



# Technical requirements and operating procedures for the provision of data to airspace users for the purpose of air navigation

RELATED NPA/CRD 2014-20 — RMT.0593 — 12.3.2015

## EXECUTIVE SUMMARY

This Opinion addresses safety, economic and regulatory coordination issues related to the provision of data to airspace users for the purpose of safety-critical air navigation. Acknowledging the importance of correct data and information being fed into the airborne system and highlighting that the lack of such correct data could lead to significant safety risks for a flight, the specific objectives of this proposal are to:

- ensure that the aeronautical data and information for use on certified aircraft systems are processed in a way that guarantees their quality and meets the requirements set by the aircraft manufacturers for the airspace end-users intended use;
- provide cost-efficient rules in the field of air navigation and aircraft operation by avoiding double oversight of the data services by the competent authority and by the operators contracting their services; and
- ensure that the Single European Sky (SES) objectives on interoperability with respect to data used on aircraft systems are achieved.

This Opinion proposes amendments to:

- the draft Commission Regulation .../... on the 'Requirements for service providers and the oversight thereof', proposed through Opinion No 03/2014, as regards 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; and
- Commission Regulation (EU) No 965/2012 (hereinafter referred to as the Air OPS Regulation) by discharging aircraft operators from their data suppliers auditing obligation.

This regulatory system will support the implementation of Performance-Based Navigation (PBN) throughout the European Union and will provide for cost-effectiveness through the reduction of regulatory burden on aircraft operators and of competent authorities' oversight tasks at national level.

The measures proposed in this Opinion and the related Acceptable Means of Compliance (AMC) and Guidance Material (GM) were subject to public consultation through NPA 2014-20. EASA believes that the topics raised have been addressed to the satisfaction of the affected stakeholders.

Applicability		Process map	
Affected regulations and decisions:	Commission Implementing Regulations (EU) Nos 1034/2011 and 1035/2011; Commission Regulation (EU) No 965/2012; EASA Opinion No 01/2005 (Acceptance of Navigation Database Suppliers)	ToR publication date:	11.10.2013
Affected stakeholders:	DAT providers; aircraft operators and end-users; competent authorities; and EASA	Concept Paper:	No
Driver/origin:	Legal obligation	Rulemaking group:	Yes
Reference:	Article 8b of Regulation (EC) No 216/2008; Opinion No 01/2005; Commission letter A/9188 of 17.10.2012	RIA type:	Light
		Technical consultation during NPA drafting:	No
		Publication date of the NPA:	8.8.2014
		Duration of NPA consultation:	3 months
		Review group:	No
		Focussed consultation:	Yes
		Publication date of the Decision (RMT.0594):	2015/Q4



## Table of contents

1.	Procedural information .....	3
1.1.	The rule development procedure.....	3
1.2.	The structure of this Opinion and related documents .....	3
1.3.	The next steps in the procedure.....	4
2.	Explanatory Note.....	5
2.1.	Issues to be addressed .....	5
2.1.1.	Aeronautical data and information and data used on aircraft systems.....	5
2.1.2.	Regulatory framework.....	6
2.1.3.	Data Quality Requirements (DQRs) set-up and interfaces between the actors.....	8
2.1.4.	Tailored data.....	9
2.1.5.	The need to extend the scope .....	9
2.2.	Objectives .....	10
2.3.	Outcome of the consultation .....	10
2.4.	Summary of the Regulatory Impact Assessment (RIA).....	12
2.4.1.	Outcome of the NPA 2014-20 consultation .....	12
2.4.2.	Options .....	14
2.4.3.	Summary of the impact analysis.....	15
2.5.	Overview of the proposed amendments .....	15
2.5.1.	Proposed amendments to the draft Commission Regulation on the ‘Requirements for service providers and the oversight thereof’ .....	15
2.5.2.	Definitions.....	16
2.5.3.	Applicability date .....	16
2.5.4.	Certificate template.....	16
2.5.5.	Annex VII — Specific requirements for the provision of data to airspace users for the purpose of air navigation.....	16
2.5.6.	Proposed amendments to the Air OPS Regulation.....	19
3.	References.....	21
3.1.	Affected regulations .....	21
3.2.	Affected decisions/opinions .....	21
3.3.	Reference documents.....	21
4.	Appendix .....	23



## 1. Procedural information

### 1.1. The rule development procedure

The European Aviation Safety Agency (hereinafter referred to as the 'Agency') developed this Opinion in line with Regulation (EC) No 216/2008<sup>1</sup> (hereinafter referred to as the 'Basic Regulation') and the Rulemaking Procedure<sup>2</sup>.

This rulemaking activity is included in the Agency's [Rulemaking Programme 2014-2017](#) under RMT.0593 & RMT.0594. The scope and timescale of the task were defined in the related Terms of Reference (see process map on the title page).

The *draft* text of this Opinion has been developed by the Agency based on the input of the RMT.0593 & RMT.0594 Rulemaking Group. All interested parties were consulted through NPA 2014-20<sup>3</sup>. In total, 410 comments were submitted by industry, national aviation authorities and social partners' representatives. In order to take an informed decision, the Agency also carried out a focussed consultation in the form of a thematic meeting that took place on 16–17 December 2014 with the aim of commonly identifying and analysing the issues as well as establishing guidance for the review of the proposals towards drafting this Opinion. Said meeting was attended not only by experts who were members of the RMT.0593 & RMT.0594 Rulemaking Group, but also by experts who contributed actively during the NPA consultation.

The Agency has addressed and responded to the comments placed on the NPA. The comments received and the Agency's responses thereto are presented in Comment-Response Document (CRD) 2014-20<sup>4</sup>.

The *final* text of this Opinion and the draft regulations (Implementing Rules (IRs)) have been developed by the Agency based on the guidelines received during the focussed consultation.

The process map on the title page summarises the major milestones of this rulemaking activity.

### 1.2. The structure of this Opinion and related documents

Chapter 1 of this Opinion contains the procedural information related to this task. Chapter 2 'Explanatory Note' explains the core technical content. The draft rule text proposed by the Agency is published on the Agency's website<sup>5</sup>. The documents related to this Opinion are the following:

- Draft Commission Regulation amending the proposal addressed to the Commission through Opinion No 03/2014 on the 'Requirements for service providers and the oversight thereof'; and
- Draft Commission Regulation amending the Air OPS Regulation<sup>6</sup>.

<sup>1</sup> Regulation (EC) No 216/2008 of the European Parliament and of 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).

<sup>2</sup> 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 2013

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

<sup>4</sup> <http://easa.europa.eu/document-library/comment-response-documents>

<sup>5</sup> <http://easa.europa.eu/document-library/opinions>



### 1.3. The next steps in the procedure

This Opinion contains proposed changes to European Union regulations. It is addressed to the European Commission, which shall use it as a technical basis in order to prepare a legislative proposal.

As additional information, the Agency also publishes the draft Agency Decision containing the related AMC and GM. These draft AMC and GM, without prejudice to their final text, will be aligned with the Implementing Rule and shall be published as the final step of this rulemaking activity once the draft Regulations are adopted by the European Commission.

---

<sup>6</sup> 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).



## 2. Explanatory Note

### 2.1. Issues to be addressed

#### 2.1.1. Aeronautical data and information and data used on aircraft systems

It has been well acknowledged that incorrect data and information being fed into the airborne system could pose a significant safety risk to a flight, as the number of aircraft applications and equipment that are dependent on databases is broad. Furthermore, the importance of high-quality aeronautical data and information increases significantly due to the implementation of new methods and technologies. For instance, for the implementation of the PBN concept, data integrity is crucial. Consequently, it is evident that air navigation is dependent on the quality and timeliness of aeronautical data and information being of adequate integrity. It is, therefore, obvious that the provision of quality aeronautical data and information cannot be guaranteed without also assuring the main actors' processes which will allow them to deliver their services in a proper manner.

Aeronautical data and information have to be based on qualified data sources and be kept up to date; however, this in itself is not enough. Quality has to be maintained in all phases of the aeronautical data chain. This requires proper processing of the aeronautical data and information, being provided in a compatible format and as required by the airspace end-users (e.g. aircraft manufacturers, aircraft operators).

Having considered the facts mentioned above, the purpose of the proposed rule is to ensure that the provider of aeronautical data for aircraft systems processes the data in an appropriate manner to meet the airspace end-users' requirements for its intended use.

This issue has been well acknowledged since 2003, when it was agreed at the Federal Aviation Administration (FAA)/Joint Aviation Authorities (JAA) International Conference that an improved control of data stored in aircraft navigational databases is essential to support the implementation of Area Navigation (RNAV) and Required Navigation Performance (RNP) concepts (now replaced by PBN). For that reason, the Agency issued Opinion No 01/2005 on the conditions and the associated guidance for the issuance of Letters of Acceptance (LoA) for navigation database suppliers by the Agency. Said Opinion aimed to confirm the eligibility of LoA holders that transcribe, format and/or integrate information originating from national Aeronautical Information Publications (AIPs) into electronic databases for airborne navigation systems. The LoA does not constitute a mandatory requirement since it is not stemming from 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 controlling data processing. This obviates the obligation for 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 in audits by aircraft operators of DAT providers when they can demonstrate that the Agency is performing the oversight of these data services provision. However, as already mentioned, said conditions and associated guidance are applied on a purely voluntary basis at the request of the applicant.

The database produced by the DAT provider shall be uploaded to the on-board aircraft application and shall support the navigation. However, the ultimate responsibility for ensuring that the data meets the standards of integrity for its intended application rests with the end-user (i.e. aircraft operator).



Currently, CAT.IDE.355(c) and NCC.IDE.A.260(c) require the operator to ‘continuously monitor the integrity of both the process and the products, either directly or by monitoring the compliance of third party providers’. This responsibility could be discharged by obtaining data from a LoA holder supplier.

Furthermore, Annex 15 to the Chicago Convention (ICAO Annex 15) defines how an Aeronautical Information Services (AIS) provider shall receive, collate or assemble, edit, format, publish/store and distribute aeronautical data and aeronautical information. It specifies the State’s obligations and requirements for data published via the AIPs. At European level, this part of the aeronautical data chain is currently addressed by Regulation (EU) No 73/2010<sup>7</sup> of 26 January 2010 laying down the requirements on the quality of aeronautical data and aeronautical information for the Single European Sky (SES) as an implementing rule meeting the objectives of the SES initiative. This Regulation resulted from a mandate to Eurocontrol (ADQ1) in 2005 and covers those parts of the data supply chain from data origination to publication of the aeronautical information by the AIS provider, i.e. data provision after publication of the AIPs is out of its scope (which is also not regulated at ICAO level). The Commission subsequently issued the ADQ-2 mandate to Eurocontrol to address the full data supply chain via another SES rule.

Meanwhile, following the amendment to the Basic Regulation in 2009, the Agency’s remit has been extended to the safety regulation of ATM/ANS. Taking into account the definition of ATM/ANS set out 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 safety-critical air navigation are different from the ones mentioned in the definition of ANS as set out in Article 2(4) of Regulation (EC) No 549/2004<sup>8</sup> (the framework Regulation). The safety objectives for these data 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 are set out in the Essential Requirements (ERs) of the Basic Regulation.

Recognising that the ADQ-2 overlaps with said ERs of the Basic Regulation to be implemented by the Agency, the Commission reassessed the need for two regulations based on a different legal basis with respect to data quality. Based on this analysis, the Commission terminated the ADQ-2 mandate and requested the Agency to lead the rule development and integrate it into the EASA regulatory structure<sup>9</sup>.

### 2.1.2. Regulatory framework

In accordance with Article 8b(1) of the Basic Regulation, the provision of ATM/ANS shall comply with the ERs set out in its Annex Vb and, as far as practicable, Annex Va. As a consequence, the provision of data to airspace users for the purpose of air navigation shall comply with the objectives set out in point 2(a) of Annex Vb to the Basic Regulation. To this end, the Agency shall develop requirements for the provision of data services. These requirements shall also consider the ICAO SARPs related to the provision of data to airspace users for the purpose of air navigation and shall be built on the requirements of the existing SES Regulations, as far as applicable. The implementing measures should be structured in such a way in order to enable new operational concepts that support the continuous development and performance of the European airspace.

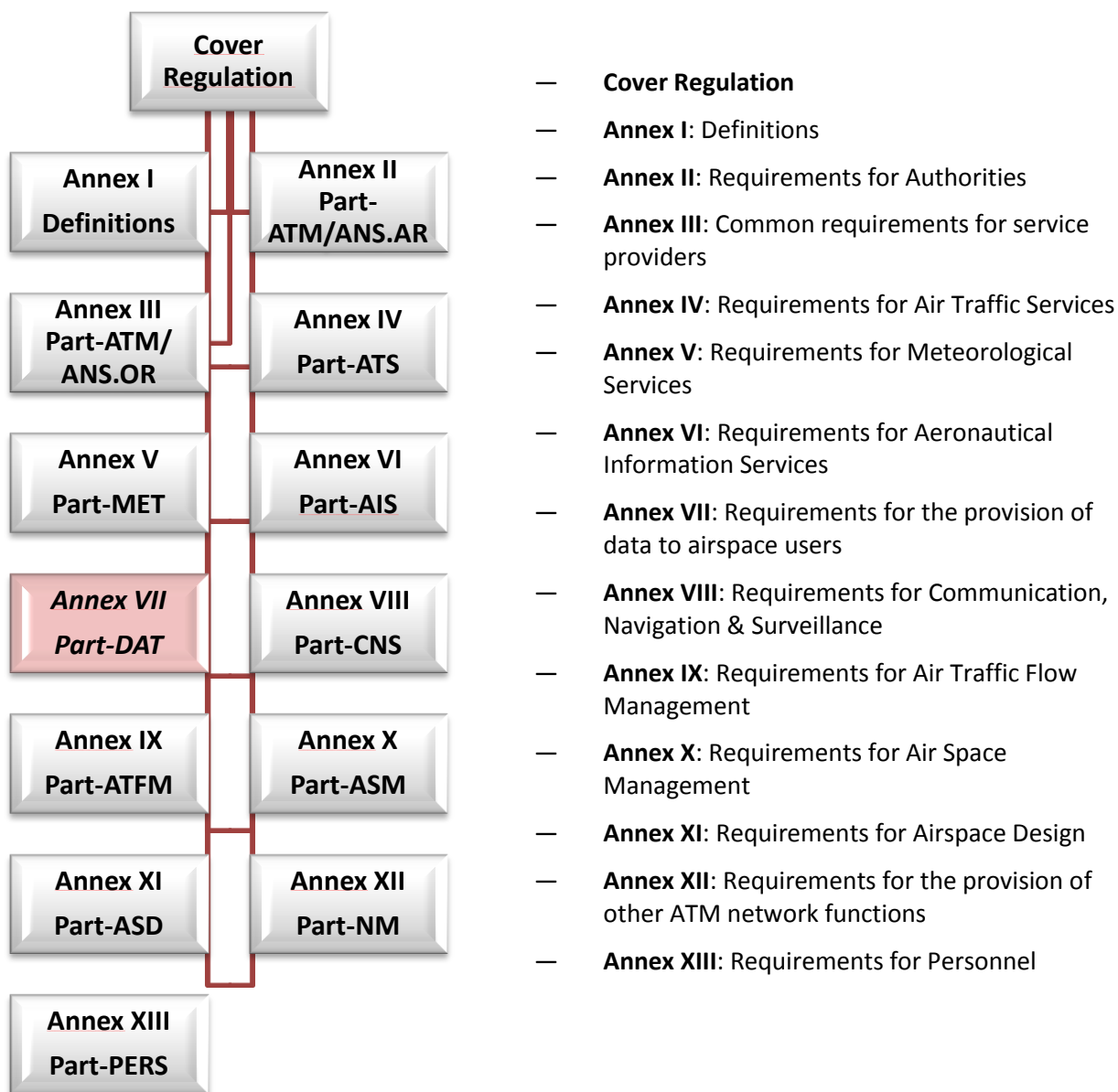
<sup>7</sup> Commission Regulation (EU) No 73/2010 of 26 January 2010 laying down requirements on the quality of aeronautical data and aeronautical information for the single European sky (OJ L 23, 27.1.2010, p. 6).

<sup>8</sup> 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 96, 31.3.2004, p. 1).

<sup>9</sup> Letter of 17 October 2012.



With the forthcoming adoption of the draft Commission Regulation on the ‘Requirements for service providers and the oversight thereof’, addressed to the Commission through the Agency’s Opinion No 03/2014, 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 according to Article 8b(2) of the Basic Regulation. Moreover, Annexes IV to XII include more specific requirements for the provision of each service. Amongst said Annexes, Annex VII is currently reserved for the specific requirements for the provision of data to airspace users for the purpose of air navigation (Part-DAT). The subject Opinion is proposing the inclusion of this Annex VII (Part-DAT) in the above-mentioned draft Regulation. Figure 1 below shows the envisaged structure of the future Regulation on service providers and the oversight thereof, including Annex VII presented in this Opinion.



**Figure 1: Envisaged structure of the future Regulation on the ‘Requirements for service providers and the oversight thereof’**

Furthermore, towards a ‘total system approach’ and bearing in mind that the DAT providers will be service provider’s certificate holders, it is now reasonable to alleviate the operators’ responsibility as



regards electronic navigation data management, currently set out in CAT.IDE.355(c) and NCC.IDE.A.260(c) of the Air OPS Regulation. Therefore, the subject Opinion is also proposing an amendment to said Regulation.

### 2.1.3. Data Quality Requirements (DQRs) set-up and interfaces between the actors

The DAT provider is an organisation that receives, assembles, translates, selects, formats, distributes and/or integrates aeronautical data and information for use in aeronautical databases to be uploaded to the aircraft systems. These aeronautical data and information are usually collected through the State AIPs, as the ICAO Contracting States worldwide are responsible for the provision of AIS in accordance with the ICAO Annex 15 requirements. At European level, as already mentioned in Section 2.1.1., Regulation (EU) No 73/2010<sup>10</sup> of 26 January 2010, laying down the DQRs, addresses this particular aeronautical data chain part, from data origination to publication of the AIPs by the AIS provider. When the data necessary for the development of the aeronautical databases is not available in the AIPs, the DAT provider could obtain the necessary data through other authoritative sources, being either the State authority organisation or an organisation formally recognised by the State authority to originate or publish data meeting the quality requirements as specified by that State. And in specific cases, the aeronautical data may be originated and then validated by that DAT provider.

On the other hand, in order to ensure the compatibility of the databases with the intended use of the certified aircraft application/equipment, the equipment design organisation should provide the DAT provider with the DQRs for that particular application/equipment. The aircraft certification ensures that the requirements are implemented properly in the airborne applications and result in adequate DQRs which are subsequently passed along upwards in the data chain. Furthermore, this strong link of the DQRs with the certified aircraft system will ensure that the interoperability objectives are met.

Figure 2 below using the Minimum Aviation System Performance Standards (MASPSs) illustrates the interfaces described above as well as the regulated parties addressed by the proposed rule, and how interoperability is achieved.

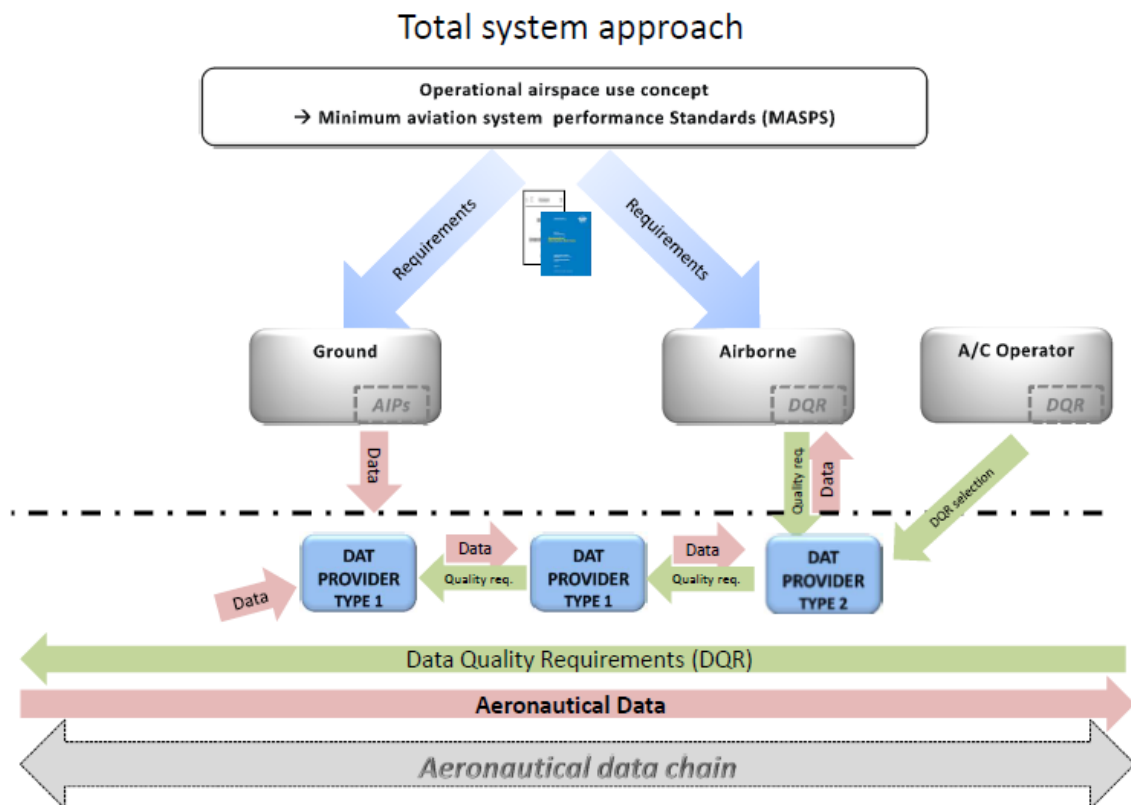
In conclusion, the Agency believes that this draft Regulation ensures that a Type 2 DAT provider that provides an aeronautical database for which compatibility with the certified aircraft application/equipment has been determined, considers the selection requirements of the aircraft operator, the DQRs from the airborne application and passes them along the chain, as appropriate. On the other side of the aeronautical data chain, that Type 2 DAT provider or a Type 1 DAT provider receives data from an authoritative source meeting the requirements laid down in the European regulations and ICAO Annex 15 on AIS or it originates and validates the data, in specific cases, and processes it to meet the DQRs passed along upwards by the equipment design organisation. This run-through ensures that working arrangements are/have been established with the relevant actors for continuous compatibility of the data sets with the DQRs and the authoritative source information.

However, it is important to note that the aircraft operator remains responsible for the selection of data sets for their intended use.

<sup>10</sup> 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).







**Figure2: Illustration of the interfaces of the regulated parties**

#### 2.1.4. Tailored data

During the rule development, the Agency was made aware of the aircraft operators' specific needs as regards the use of tailored data. Tailored data is those data sets generated and originated by the operator under their responsibility for their sole use. Therefore, the Agency acknowledged the need to allow the processing of tailored data provided by an aircraft operator to the DAT providers, on request, for use by that aircraft operator. Such processing becomes subject to process verification and oversight by the DAT providers' competent authority. Through NPA 2014-20, the Agency proposes a regulatory approach that incorporates these activities into this provision. However, nothing prevents DAT providers from declining such requests and not undertaking such activities. This issue was amongst the most discussed ones during the thematic meeting which provided the Agency with advice on how to proceed. The outcome of the discussion clearly indicated the aircraft operators' wish to retain the proposed regulatory approach, which was also well received by the DAT providers.

#### 2.1.5. The need to extend the scope

As mentioned in Section 2.1.1., in 2004 the implementation of Precision Area Navigation (P-RNAV) (now replaced by PBN) was seen by the Agency as a priority. Therefore, and in order to ensure the improved control of data stored in aircraft navigational databases, the Agency agreed to take over the JAA activity in this field and established a voluntary LoA audit system, defined in Opinion No 01/2005. This LoA auditing system is compatible with the valid FAA provisions of the FAA Advisory Circular (AC) 20-153A on 'Acceptance of Aeronautical Data Processes and Associated Databases'. However, the scope of the Opinion related only to the production of databases, as some areas addressed in the FAA



AC (e.g. operator' responsibilities, airworthiness approval, instruction for continued airworthiness) were subject to other requirements of the Agency's regulatory framework (Part-21 and operational requirements). Furthermore, the Agency's LoA concept refers to navigation databases, while the AC 20-153A scope includes the aeronautical databases<sup>11</sup>. This approach allows European aircraft operators to be recognised due to the oversight process, but primarily for navigation databases. Considering the outcome of the NPA 2014-20 consultation, the Agency is pleased to confirm that the proposed extension of the scope to aeronautical databases is well received by the regulated and affected parties.

## 2.2. Objectives

The overall objectives of the Agency are defined in Article 2 of the Basic Regulation. This proposal will contribute to the achievement of the overall objectives by addressing the issues outlined in Chapter 2.1.

Among others, one of the above-mentioned objectives 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 DAT 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. Outcome of the consultation

The Agency launched the public consultation of NPA 2014-20 on 8 August 2014. The commenting period expired on 31 October 2014. In total, 410 comments were submitted by 30 stakeholders: 9 national aviation authorities, 6 design approval holders and aircraft manufacturers, 6 DAT providers, 8 other services providers and organisations for air navigation, 2 professional associations, 2 aircraft operators, and 1 individual.

The Agency highlights that several comments were duplicates and of editorial nature. Nevertheless, the Agency concludes that the public consultation of NPA 2014-20 on the technical requirements and operational procedures for the provision of data to airspace users for the purpose of air navigation has brought real benefits to this rulemaking activity and contributed to the development of this Opinion. Stakeholders and interested parties provided valuable comments and, in many instances, alternative proposals to the proposed texts. These were accompanied by justifications, which facilitated the review and the amendment of the initial proposal made in the NPA and the development of the final one.

The most contentious and most commented issues during the consultation were the following:

- the definitions of 'aeronautical database', 'data quality requirements' and 'DAT provider';

<sup>11</sup> In reference to the navigation database, the oversight is currently limited only to the databases used for the navigation function by providing steering guidance, while the aeronautical database is purely presenting information without link to navigation function.

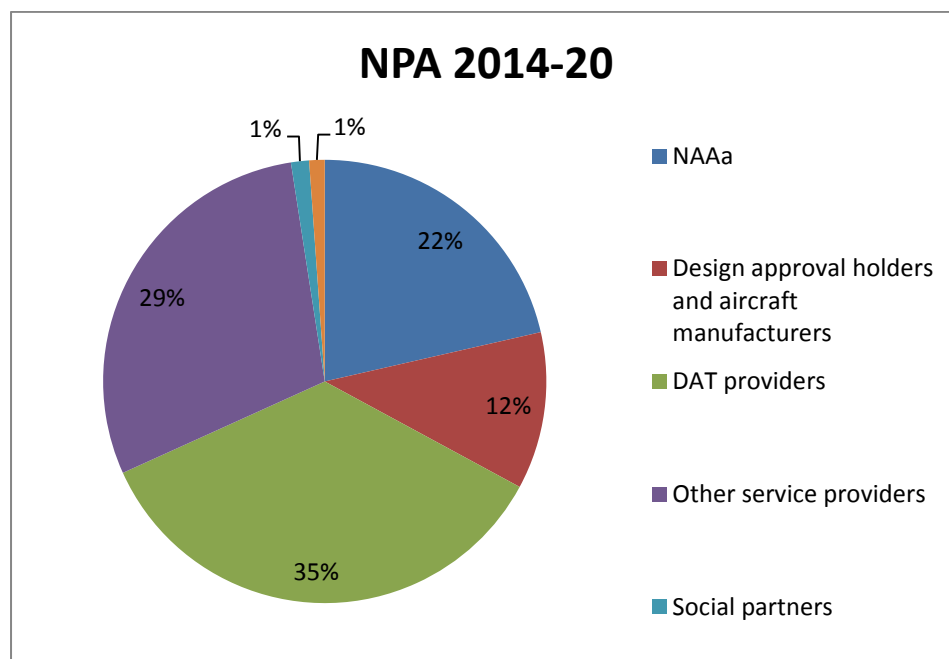


- the scope of the aeronautical data and information to be covered under the proposed rule and the activities of the DAT providers;
- the issue of the statement of conformity, including its content and level of detail;
- the use of data from different data sources, both authoritative and non-authoritative, by the DAT providers;
- the interfaces of the regulated parties with the other actors within the aeronautical data chain and the definition of the ‘data quality requirements’; and
- the equivalence between the certification of the DAT provider and the FAA LoA attestation.

The distribution of the comments received on the various parts of NPA 2014-20, the stakeholders’ sectors participating in the public consultation, as well as the distribution of the Agency’s responses are shown in Table 1 and Figures 3 and 4 respectively.

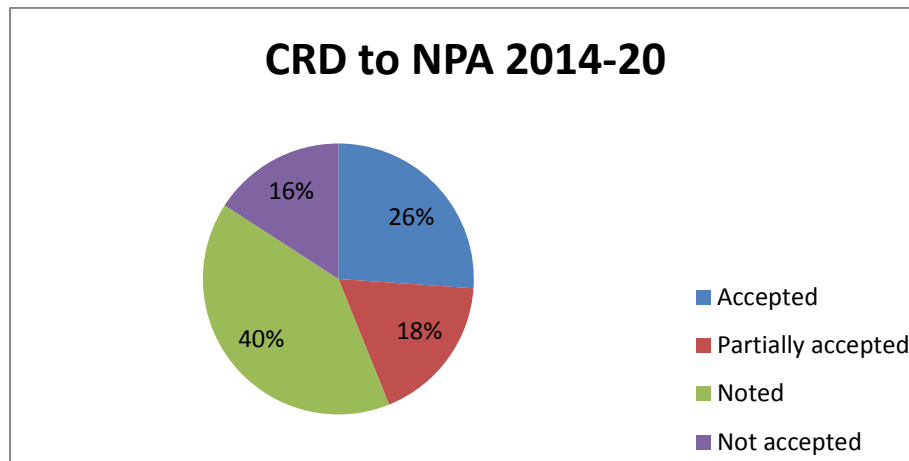
NPA 2014-20	Pages	Comments
General	—	17
Explanatory Note	8–21	64
Implementing Rule	22–32	124
AMC/GM	33–49	189
Regulatory Impact Assessment (RIA)	50–63	14
References	64–65	2
<b>Total</b>		<b>410</b>

**Table 1: Distribution of the comments received on the various parts of NPA 2014-20**



**Figure 3: Distribution of the comments received per stakeholders’ sector**





**Figure 4: Distribution of the Agency's responses in CRD to NPA 2014-20**

## 2.4. Summary of the Regulatory Impact Assessment (RIA)

### 2.4.1. Outcome of the NPA 2014-20 consultation

The analysis of the issues described in 2.1. 'Issues to be addressed' identified potential cost drivers from the aviation stakeholders' point of view, including:

- 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) which is too narrow compared to the FAA AC 20-153A (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<sup>12</sup> as applied in the other aviation domains.

Based on the comments received during the NPA 2014-20 public consultation, the Agency reviewed the draft rules to duly address these cost drivers in order to ensure an efficient regulatory framework.

The following key changes were introduced to the draft rules after the consultation:

- clarification of the scope of the DAT providers' activities;
- removal of the overlapping management system elements for DAT providers which are already laid down in Annex III (Part-ATM/ANS.OR 'Common requirements for service providers') to the proposed, through Opinion No 03/2014, Regulation on the 'Requirements for service providers and the oversight thereof'; and
- introduction of general clarification in the soft law (AMC/GM) to ensure that when there is a reference to an airborne navigation application as a primary means of navigation, it should be

<sup>12</sup> The term 'credit' is used in the sense that the aircraft operators would not be required to verify the integrity of the data for the indented use on certified aircraft application/equipment by using aeronautical databases provided by certified DAT providers without any further assurance of the data integrity and the processes in use. Furthermore, it would relieve aircraft operators from the suppliers' audit.

understood that it is used to meet the airspace usage requirements. For instance, there are minimum equipment requirements for specific flights into a designated airspace (e.g. if Global Positioning System (GPS) is used to fulfil minimum equipment requirements, then the database used by that GPS needs to be provided by a certified DAT provider).

#### *Transition period*

A limited number of comments were received as regards the transition period. The Agency considers this as being in agreement with the initial NPA proposal. The proposed 36-month transition period for the DAT providers was duly confirmed by the affected parties during the focussed consultation.

#### *Conclusion*

Some commentators indicated that the estimations for workload impact on DAT providers in the RIA were not accurate enough. However, no additional data was provided to substantiate this view. Conversely, a number of commentators supported the preferred option as proposed in NPA 2014-20.

Based on the above, the Agency concludes that the few concerns raised on the potential negative economic impact have been relieved due to the clarifications introduced throughout the proposal.

The following sub-sections 2.4.2. 'Options' and 2.4.3. 'Summary of the impact analysis' provide an overview of the RIA. For more details, please refer to Chapter 4 of NPA 2014-20.



**2.4.2. Options**

Three options have been considered.

**Table 1: Selected policy options**

<b>Option No</b>	<b>Short title</b>	<b>Description</b>
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 by the Agency, 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 the 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	<p>The oversight is currently limited only to cases where the databases are used for the navigation function, while through Option 2 the Agency is proposing the extension of the oversight scope to other aeronautical databases as well.</p> <p>This option would ensure alignment with the scope laid down by the FAA through 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 relieve aircraft operators from their oversight responsibilities once the DAT provider is certified for databases which are not only navigation ones.</p>



### 2.4.3. Summary of the impact analysis

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

<i>Type of impacts</i>	<i>Option 0</i>	<i>Option 1</i>	<i>Option 2</i>
Safety impacts	0	0/+	+
Economic impacts	0	+	+
Proportionality issues	0	+	+
'Better regulation' and harmonisation	0	0/+	+
<b>Overall impact</b>	<b>0</b>	<b>0/+</b>	<b>+</b>

The oversight of the DAT providers' aeronautical databases by the Agency (Option 2) is considered to be the preferred option.

It is recognised that Option 2 has a wider scope than Option 1. Therefore, Option 2 has broader scale impacts than Option 1. The following impacts have been identified:

- Safety impact is rather positively low as the DAT providers currently provide services in a quality manner;
- Positive economic impacts are the most prominent ones by bringing the full benefit in terms of decrease in oversight workload for DAT providers and aircraft operators. A clear allocation of the oversight to a single entity, the Agency as competent authority, will enable DAT providers to show compliance with the minimum requirements ensuring data quality and, thus, relieving the aircraft operators from performing audits on DAT providers;
- In addition, it is expected that this option will have a positive impact on proportionality issues because of the facilitation of the level playing field due to the harmonised implementation of the requirements for these providers among the EU Member States. It also establishes a proportionate application through the creation of different types of AMC and GM to make it applicable to DAT providers; and
- Finally, Option 2 will achieve full harmonisation in terms of scope between the Agency and the FAA regarding regulatory requirements for these types of databases aiming at continuous mutual recognition of the EU and the USA DAT providers.

For more information, please refer to Chapter 4 of NPA 2014-20.

## 2.5. Overview of the proposed amendments

### 2.5.1. Proposed amendments to the draft Commission Regulation on the 'Requirements for service providers and the oversight thereof'

This draft Commission Regulation complements the proposal for the draft Commission Regulation on the 'Requirements for service providers and the oversight thereof', addressed already to the Commission through Opinion No 03/2014, with the specific organisational and technical requirements



for the provision of data services. It is based on the voluntary LoA concept applied currently through EASA Opinion No 01/2005, and the appendix to the present document provides the cross-reference table between said Opinion and the proposed provisions.

### 2.5.2. Definitions

Following the introduction of Annex VII (Part-DAT) on the specific requirements to be complied with the DAT providers, new terms are required. Article 2(2)(d) of the Basic Regulation stipulates that the ICAO provisions shall be duly taken into account when establishing IRs. It is, hence, necessary to introduce new definitions for ‘aeronautical data’, ‘aeronautical database’, ‘aeronautical information’, ‘aerodrome mapping data’, ‘aerodrome mapping database’, ‘data quality’, ‘data quality requirements’, ‘obstacle’ and ‘terrain’.

Taking into account the forthcoming amendments to ICAO Annex 15, during the rule development the Rulemaking Group advised the Agency to consider the future revision of the definitions in question and to align them already with the improved text. This was the case with the definition of ‘data quality’. The NPA 2014-20 public consultation has clearly shown that the proposal was well received and, furthermore, the Agency is invited to promote this new definition at ICAO level, once adopted.

Furthermore, for the purpose of this rule, the definitions of ‘DAT provider’, ‘authoritative source’, ‘certified aircraft application’ and ‘tailored data’ were also introduced. To facilitate the understanding of these terms, the necessary GM were developed.

It is important to note, however, that the definitions already proposed through Opinion No 03/2014 are not affected.

### 2.5.3. Applicability date

Article 10 establishes the entry into force of the rule together with the applicability date for the service providers. The fact that the Agency received rather few comments in this regard is considered to be an agreement with the original NPA proposal. According to said proposal, there will be a 36-month transitional period after the estimated date of adoption of the rule for the DAT providers. The agreement of stakeholders was duly confirmed by the affected parties during the focussed consultation. This regime allows for the early introduction of certain requirements or even the entire rule for those regulated parties who wish to do so.

### 2.5.4. Certificate template

Based on the certificate template presented in Opinion No 03/2014, an amendment to the attachment to the service provider’s certificate is proposed, introducing the different type and scope of data services provided, i.e. Type 1 and Type 2.

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

This draft rule proposes the introduction of Annex VII (Part-DAT) containing specific requirements to be complied with by the DAT providers, in addition to the common requirements laid down in Annex III to the draft Commission Regulation on ‘Service providers and the oversight thereof’. As mentioned in Section 2.4., the proposed draft rule is mainly based on Opinion No 01/2005 and on the Agency’s ‘Conditions for the issuance of LoA for navigation database suppliers’.



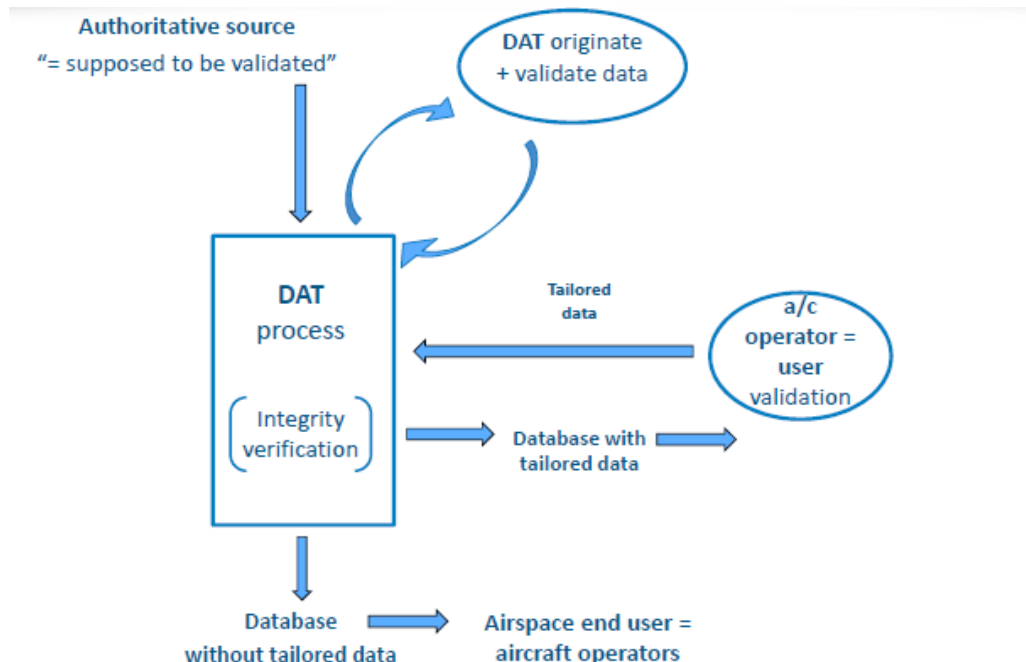


This Annex is divided into two subparts:

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

**DAT.OR.100** on aeronautical data and information establishes the objectives and the scope of the DAT providers' activities. This provision and the different sources of data used by the DAT providers for their services' provision was the most commented issue during the NPA consultation. This issue was also thoroughly discussed at the thematic meeting, which provided the Agency with advice on the way forward. Acknowledging the comments received related to the use of non-authoritative sources, the Agency amended DAT.OR.100(a) to clarify that the DAT provider shall validate that aeronautical data in certain specific cases. Such cases arise when the aeronautical data is not provided in the AIPs or by an authoritative source or it does not meet the applicable DQRs. Furthermore, the associated AMC/GM will facilitate the interpretation of the rules.

As mentioned in Section 2.1.4., during the rule development the Agency was made aware of the specific needs of the aircraft operators as regards the use of tailored data. Therefore, the Agency acknowledged the need to allow the processing of tailored data provided by an aircraft operator by the DAT providers, on request, for use by that aircraft operator. These activities are included in this provision under paragraph (b). It is important to highlight that nothing prevents DAT providers from declining such requests and not undertaking such activities.



**Figure 5: Illustration of data flow within the DAT provider's process**

**DAT.OR.105** on technical and operational competence and capability derives mainly from A.133 and A.163 of the Agency's 'Conditions for the issuance of LoA for navigation database suppliers'.

When transposing the eligibility criteria, the Agency considered that the requirement for the Type 2 DAT provider to ensure satisfactory coordination through 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). Initially, the Rulemaking Group did not fully support this approach as the requirement would entail unexpected implications. Based on the comments received and the discussions at the thematic meeting, the provision is enhanced and requires the Type 2 DAT provider to ensure that the DQRs are compatible with the intended use of the certified aircraft application through an appropriate arrangement with the specific equipment design organisation or an applicant for an approval of that specific design.

Furthermore, under the same paragraph, point 2 requires a statement of conformity to be issued by a DAT provider attesting that it has produced the aeronautical databases in accordance with this Regulation and the applicable industry standards. An associated AMC provides the form of such statement of conformity for aeronautical databases. The purpose of the statement is to make essential information available to the next users, i.e. either to another DAT provider or to the aircraft operator. During the consultation, different views were expressed as regards the level of detail necessary for such statement.

The most commented element of the statement was field 4 'Database identification'. This issue was also thoroughly discussed at the thematic meeting. The outcome of the discussion at the meeting confirmed that database identification is an essential part of the statement of conformity due to the necessity for traceability and identification of the data package delivered, including its back-tracking. Therefore, the dedicated field in the statement has been retained, but DAT providers may use a numbering system of their own preference. Moreover, the link between a given database and the statement of conformity would serve as a means of ensuring data integrity.

The Agency remains convinced that the proposed rule will be complied with if the DAT providers continue issuing the subject statement the way they currently do (in accordance with Opinion No 01/2005). This view was finally shared by a European DAT provider stating that no change to the current processes in place would be expected, except from aligning of the template used in order to harmonise it with the proposed one.

Since the draft Commission Regulation on the 'Requirements for service providers and the oversight thereof' already includes requirements on management system and record-keeping (please refer to Annex III (Part-ATM/ANS.OR), **DAT.OR.110** and **DAT.OR.115** address only the additional specific organisation requirements on these subjects.

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

Subpart B of Annex VII addresses the working methods and operating procedures and necessary operational interfaces.

**DAT.TR.100** establishes the working methods and operating procedures for DAT providers. It derives from A.145 of the Agency's 'Conditions for the issuance of LoA for navigation database suppliers', as laid down in Opinion No 01/2005. The Agency may propose further AMC and GM, the use of which will facilitate the compliance with the rules and will provide for the necessary proportionality and subsidiarity. This includes also making use of the industry best practices. Some AIS providers pointed out in their comments that the GM promoting DAT providers to use digital data sets as the preferred



means of data exchange to support data integrity is not comparable to the currently applicable requirements for AIS providers. It is important to note that in the European Union, through Regulation (EU) No 73/2010, a direct electronic connection and specific data exchange format are required to be employed by the parties which are regulated by the said rule. However, this is not a global requirement (e.g. not required by ICAO Annex 15). As DAT providers obtain aeronautical data and information worldwide, they need to be able to implement their processes in a more flexible way. Therefore, the Agency is confident that the proposed regulatory measure is appropriate, proportionate, and will encourage the industry to make use of the digital interface. Furthermore, the Agency considers that elevating this requirement to AMC or IR level would require further evaluation and a thorough impact assessment. Therefore, at this stage, the Agency notes the comments and will further consider the issue based on the future implementation feedback.

The Agency has removed the requirements on management and staff originally proposed in DAT.TR.100(b) as the provision addresses the organisational aspects already laid down in ATM/ANS.OR.005(a)(6) and (c) and ATM/ANS.OR.B.020.

With regard to the minimum requirements for the attesting staff, contrary to a proposal to remove this provision, the Agency was invited by a number of commentators to develop further GMs and standards for the training of attesting staff taking into consideration the need for global alignment. The Agency believes that the proposed regulatory approach meets the current needs of said attesting staff as it provides acknowledgment of this position and clear allocation of responsibilities. Furthermore, the Agency will consider possible enhancements of these provisions based on future implementation feedback.

One of the most essential rules, intended to ensure that the SES objectives on interoperability with respect to data are achieved, is provided in **DAT.TR.105**. Said provision on the required interfaces with the aeronautical data source and/or other DAT providers, with the equipment design approval holder for Type 2 DAT provision and with aircraft operators applies only to Type 2 DAT providers.

#### 2.5.6. Proposed amendments to the Air OPS Regulation

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

- **CAT.IDE.A.355, and**
- **NCC.IDE.A.260.**

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

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

Under paragraph (c), a new requirement is added for the operator to report to the DAT 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.



Means of compliance and explanatory material on the certification of DAT providers, related standards and appropriate references to Part-DAT are given at AMC/GM level.

- **CAT.IDE.H.355,**
- **NCC.IDE.H.260,**
- **NCO.IDE.A.205,**
- **NCO.IDE.H.205,**
- **SPO.IDE.A.230, and**
- **SPO.IDE.H.230.**

Similar provisions are added for CAT and NCC operations with helicopters, for NCO operations, and SPO operations.

Done at Cologne, on 12 March 2015.

Patrick KY  
Executive Director



### 3. References

#### 3.1. 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).

#### 3.2. Affected decisions/opinions

- Opinion No 01/2005 on the acceptance of Navigation Database Suppliers.
- 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 2013/022/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'.

#### 3.3. Reference documents

- Opinion No 03/2014 on the '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 AC 20-153A — Acceptance of Aeronautical Data Processes and Associated Databases



#### 4. Appendix

<b>Cross Reference Table  of the Agency's 'Conditions for the issuance of LoA for navigation database suppliers'  (Opinion No 01/2005) to Annex VII (Part-DAT) and the common requirements applicable to DAT  providers proposed through this Opinion and Opinion No 03/2014</b>			
<i>EASA Opinion No 01/2005</i>	<i>Subject</i>	<i>Opinion's 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.110	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 be aligned with the structure of the rule.
A.145	Conditions	DAT.TR.100 ATM/ANS.OR.B.005(a)(6) and (c) ATM/ANS.OR.B.020	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 1 to Annex II	The certificate template is introduced and the subject Opinion makes a proposal for amendments 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	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.

