



EUROPEAN AVIATION SAFETY AGENCY

CONDITIONS FOR THE ISSUANCE OF LETTERS OF ACCEPTANCE FOR NAVIGATION DATABASE SUPPLIERS BY THE AGENCY

DISCLAIMER: The letter of acceptance 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.

A.131 Scope

These Conditions establish:

- (a) The procedure for the issuance of a letter of acceptance (LOA) for organisations that translate, format and/or integrate information that originates from State aeronautical information services (e.g. AIP) into electronic databases for airborne navigation systems.
- (b) The rights and obligations of the applicant for, and holders of, such letters of acceptance.

A.132. Definitions

- (a) Navigation Database - Data (such as navigation information, flight planning waypoints, airways, navigation facilities, SID, STAR) that is stored electronically in a system that supports an airborne navigation application.
- (b) Data Service Provider – An organisation (not including the State AIP provider), which collects, originates or processes aeronautical data and provides a navigation database in a generic format (such as ARINC 424). Such organisations are eligible for a Type 1 LOA under these Conditions (see Guidance Para 5.7) showing that the generic database has been formatted under controlled conditions.
- (c) Data Application Integrator - An organisation that incorporates either State AIP data or a generic database into a format compatible with specific target airborne navigation equipment with a defined intended function. Such organisations require an interface with the equipment design organisation, and are eligible for a Type 2 LOA under these Conditions (see Guidance Para 5.7). This provides a list of equipment models and part numbers where compatibility has been demonstrated to the Agency, permitting the supply of navigation databases directly to end users/operators.
- (d) Data Quality Requirements - A specification of the characteristics of data to ensure that data is compatible with its intended use.
- (e) Type 1 LOA – Letter of acceptance granted where a Navigation Database supplier complies with ED-76/DO-200A with no identified compatibility with an aircraft system. A Type 1 LOA confirms that the processes for producing navigation

data comply with these Conditions and the documented Data Quality Requirements. A Type 1 LOA may not release navigation databases directly to end users.

(f) Type 2 LOA – Letter of acceptance granted where a Navigation Database supplier complies with ED-76/DO-200A and provides data compatible with specified avionics system(s). A Type 2 LOA confirms that the processes for producing navigation data comply with these Conditions and the documented Data Quality Requirements for the avionics systems specified. The Data Quality Requirements must be provided by or agreed with the specified equipment design organisation in accordance with a formal arrangement. A Type 2 LOA may release navigation databases directly to end users. Such releases may also include data packing tools, where the use of such tools has been demonstrated to be ED-76/DO-200A compliant. A Type 2 LOA holder may interface directly with data originators (such as State AIP providers and operators), or may use data supplied by a Type 1 LOA in which case interfaces with data originators may not be necessary.

A.133 Eligibility

Any natural or legal person (“organisation”) shall be eligible as an applicant for a letter of acceptance under these Conditions. The applicant shall:

- (a) Justify that, for a defined scope of work, a letter of acceptance is appropriate for the release of electronic databases for airborne navigation systems; and
- (b) Have ensured satisfactory coordination through an appropriate link with the navigation data originator and/or data service provider; and
- (c) For Type 2 LOA: have ensured satisfactory co-ordination through an appropriate arrangement with the specific equipment design organisation.

A.134 Application

Each application for a letter of acceptance shall be made to the Agency in a form and manner established by the Agency, and shall include an outline of the information required by A.143 and the type of letter of acceptance requested. By applying the applicant declares to accept all the obligations that are linked to the letter of acceptance and which are described in these conditions and associated guidance.

A.135 Issue of letter of acceptance

An organisation shall be entitled to have a letter of acceptance issued by the Agency when it has demonstrated compliance with these Conditions.

A.139 Quality System

(a) The navigation database supplier shall demonstrate that it has established and is able to maintain a quality system. The quality system shall be documented. This quality system shall be such as to enable the organisation to ensure that each electronic database for airborne navigation systems is produced by the organisation in accordance with standards specified in the definitions, and in the case of Type 2 letter

of acceptance supports specific models of navigation equipment for which compatibility has been assessed.

- (b) The quality system shall contain:
- (1) As applicable for the type of letter of acceptance, control procedures for:
 - (i) Document issue, approval, or change.
 - (ii) Vendor and subcontractor assessment audit and control.
 - (iii) Verification that incoming data has been produced in accordance with the standards specified in the definitions
 - (iv) Identification and traceability.
 - (v) processes for translating, formatting and/or integrating of data into a generic database or database compatible with specific target airborne equipment.
 - (vi) Inspection and testing
 - (vii) Validation of software tools and test equipment.
 - (viii) Non conforming item control.
 - (ix) co-ordination with the navigation data originator and/or data service provider; and for Type 2 LOA with the equipment design organisation.
 - (x) Records completion and retention.
 - (xi) Personnel competence and qualification.
 - (xii) Issue of release documents.
 - (xiii) Controlled dissemination of databases to users.
 - (xiv) Internal quality audits and resulting corrective actions.
 - (2) An independent quality assurance function to monitor compliance with, and adequacy of, the documented procedures of the quality system. This monitoring shall include a feedback system to the person or group of persons referred to in A.145(c)(2) and ultimately to the manager referred to in A.145(c)(1) to ensure, as necessary, corrective action.

A.143 Exposition

- (a) The organisation shall submit to the Agency 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 these Conditions will be complied with at all times.
 - (2) The title(s) and names of managers accepted by the Agency in accordance with A.145(c)(2).

- (3) The duties and responsibilities of the manager(s) as required by A.145(c)(2) including matters on which they may deal directly with the Agency on behalf of the organisation.
 - (4) An organisational chart showing associated chains of responsibility of the managers as required by A.145(c)(1) and (2).
 - (5) A list of attesting staff as referred to in A.145(d).
 - (6) A general description of man-power resources.
 - (7) A general description of the facilities located at each address specified in the navigation database supplier's letter of acceptance.
 - (8) A general description of the activities for which the letter of acceptance is requested.
 - (9) The procedure for the notification of organisational changes to the Agency.
 - (10) The amendment procedure for the exposition.
 - (11) A description of the quality system and the procedures as required by A.139(b)(1).
 - (12) A list of those outside parties referred to in 21A.139(a).
- (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 Agency.

A.145 Conditions

The navigation database supplier shall demonstrate, on the basis of the information submitted in accordance with A.143 that:

- (a) with regard to general conditions, facilities, working conditions, equipment and tools, processes and associated materials, number and competence of staff, and general organisation are adequate to discharge obligations under A.165.
- (b) with regard to all necessary data:
 - (1) The navigation database supplier is in receipt of data from the equipment design organisation, either directly or through a Type 2 LOA holder, to determine compatibility with the documented Data Quality Requirements.
 - (2) The navigation database supplier is in receipt of data from the data originators (including State AIP providers if applicable) and/or data service provider.
 - (3) The navigation database supplier has established a procedure to ensure that data are correctly incorporated in its production data.
 - (4) Data are kept up to date and made available to all personnel who need access to such data to perform their duties.
- (c) with regard to management and staff:

- (1) A manager has been nominated by the navigation database supplier, and is accountable to the Agency. His or her responsibility within the organisation shall consist of ensuring that all production of electronic databases is performed to the required standards and that the navigation database supplier is continuously in compliance with the data and procedures identified in the exposition referred to in A.143.
 - (2) A person or group of persons have been nominated by the navigation database supplier to ensure that the organisation is in compliance with these Conditions, and 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 persons nominated shall be able to show the appropriate knowledge, background and experience to discharge their responsibilities.
 - (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 co-ordination within the navigation database supplier.
- (d) with regard to attesting staff, authorised by the navigation database supplier to sign the statements issued under A.163:
- (1) The knowledge, background (including other functions in the organisation), and experience of the attesting staff are appropriate to discharge their allocated responsibilities.
 - (2) The navigation database supplier maintains a record of all attesting staff which shall include details of the scope of their authorisation.
 - (3) Attesting staff are provided with evidence of the scope of their authorisation.

A.147 Changes to the navigation database supplier

- (a) After the issue of a letter of acceptance, each change to the navigation database supplier that is significant, particularly changes to the quality system shall be accepted by the Agency. An application for acceptance shall be submitted in writing to the Agency and the navigation database supplier shall demonstrate to the Agency before implementation of the change, that it will continue to comply with these Conditions.
- (b) The Agency shall establish the conditions under which a navigation database supplier accepted under these Conditions may operate during such changes unless the Agency determines that the letter of acceptance should be suspended.

A.148 Changes of location

A change of the location of the facilities of the navigation database supplier shall be deemed of significance and therefore shall comply with A.147.

A.149 Transferability

Except as a result of a change in ownership, which is deemed significant for the purposes of A.147, a letter of acceptance is not transferable.

A.151 Terms of acceptance

The terms of acceptance shall identify the scope of work for which the holder is entitled to exercise the privileges under A.163.

Those terms shall be issued as part of a letter of acceptance.

A.153 Changes to the terms of acceptance

Each change to the terms of acceptance shall be accepted by the Agency. An application for a change to the terms of acceptance shall be made in a form and manner established by the Agency. The applicant shall comply with the applicable Conditions.

A.157 Investigations

A navigation database supplier shall make arrangements that allow the Agency to make any investigations, including investigations of partners and subcontractors, necessary to determine compliance and continued compliance with the applicable Conditions.

A.158 Findings

(a) When objective evidence is found showing non compliance of the holder of a letter of acceptance with the applicable Conditions, the finding shall be classified as follows:

(1) A level one finding is any non-compliance with these Conditions which could lead to uncontrolled errors in the electronic databases for airborne navigation systems and which could affect the safety of the operation.

(2) A level two finding is any non-compliance with these Conditions which is not classified as level one.

(b) A level three finding is any item where it has been identified, by objective evidence, to contain potential problems that could lead to a non-compliance under paragraph (a).

(c) After receipt of notification of findings from the Agency in accordance with Agency procedures,

(1) In case of a level one finding, the holder of the letter of acceptance shall demonstrate corrective action to the satisfaction of the Agency within a period of no more than 21 working days after written confirmation of the finding;

(2) In case of level two findings, the corrective action period granted by the Agency shall be appropriate to the nature of the finding but in any case

initially shall not be more than six months. In certain circumstances and subject to the nature of the finding the Agency may extend the six month period subject to a satisfactory corrective action plan agreed by the Agency.

(3) A level three finding shall not require immediate action by the holder of the letter of acceptance.

(d) In case of level one or level two findings, the letter of acceptance may be subject to a partial or full limitation, suspension or revocation. The holder of the letter of acceptance shall provide confirmation of receipt of the notice of limitation, suspension or revocation of the letter of acceptance in a timely manner.

A.159 Duration and continued validity

(a) A letter of acceptance shall be issued for an unlimited duration. It shall remain valid unless:

(1) The navigation database supplier fails to demonstrate compliance with the applicable Conditions; or

(2) The Agency is prevented by the holder or any of its partners or subcontractors to perform the investigations in accordance with A.157; or

(3) There is evidence that the navigation database supplier cannot maintain satisfactory control of the translation, formatting and/or integration of information that originates from State Aeronautical Information Services (e.g. AIP) into electronic databases for airborne navigation systems under the letter of acceptance; or

(4) The navigation database supplier no longer meets the conditions of A.133; or

(5) The letter of acceptance has been surrendered or revoked.

(b) Upon surrender or revocation, the letter of acceptance shall be returned to the Agency.

A.163 Privileges

Pursuant to the terms of acceptance issued under A.135, the holder of a letter of acceptance may:

(a) Perform translation, formatting and/or integration of information that originates from State Aeronautical Information Services (e.g. AIP) into electronic databases for airborne navigation systems under these Conditions.

(b) Issue a statement that the navigation databases it has produced, are produced in accordance with these Conditions.

A.165 Obligations of the holder

The holder of a letter of acceptance shall:

- (a) Ensure that the exposition furnished in accordance with A.143 and the documents, to which it refers, are used as basic working documents within the organisation.
- (b) Maintain the navigation database supplier organisation in conformity with the data and procedures accepted for the letter of acceptance.
- (c) Determine that each completed navigation database is produced in accordance with these Conditions.
- (d) Record all details of work carried out.
- (e) Establish and maintain an internal occurrence reporting system in the interest of safety, to enable the collection and assessment of occurrence reports in order to identify adverse trends or to address deficiencies, and to extract reportable occurrences. This system shall include evaluation of relevant information relating to occurrences and the promulgation of related information.
- (f)
 - (1) Report to the customer, and where applicable the equipment design organisation all cases where navigation databases have been released by the navigation database supplier and subsequently identified to have possible errors and/or deviations from the applicable Data Quality Requirements.
 - (2) Report to the Agency 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 Agency.
 - (3) Where the holder of the letter of acceptance is acting as a supplier to another navigation database supplier, report also to that other organisation all cases where it has released navigation databases to that organisation and subsequently identified them to have possible errors.
- (g) Provide assistance to the equipment design organisation in dealing with any continuing airworthiness actions that are related to the navigation databases that have been produced.
- (h) Establish an archiving system incorporating requirements imposed on its suppliers and subcontractors. Data shall be held at the disposal of the Agency and be retained in order to provide the information necessary to support any continuing airworthiness actions.

Guidance to Agency Conditions for Issue of a Letter of Acceptance for Navigation Database Suppliers

1. Applicability

The primary objective of this guidance is to support Agency oversight of navigation database suppliers. This guidance material applies to the activities associated with receiving, assembling, translating, selecting, formatting, integrating and distributing navigation data in electronic format for subsequent loading into aircraft navigation or flight management systems. It does not apply to the origination of data for publication into a national AIP.

Note: Activities specific to aeronautical Data are elaborated in the standards referenced in 2.3.

2. Reference Documents

2.1	ICAO	Annex 15	Aeronautical Information
2.2	ICAO	Doc 8126	Aeronautical Information Services Manual
2.3	EUROCAE & RTCA	ED-76 & DO-200A	Standards for Processing Aeronautical Data
2.4	EUROCAE & RTCA	ED-77 & DO-201A	Standards for Aeronautical Information
2.5	Aeronautical Radio Inc.	ARINC 424	Navigation System Data Base
2.6	FAA	AC20-DB	Acceptance of Data Processes and Associated Navigation Databases

Note: The standard revisions listed above were applicable at the time of writing of this guidance material. Organisation should ensure that they are in possession of the appropriate revisions of the standards. It is not the intent to reissue this guidance material should the revision status change.

3. Guidance

3.1 ICAO Annex 15 defines the State's obligations and requirements for data published in the AIP.. Data Service Providers will need to demonstrate the means by which correct and current data is received from the original AIP source, together with a mechanism for reporting errors detected within the AIP data.

3.2 Data will be formatted in accordance with data formatting specifications (such as ARINC 424), or instructions given by the equipment design organisation or the Data Application Integrator as applicable. Control of such specifications and instructions, together with a definition of required data quality characteristics will need to be demonstrated by the applicant.

3.3 To satisfy Condition A.133, Data Application Integrators will need to have a documented arrangement that defines at least the following:-

(a) The responsibilities of the equipment design organisation to ensure correct and timely transfer of up-to-date airworthiness data and instructions that concern compatibility of data with the target equipment. This includes the Data Quality Requirements.

(b) The responsibilities of the applicant to assist the equipment design organisation in dealing with continuing airworthiness matters and for any required actions, such as traceability of databases shipped directly to users, data modifications, traceability of process outputs, approval of deviations, provision of technical information and assistance).

3.4 When EUROCAE document ED-76 / RTCA document DO-200A, *Standards for Processing Aeronautical Data* is used by the applicant to demonstrate compliance, the additional topics listed in Condition A.139(b)(1), as appropriate, will need to be included to show compliance with the Agency Conditions.

4. Release of Navigation Databases

4.1 An Agency letter of acceptance is intended to act in a similar manner to an FAA letter of acceptance (LOA) under the FAA Advisory Circular, in that it provides evidence to an end user that the database has been produced in accordance with agreed standards, and in the case of Type 2 LOAs supports specific models of navigation equipment for which compatibility has been assessed.

4.2 The letter of acceptance holder will need to establish mechanisms to advise customers/end users of the status of their letter of acceptance and any changes to that status in a timely manner.

4.3 Letter of acceptance holders will need to demonstrate that each database is produced in accordance with the Agency Conditions prior to release into the field. An internal conformity statement will need to be made confirming that the database satisfies all applicable specifications/Data Quality Requirements (including those specified by the equipment design organisation where applicable) and has been subjected to full configuration control. This statement may be a company-defined document agreed with the Agency

4.4 The authority to release databases to the field will only be held by certain qualified individuals within the organisation (see Condition A.145(d)).

4.5 Where a database release also includes software tools permitting duplication of the database by the end user/installer, such tools shall form part of the letter of acceptance (for Type 2 LOAs) and shall be subject to similar configuration and release controls as the database itself.

4.6 Release under this guidance is intended for the databases themselves, not the disposable media by which they are distributed (disks, CD-Roms etc).

5. The Conduct of the Agency Investigation for Navigational Database Suppliers

5.1 General

Where possible, the Agency will use existing procedures for receipt of applications, establishment of eligibility, demonstration of compliance, and the general planning and conduct of assessments, as modified by the provisions below.

5.2 Exposition Contents

The applicant will need to submit an exposition to the Agency to comply with Condition A.143. In addition, the exposition will also need to take account of either EUROCAE document ED-76 or RTCA document DO-200A.

5.3 Demonstration of Required Interfaces

5.3.1 Interface with the Data Originators

5.3.1.1 The applicant will need to demonstrate that a robust and effective interface exists with the data originators (including State AIP providers if applicable). Procedures will need to be established to communicate instances of erroneous or inconsistent data to the Originator and that timely and effective responses are received and remedial action undertaken by the applicant. These processes will be subject to audit during the assessment.

5.3.1.2 Where resolution cannot be obtained for data that has been queried, the applicant's procedures for dealing with this situation will be audited to confirm that effective controls are in place to ensure that an unsafe product is not released and that communicate that concern to end-users taking account of Condition A.165 (e).

5.3.2 Interface with Navigation Equipment Design Organisations

The applicant will need to demonstrate that a robust and effective interface exists with the equipment design organisations. In particular, the applicant's procedures will be audited to confirm that the equipment design organisations communicate and respond to issues and constraints concerning compatibility/ eligibility for installation between their equipment and the databases to the applicant in a timely manner.

5.3.3 Interface with Aircraft Operators

Where the applicant has an interface with an aircraft operator as its direct customer, the audit will verify that a robust and effective interface is in place to ensure that operators' requests are clearly defined and subject to technical review (to ensure compatibility with State AIP data and the constraints of the equipment) by the applicant. Further, the applicant's procedures will be audited to ensure that the aircraft operator's instructions for tailored data are confirmed as originating from an authorised representative of the operator's organisation.

5.4 Demonstration of required Facilities, Resources, Skills and Competencies

5.4.1 The applicant will need to demonstrate compliance with Condition A.145 with specific emphasis on the facilities, resources, skills and competencies expected of a Navigation Database Supplier. Investigation of this area will need to be undertaken by appropriate Specialist personnel.

5.4.2 To promote standardisation, both initial investigation and continued surveillance will be carried out by a Team consisting of a Production Approval Specialist acting as Team Leader, supported by nominated Specialists from the necessary disciplines.

5.5 Implementation of Agency Conditions

5.5.1 The applicant will need to submit a completed checklist showing compliance with the Agency Conditions.

5.5.2 The compliance checklist will be used both as a compliance statement for the applicant and as an audit checklist where the Investigation Team can record areas reviewed and information gathered during the assessment.

5.6 Implementation of EUROCAE Document ED-76 / RTCA document DO-200A

5.6.1 The applicant will need to produce a Compliance Matrix detailing how his data production processes relate to EUROCAE ED-76 / RTCA DO-200A.

5.6.2 In addition to the Agency Conditions, the audit will assess the standards and processes applied by the applicant to determine the characteristics of the delivered database. The following paragraphs identify specific areas that will be audited

against EUROCAE ED-76 / RTCA DO-200A.

- Plans and procedures.
- Internal Standards and Data Quality Requirements Definition.
- Concession procedures (i.e. those procedures that control and agree deviations)
- Data validation. (including the procedures that define the level of checking of the database prior to release). These procedures will be reviewed by Team Specialists to ensure adequacy.
- Data traceability.
- Data processing.
- Data formatting.
- Data configuration management.
- Data timeliness.
- Software tool qualification.
- Internal audit checks and response mechanisms.
- Error tracking and corrective action procedures.
- Safety reporting procedures (including occurrence reporting).
- Data distribution and transmission practices.

5.7 Letter of acceptance

Once satisfied, the Agency will issue a letter of acceptance to the applicant using the following wording:-

Scope Navigation Databases produced by a Type 1 LOA holder

The Agency has investigated [*Insert Applicant here*] to the procedures defined in [*Insert Exposition reference here*], which have been found to comply with the Agency Conditions for the issuance of letters of acceptance for Navigation Database Suppliers. This Type 1 LOA does not authorise the supply of navigation databases directly to end users/operators.

and/or

Scope Navigation Databases produced by a Type 2 LOA holder

The Agency [*Insert Competent Authority here*] has investigated [*Insert Applicant here*] to the procedures defined in [*Insert Exposition reference here*], which have been found to comply with the requirements of Agency Conditions for the issuance of letters of acceptance for Navigation Database Suppliers. This Type 2 LOA authorises the supply of navigation databases to end users/operators for the following system, for which compatibility has been demonstrated:-

[*Manufacturer*] Flight Management System Model [XXX], Part No [YYY]

Database Duplication Tool [ZZZ]

6. Availability of documents

EUROCAE documents may be purchased from EUROCAE, 17 rue Hamelin, 75783 Paris Cedex 16, France, (Fax: 33 1 45 05 72 30). Web site: www.eurocae.org.

ICAO documents may be purchased from Document Sales Unit, International Civil Aviation Organisation, 999 University Street, Montreal, Quebec, Canada H3C 5H7, (Fax: 1 514 954 6769, e-mail: sales_unit@icao.org) or through national agencies.

RTCA documents may be obtained from RTCA Inc, 1828 L Street, NW., Suite 805, Washington, DC 20036, USA., (Tel: 1 202 833 9339; Fax 1 202 833 9434). Web site: www.rtca.org.

FAA Advisory Circulars may be obtained from the Department of Transportation, Subsequent Distribution Office, Svc-121.23, Ardmore East Business Center, 3341 Q 75th Ave, Landover, Md