency's side, the implementation of Option 2 will require to plan well in advance the necessary resources for this scope of initial certification and continuing oversight (this is more demanding than for Option 1 due to the scope extension). However, this certification will fall under the scheme of Fees & Charges to recover the Agency's costs from certified DAT Providers. Consequently, the impact on EASA will be neutral.

Decrease of workload for applicants with the airlines operators' audits

The same type of benefits for DAT providers as in Option 1 will apply, i.e. significant decrease of airlines operators' audits: this is a benefit as well for airlines operators as for DAT providers. Therefore, a positive sign is indicated in the table below for Option 2.

Type of impacts	Option 0	Option 1	Option 2
Economic impacts	0	+	+

Stakeholders are invited to comment on these estimated impacts.

- Do you consider that the order of magnitude of the negative impacts in terms of workload for DAT providers is realistic?
- Do you consider that the order of magnitude of the benefits for DAT providers and airlines operators is realistic?

The Agency may further contact you to get additional details on your answer.

4.4.5. Proportionality issues

The proportionality issues and the inclusion of the new service providers (e.g. ATFM, ASM, DAT providers) in the Common Requirements (i.e. Subpart-ATM/ANS.OR resulting from the transposition of Regulation (EU) No 1035/2011, Annex I) could affect proportionality if not properly assessed. This subject has already been evaluated and addressed with NPA 2013-08.

The Basic Regulation requires these providers to be subject to certification but they should be required to establish and maintain a risk-based management system and, therefore, already contains the notion that proportionality should be applied.

Option 0 could be interpreted as not having impact on proportionality issues since DAT providers today have in place a quality management system and those who are LoA holders comply with the Agency conditions set up in Opinion No 01/2005 that already addresses the issue.

Option 1 foresees that requirements are amended so as to make it applicable to DAT providers and also foresees a proportionate application by the creation of different types of AMC and GM. It is expected that this option has a positive impact in proportionality issues because of the application of proportionate requirements but also because of the facilitation of the level playing field due to the harmonised implementation of requirements for these providers among the EU Member States.

Option 2 could be interpreted as having an impact on proportionality issues as that of Option 1.

Type of impacts	<i>Option 0</i>	<i>Option 1</i>	<i>Option 2</i>
Proportionality issues	0	+	+

4.4.6. Impact on 'Better Regulation' and harmonisation

Option 0 – Do nothing

Not all DAT providers would apply for a LoA in EASA Member States, whereas this is the case in the US.

Note: While the FAA certification is also voluntary, the fact that it is free of charge ensures that all DAT providers in US are certified.

Option 1 – 'Pure transposition of the current LoA concept' into the certification scheme and regulating only the navigation databases used in the context of flight operation

Option 1 will ensure that all DAT providers will be certified in the field of navigation databases. The level of certification will be harmonised with the US. As already all DAT providers Type 1 in the EASA MS are LoA holders, the positive harmonisation impact can only be attributed to DAT providers Type 2, i.e. a small positive impact (i.e. translated into a 0/+ score in the table below to show that it is between neutral and positive impact).

Option 2 – Option 1 plus the extension of the scope from the navigation databases to aeronautical databases

Option 2 will ensure that all DAT providers would be certified in the field of navigation and aeronautical databases. The level of certification will be harmonised with the US. As the scope is larger than in Option 1, the impact is positive and indicated as a '+' in the table below.

Type of impacts	Option 0	Option 1	Option 2
'Better Regulation' and harmonisation	0	0/+	+

4.5. Comparison and conclusion

The summary of the impacts for each option is provided in the following table.

Table 5: Summary of impacts per option

Type of impacts	Option 0	Option 1	Option 2
Safety impacts	0	0/+	+
Economic impacts	0	+	+
Proportionality issues	0	+	+
'Better Regulation' and harmonisation	0	0/+	+
Overall impact	0	0/+	+

The initial certification and continuing oversight of DAT providers of navigation and aeronautical databases by the Agency (Option 2) is considered to be the preferred option by providing the highest benefits in terms of decrease of workload for DAT providers and the airlines operators. This oversight will enable the DAT providers to show compliance with the minimum requirements ensuring data quality, thus relieving nearly all the airlines operators workload to perform audits on DAT providers. In addition, Option 2 brings a full harmonisation in terms of scope between the Agency and the FAA regarding regulatory requirements for these types of databases.

5. References

5.1. Affected regulations

Commission Implementing Regulation (EU) No 1034/2011 of 17 October 2011 on safety oversight in air traffic management and air navigation services and amending Regulation (EU) No 691/2010 (OJ L 271, 18.10.2011, p. 15)

Commission Implementing Regulation (EU) No 1035/2011 of 17 October 2011 laying down common requirements for the provision of air navigation services and amending Regulations (EC) No 482/2008 and (EU) No 691/2010 (OJ L 271, 18.10.2011, p. 23)

Commission Regulation (EU) No 965/2012 of 5 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 296, 25.10.2012, p. 1)

5.2. Affected CS, AMC and GM

Opinion No 01/2005 on the acceptance of Navigation Database Suppliers

Draft ED Decision on Acceptable Mean of Compliance (AMC) and Guidance Material (GM) to requirements for service providers and the oversight thereof

ED Decision 2014/015/R of the Executive Director of the Agency of 24 April 2014 adopting Acceptable Means of Compliance and Guidance Material to Part-CAT of Regulation (EU) No 965/2012 and repealing Decision 2012/018/R of the Executive Director of the Agency of 24 October 2012 (AMC and GM to Part-CAT — Issue 2)

ED Decision 2013/021/R of the Executive Director of the Agency of 23 August 2013 adopting Acceptable Means of Compliance and Guidance Material for Non-commercial operations with complex motor-powered aircraft (Part-NCC)

ED Decision 2014/016/R of the Executive Director of the Agency of 24 April 2014 adopting Acceptable Means of Compliance and Guidance Material to Part-NCO of Regulation (EU) No 965/2012 and repealing Decision 2013/021/R of the Executive Director of the Agency of 23 August 2013 (AMC and GM to Part-NCO — Issue 2)

ED Decision 2014/018/R of the Executive Director of the Agency of 24 April 2014 adopting Acceptable Means of Compliance and Guidance Material to Part-SPO of Regulation (EU) No 965/2012 (AMC and GM to Part-SPO)

5.3. Reference documents

CRD to NPA 2013-08 on 'Requirements for service providers and the oversight thereof'

Opinion No 1/2008 of the European Aviation Safety Agency of 15 April 2008 for amending Regulation (EC) No 216/2008 of the European Parliament and of the Council on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (Extension of the EASA system to the regulation of Air Traffic Management and Air Navigation Services (ATM/ANS))

ICAO Annex 4 — Aeronautical charts

ICAO Annex 15 — Aeronautical Information Services

EUROCAE ED-76 — Standards for Processing Aeronautical Data

FAA AC20-DB — Acceptance of Data Processes and Associated Navigation Databases

6. Appendices

6.1. Appendix I

CROSS REFERENCE TABLE — Conditions for the issuance of Letter of Acceptance for navigation database Suppliers by the Agency (EASA Opinion No 01/2005) to the proposed requirements in this NPA

Cross Reference Table of Conditions for the issuance of LoA (EASA Opinion No 01/2005) to Annex VII (Part-DAT)			
<i>EASA Opinion No 01/2005</i>	<i>Subject</i>	<i>NPA reference</i>	<i>Reasons/Justifications</i>
A.131	Scope	DAT.OR.100	n/a
A.132	Definitions	Annex I	n/a
A.133	Eligibility	Article 5(1);(2) and (7) DAT.OR.100 DAT.OR.105	The requirements are rearranged to be aligned with the structure of the rule.
A.134	Application	ATM/ANS.OR.A.005	Already addressed in Annex III (Part-ATM/ANS.OR).
A.135	Issue of letter of acceptance	ATM/ANS.OR.A.035	Already addressed in Annex III (Part-ATM/ANS.OR).
A.139	Quality system	ATM/ANS.OR.B.005 DAT.OR.115	The requirements are rearranged to be aligned with the structure of the rule.
A.143	Exposition	AMC1 ATM/ANS.OR.A.005 – DAT providers	The requirements are rearranged to align with the structure of the rule
A.145	Conditions	DAT.TR.100	The requirements are rearranged to be aligned with the structure of the rule
A.147	Changes to the navigation database supplier	ATM/ANS.OR.A.040	Already addressed in Annex III (Part-ATM/ANS.OR) and tailored to the structure of the rule.
A.148	Changes of location	AMC1 ATM/ANS.OR.A.040(a)(2)	New proposal tailored to the structure of the rule.
A.149	Transferability	AMC1 ATM/ANS.OR.A.040(a)(2)	Already addressed in Annex III (Part-ATM/ANS.OR) and tailored to the structure of the rule.
A.151	Terms of acceptance	Appendix I to Annex II	The certificate template is introduced and the subject NPA makes a proposal for amendment thereto.
A.153	Changes to the terms of acceptance	ATM/ANS.OR.A.040	Already addressed in Annex III (Part-ATM/ANS.OR) and tailored to the structure of the rule.
A.157	Investigations	ATM/ANS.OR.A.050	Already addressed in Annex III (Part-ATM/ANS.OR) and tailored to the structure of the rule.

A.158	Findings	ATM/ANS.AR.C.050	Already addressed in Annex III (Part-ATM/ANS.OR) and tailored to the structure of the rule.
A.159	Duration and continued validity	ATM/ANS.OR.A.025 DAT.OR.110	Already addressed in Annex III (Part-ATM/ANS.OR) and tailored to the structure of the rule.
A.163	Privileges	DAT.OR.105	The requirements are rearranged to be aligned with the structure of the Annexes.
A.165	Obligations of the holder	Article 5(1);(2) and (7) DAT.OR.200	The requirements are rearranged to be aligned with the structure of the Annexes.

6.2. Appendix II

Table 6: Detailed calculation per option

Reminder on assumptions per DAT provider													
<i>All data are on an annual basis</i>													
EASA workload for first application or oversight of any DAT provider type											100	hours	
Applicant workload with Option 0 and Option 1											500	hours	
Applicant workload with Option 2 - Current applicant overseen by EASA											250	hours	
Applicant workload with Option 2 - New applicant											750	hours	
Table - Estimated annual workload per option and type of DAT providers													
	Option 0		Option 1-Navigation databases				Option 2-Navigation + aeronautical databases						
	Total DAT providers	Total DAT providers		New applications		Total DAT providers		New applications					
								Existing overseen DAT providers	New DAT providers		Total		
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min.	Max.	Min.	Max.	
Number of DAT providers and number of applications for certification in the scope of each option													
DAT provider Type 1	3	4	5	1	2	4	5	3	1	2	4	5	
DAT provider Type 2	1	3	10	2	9	3	10	1	2	9	3	10	
Workload for EASA to provide initial certification and oversight													
DAT provider Type 1	300	400	500	100	200			300	100	200	400	500	
DAT provider Type 2	100	300	1000	200	900			100	200	900	300	1000	
Total	400	700	1500	300	1100			400	300	1100	700	1500	
Workload per applicant already overseen by EASA													
DAT provider Type 1	0	0		0				250			250		
DAT provider Type 2	0	0		0				250			250		
Workload per new applicant to get EASA certification													
DAT provider Type 1	500	500		500					750		750		
DAT provider Type 2	500	500		500					750		750		
Total workload for applicants to get EASA initial certification (first year of rule implementation for Option 1 and 2)													
DAT provider Type 1	1500	2000	2500	500	1000			750	750	1500	1500	2250	
DAT provider Type 2	500	1500	5000	1000	4500			250	1500	6750	1750	7000	
Total	2000	3500	7500	1500	5500			1000	2250	8250	3250	9250	
Total workload for applicants to maintain EASA certification for Option 1 and 2													
DAT provider Type 1	1500	2000	2500	500	1000			0	500	1000	500	1000	
DAT provider Type 2	500	1500	5000	1000	4500			0	1000	4500	1000	4500	
Total	2000	3500	7500	1500	5500			0	1500	5500	1500	5500	
Legend	this type of borders indicates that these totals are quoted in the RIA.												