

National TOD Policy template

[The contents of the National TOD Policy template are not intended to be mandatory or exhaustive. A State may choose to modify and/or include whichever sections and information it deems appropriate.]

Text in black is a sample of the text which could be provided in the policy. Text in blue is that which needs to be replaced by the developers of the TOD policy in the State. Text in green may be used as guidance in developing the policy.]

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A.1 INTRODUCTION

A.1.1 Purpose and scope of this document

This document sets out the policy for **[Name of State]** relating to the collection, processing and provision of electronic terrain and obstacle data (TOD). This document is not a regulation, but an approach, plan and set of actions adopted and agreed by the parties concerned by and included in this policy.

The main purpose of this document is to exhaustively define the policy of [Name of State] for TOD implementation, in order to enable [Name of the regulatory authority of the State] to update or develop the [Name of State] TOD regulatory framework and for the parties involved to develop the implementation programmes and put in place the necessary steps to enable the provision of electronic terrain and obstacle data

[ESSIP INF07 –electronic TOD describes the following Stakeholder Lines of Action following the development of the National TOD policy:

State Authorities:

- *Establish TOD regulatory framework*
- *Establish oversight of TOD implementation*
- *Verify regulatory compliance with TOD implementation*

ANS Providers:

- *Plan the required activities for the collection, management and provision of TOD in accordance with national TOD policy*
- *Implement the collection, management and provision of TOD in accordance with the national TOD policy and regulatory framework*

Airport Operators:

- *Plan the required activities for the collection, management and provision of TOD in accordance with national TOD policy*
- *Implement the collection, management and provision of TOD in accordance with the national TOD policy and regulatory framework]*

A.1.2 Introduction to TOD

In the last decade, there has been a growing understanding within the aviation community that digital, computer-based applications can be used by airborne and ground-based systems to provide users with enhanced safety-critical information which enables more balanced judgements to be made and improves the decision-making process. The requirements for the provision of terrain and obstacle information on charts or in paper form no longer meet the current requirements for the provision of data of enhanced quality to support and increase operational safety levels.

In the current environment, every airborne and ground-based system provides some level of situational awareness with regard to terrain and obstacles, for example visual identification of terrain and obstacles or their depiction on a chart, yet this is not sufficient. It is necessary to combine data received from various sensors and sources, present it in digital form (e.g. navigation, terrain, obstacles, airport maps, etc.), and display it as processed information in a standardised, user-friendly, intuitively-obvious manner.

The trend towards the paperless cockpit and associated technological advances in avionics will provide increased safety/performance levels through enhanced situational awareness and, with particular relevance to terrain or obstacle hazards, separation assurance and visualisation of approaches in difficult terrain environments.

The safety and efficiency of aerodrome operations can be seriously affected by difficult terrain environments and the presence of obstacles close to the take-off or approach areas. The process of managing and accessing this data can be made more efficient through the use of digital data and supporting software.

The emerging need for the development and provision of electronic terrain and obstacle datasets will provide support for the implementation of the ICAO Aviation System Block Upgrades and other systems, as appropriate.

ICAO Annex 15, “Aeronautical Information Services”, requires States to provide the terrain and obstacle data sets relating to their own territory and announce them in the national AIPs. The coverage areas for these data sets are specified as:

- Area 1 - The entire territory of a State,
- Area 2 - The terminal control area,
- Area 3 – The aerodrome/heliport area,
- Area 4 – The CAT II or CAT III operation area.

A.1.3 Purpose of the provision of terrain and obstacle data

Electronic terrain and obstacle data are intended to be used in the following air navigation applications:

- a) ground proximity warning systems with a forward-looking terrain avoidance function and minimum safe altitude warning (MSAW) system;
- b) determination of contingency procedures for use in the event of an emergency during a missed approach or take-off;
- c) aircraft operating limitations analysis;
- d) instrument procedure design (including circling procedures);
- e) determination of en-route “drift-down” procedures and en-route emergency landing location;
- f) advanced surface movement guidance and control systems (A-SMGCS); and
- g) aeronautical chart production and on-board databases.

The data may also be used in other applications such as flight simulators and synthetic vision systems, and may assist in determining the height restriction or removal of obstacles posing a hazard to air navigation.

A.1.4 Document structure

The policy is split into two chapters, which separately cover terrain and obstacle data sets. It is subdivided into sections covering the following subjects:

- Definition of scope
 - o Quality and numerical requirements
 - Applicable regulations and current compliance
 - o Aerodromes required to provide electronic data
 - o Required functions
- Definition of responsibilities
 - o Regulation
 - o Origination
 - o Validation and verification
 - o Repository
 - o Maintenance
 - o Provision
 - o Cross-border coordination

- Oversight mechanism
- Cost recovery and charging mechanisms.

A.2 Electronic terrain data

A.2.1 Definition of scope

A.2.1.1 General

This section documents the **[Name of State]** national policy relating to the collection, processing and provision of electronic terrain data for **[list each specific coverage areas]**.

- Area 1 designates the Digital Terrain Model covering the entire territory of **[Name of State]**. *[Include more information here if it covers only part of the territory]*
- Area 2 designates the Digital Terrain Model covering the vicinity of an aerodrome **[subdivision of Area 2, if applicable]** *[The subdivision of electronic terrain data sets for Area 2 (if applicable) should be described here, e.g. provision of Area 2a, 2b, 2c and 2d or only Area 2a, the take-off flight path area, an area bounded by the lateral extent of the aerodrome obstacle limitation surfaces]*
- Area 3 designates the Digital Terrain Model covering the vicinity of an aerodrome movement area as defined in ICAO Annex 15. *[Area 3 is a Recommended Practice in ICAO Annex 15 and a State may choose not to provide electronic terrain data for Area 3. In such a case a statement to this effect should be included here and any other text in this template related to electronic terrain data for Area 3 should be ignored]*
- Area 4 designates the Digital Terrain Model covering the radio altimeter operating area for the precision approach runway, Category II or III, as defined in ICAO Annex 15.

A.2.1.2 Quality/numerical requirements for electronic terrain data

Electronic terrain data for **[list each specific coverage areas]** in **[Name of State]** shall conform to the following numerical requirements:

[This section should define the quality and numerical requirements for electronic terrain data based on the applicable national and international regulations]

	Area 1	Area 2	Area 3	Area 4
Post spacing	3 arc seconds (approx. 90 m)	1 arc second (approx. 30 m)	0.6 arc seconds (approx. 20 m)	0.3 arc seconds (approx. 9 m)
Vertical accuracy	30 m	3 m	0.5 m	1 m
Vertical resolution	1 m	0.1 m	0.01 m	0.1 m
Horizontal accuracy	50 m	5 m	0.5 m	2.5 m
Confidence level	90%	90%	90%	90%
Integrity classification	routine	essential	essential	essential
Maintenance period	as required	as required	as required	as required

[Additional requirements could be included here based on applicable regulations, examples of which are described below]

A.2.1.2.1 Applicable regulations

[This section documents ICAO, European Community and other international and national regulations applicable to electronic terrain data in the State. Additional references to other standard-making organisations' requirements, e.g. EUROCAE, could be included here. Any national regulation related to the provision of electronic terrain data should be listed here]

The following national and international regulations govern the collection, processing and provision of electronic terrain data for **[list each specific coverage areas]** in **[Name of State]**.

Ref.	Issuing body	Title and relevant sections	Edition
1.	ICAO	Annex 15 – Aeronautical Information Services Chapter 10 – Electronic Terrain and Obstacle Data Appendix 8: Terrain and Obstacle Data requirements	15 th edition (incorporating Amendment 39A)
2.	ICAO	Annex 4 – Aeronautical Charts Chapters 3-6	11 th Edition (incorporating Amendment 58)
3.	EU	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, as amended by Commission Implementing Regulation (EU) No 1029/2014. Article 4 Data set Article 5 Data exchange Article 6 Data quality	27 th January, 2010
4.	ISO	ISO 19100 series of standards for geographic information	
5.	National	Policy for aerodrome safeguarding or aeronautical charting	

A.2.1.2.2 Current compliance

A.2.1.2.2.1 Data

[Provide here a statement about the (non) compliance of the provided/available sets of electronic terrain data for each specific coverage area, as applicable, with the quality and numerical requirements described above]

A.2.1.2.2.2 Regulation

[Provide here a list of the documents forming part of the national regulatory framework which need to be updated or developed, as applicable, in order to ensure compliance with the quality and numerical requirements described above]

A.2.1.3 Aerodromes required to provide electronic terrain data

[Name of State] will provide sets of electronic terrain data for Area 2 at the following aerodromes **[list of aerodromes required to provide sets of electronic terrain data for Area 2]**

[As a minimum, the list of aerodromes will contain all international aerodromes publishing Aerodrome Obstacle Charts Types A/B in national AIPs. The list could be supplemented with information if the aerodrome is to provide Area 2a, 2b, 2c and 2d or Area 2a, the take-off flight path area, an area bounded by the lateral extent of the aerodrome obstacle limitation surfaces]

[Name of State] will provide sets of electronic terrain data for Area 3 at the following aerodromes **[list of aerodromes required to provide sets of electronic terrain data for Area 3]**

[The list should include those aerodromes where the provision of electronic terrain data for Area 3 is considered useful in conjunction with the provision of aerodrome mapping data]

[Name of State] will provide sets of electronic terrain data for Area 4 at the following aerodromes and runways **[list of aerodromes and runways required to provide sets of electronic terrain data for Area 4]**

[The list should include as a minimum all aerodrome runways with CAT II/III operations]

A.2.1.4 Functions required for electronic terrain data

[Provide here the list of all functions and their roles within [Name of State] required for the collection, processing and provision of electronic terrain data for each specific coverage area, preferably with a diagram of the intended data flow processes]

[A non-exhaustive list of possible functions is provided below:

- *Regulation: entity responsible for the development of the national civil aviation regulatory framework for electronic terrain data*
- *Data origination: entity with the capacity to survey the terrain and provide the surveyed data with the required numerical and quality characteristics*
- *Verification and validation: entity responsible for the validation and verification of the quality of the data*
- *Terrain data repository: entity responsible for terrain data storage*
- *Terrain data provision: entity responsible for the provision of terrain data to users*
- *Maintenance (and update): entity responsible for electronic terrain data consistency with the evolution of the terrain in the universe of discourse*
- *Oversight: national supervisory authority responsible for oversight]*

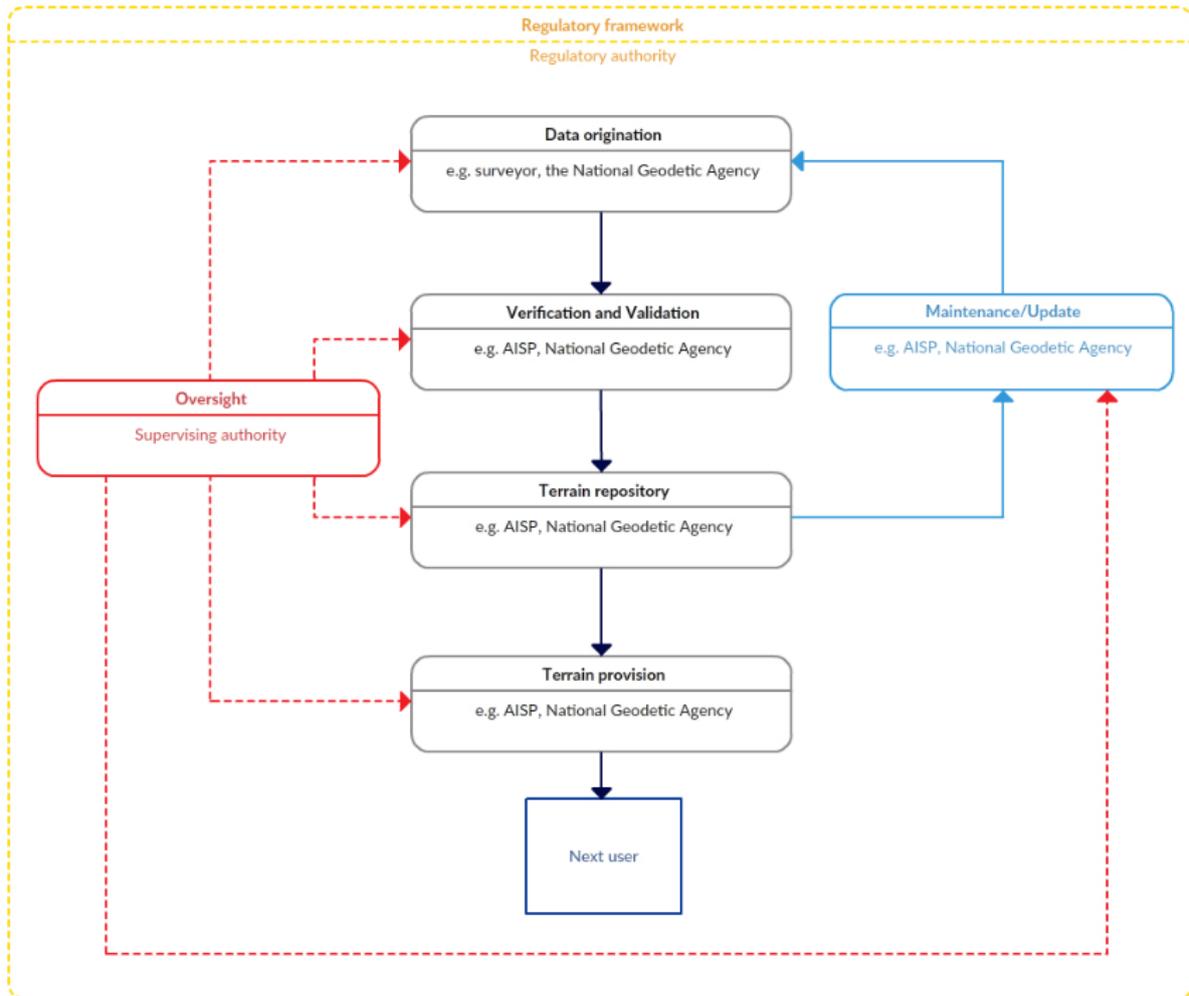


Figure 1 – Data flow process for electronic terrain data for Area 1 in [Name of State]

A.2.2 Definition of responsibilities

This section sets out the responsibilities for the collection, processing and provision of electronic terrain data for [list each specific coverage areas] in [Name of State].

[For the area of coverage in question, this section shall state who is responsible for which function. Each “Function required for electronic terrain data” from the above should be listed and related to the full identification of the entities responsible for this function. If such responsibilities are shared, it shall detail how.]

The following entities may also be involved (non-exhaustive list):

Ministry responsible for transport, Civil Aviation Authority, AISP, ANSP, Aerodrome Operators, Military, National Geodetic, Cadastral or State Survey organisation, commercial survey companies or associations, military survey organisations, Ministry responsible for local government, land planning and the environment, local authorities or other bodies responsible for aerodrome safeguarding/construction approval in the vicinity of the aerodrome, etc.]

A.2.2.1 Responsibility for regulation

The [Name of entity] will be responsible in [Name of State] for developing/updating the national civil aviation regulatory framework to ensure the collection, processing and provision of electronic terrain data for [each specific coverage areas]

[This section could include the list of specific regulations to be developed or updated]

A.2.2.2 Responsibility for data origination

The **[Name of entity]** will be responsible in **[Name of State]** for providing the original or updated¹ electronic terrain data for **[each specific coverage areas]**

[This section could include the State's approach to electronic terrain data origination in each particular coverage area]

A.2.2.2.1 Data sources

[Provide a list of data sources of electronic terrain data for [each specific coverage areas]]

A.2.2.2.2 Formal Arrangements

[List here the elements of the formal arrangements which need to be put in place for the provision of electronic terrain data for [each specific coverage areas]]

[Where arrangements are made for data source providers to make data available for aviation use, formal arrangements should be established between the data source providers and the receiving body. This section should list the formal arrangements in place which are related to the provision of electronic terrain data for each specific coverage area.

As a minimum, such arrangements should include the following elements:

- *Data source provider name and status*
- *Data quality requirements*
- *Survey formats and requirements*
- *Means of provision*
- *Liability*

Additional information could be included regarding licensing policy, survey vetting, etc.]

A.2.2.3 Responsibility for data verification and validation

The **[Name of entity]** will be responsible in **[Name of State]** for validating and verifying the electronic terrain data for **[each specific coverage areas]**

[This section could include the State's approach to the validation and verification of electronic terrain data in each particular coverage area]

A.2.2.4 Responsibility for the electronic terrain data repository

The **[Name of entity]** will be responsible in **[Name of State]** for storing the electronic terrain data for **[each specific coverage area]**

[This section could include the State's approach to the electronic terrain data repository in each particular coverage area]

A.2.2.5 Responsibility for electronic terrain data maintenance

The **[Name of entity]** will be responsible in **[Name of State]** for providing updates (regular maintenance) to the electronic terrain data for **[each specific coverage area]**

[Unless this is covered in the responsibilities for data origination, this section could include the State's approach to the maintenance of the electronic terrain data in each particular coverage area, including the frequency of its review]

¹ Updates could be covered under the responsibility for data maintenance

A.2.2.6 Responsibility for electronic terrain data provision

The **[Name of entity]** will be responsible in **[Name of State]** for providing the electronic terrain data for **[each specific coverage area]** to the next-intended users.

[This section could include the State's approach to electronic terrain data provision to the next-intended users for each particular coverage area, including the formats to be used and the means and media whereby the electronic terrain data could be made available]

A.2.2.7 Responsibility for cross-border exchange of electronic terrain data

[List the arrangements (to be put) in place with neighbouring States for the exchange, provision and receipt of electronic terrain data]

[This section should document the arrangements (to be put) in place with adjacent States for the exchange, provision and receipt of electronic terrain data for a particular coverage area, e.g. aerodromes located close to the border with obstacle limitation surfaces extending into the adjacent State. Arrangements could include sharing the survey costs or use of the same survey company, all with the intention of reducing the cost of data acquisition.]

A.2.2.8 Responsibility for the oversight mechanism

The **[Name of entity]** will be responsible in **[Name of State]** for the oversight of electronic terrain data provision for **[each specific coverage area]**.

[This section should detail how the State will monitor the implementation of the electronic terrain data (e.g. mechanism whereby the State intends to monitor the implementation, and plan for the audit of the organisations involved in the implementation and the subsequent management and maintenance of the electronic terrain data). It should also deal with the verification of compliance with the regulatory requirements through oversight and the acceptance of national implementation for data origination, collection, verification and validation, management and provision based on international requirements and the national regulatory framework]

A.2.3 Cost recovery and charging

[Provide here the cost recovery and charging mechanisms for each specific coverage area of the electronic terrain data]

[This section identifies how the functions in A 2.2. will finance their defined responsibilities and the charging mechanisms (to be put) in place].

A.3 Electronic obstacle data

A.3.1 Definition of scope

A.3.1.1 General

This section documents the **[Name of State]**'s national policy relating to the collection, processing and provision of electronic obstacle data for **[list each specific coverage area]**.

- Area 1 covers the entire territory of **[Name of State]**. *[Include more information here if it covers only part of the territory]*
- Area 2 covers the vicinity of an aerodrome as defined in ICAO Annex 15 **[subdivision of Area 2, if applicable]** *[The subdivision of the electronic obstacle data set for Area 2 (if applicable) should be described here, e.g. provision of Area 2a, 2b, 2c and 2d or only Area 2a, the take-off flight path area and aerodrome obstacle limitation surfaces]*
- Area 3 covers the vicinity of an aerodrome movement area as defined in ICAO Annex 15. *[Area 3 is a Recommended Practice in ICAO Annex 15 and a State may choose not to provide electronic obstacle data for Area 3. In such a case a statement to this effect should be included here and any other text in this template related to electronic obstacle data for Area 3 should be ignored]*
- Area 4 covers the radio altimeter operating area for the precision approach runway, Category II or III, as defined in ICAO Annex 15.

[This section could include the description of the obstacle collection surfaces for each specific coverage area]

A.3.1.2 Quality/numerical requirements for electronic obstacle data

Electronic obstacle data for **[list each specific coverage area]** in **[Name of State]** shall conform to the following numerical requirements:

[This section should define the quality of and numerical requirements for electronic obstacle data based on the applicable national and international regulations]

	Area 1	Area 2	Area 3	Area 4
Vertical accuracy	30 m	3 m	0.5 m	1 m
Vertical resolution	1 m	0.1 m	0.01 m	0.1 m
Horizontal accuracy	50 m	5 m	0.5 m	2.5 m
Confidence level	90%	90%	90%	90%
Integrity classification	routine	essential	essential	essential
Maintenance period	as required	as required	as required	as required

[Additional requirements could be included here based on applicable regulations, examples of which are described below]

A.3.1.2.1 Applicable regulations

The following national and international regulations govern the collection, processing and provision of electronic obstacle data for **[list each specific coverage area]** in **[Name of State]**.

[This section should list the ICAO, European Community and other international and national regulations applicable to electronic obstacle data in the State. Additional references to other standard-making organisations' requirements, e.g. EUROCAE, could be included here. Any national regulation related to the provision of electronic obstacle data should be listed here]

Ref.	Issuing body	Title and relevant sections	Edition
1.	ICAO	Annex 15 – Aeronautical Information Services Chapter 10 – Electronic Terrain and Obstacle Data Appendix 8: Terrain and Obstacle Data requirements	15 th edition (incorporating Amendment 39A)
2.	ICAO	Annex 4 – Aeronautical Charts Chapters 3-6	11 th Edition (incorporating Amendment 58)
3.	EU	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, as amended by Commission Implementing Regulation (EU) No 1029/2014. Article 4 Data set Article 5 Data exchange Article 6 Data quality	27 th January, 2010
4.	ISO	ISO 19100 series of standards for geographic information	
5.	National	Policy for aerodrome safeguarding or aeronautical charting	
6.	National	Obstacle authorisation process	
7.	National	Policy for assignment of obstacle identification	

A.3.1.2.2 Current compliance

A.3.1.2.2.1 Data

[Provide here a statement about the (non) compliance of the provided/available sets of electronic obstacle data for each specific coverage area, as applicable, with the quality and numerical requirements described above]

A.3.1.2.2.2 Regulation

[Provide here a list of the documents forming part of the national regulatory framework which need to be updated or developed, as applicable, in order to ensure compliance with the quality and numerical requirements described above]

A.3.1.3 Aerodromes required to provide electronic obstacle data

[Name of State] will provide sets of electronic obstacle data for Area 2 at the following aerodromes **[list of aerodromes required to provide sets of electronic obstacle data for Area 2]**

[As a minimum, the list of aerodromes will contain all international aerodromes publishing Aerodrome Obstacle Charts Type A/B in national AIPs. The list could be supplemented with information if the aerodrome is to provide Area 2a, 2b, 2c and 2d or Area 2a, the take-off flight path area and the aerodrome obstacle limitation surfaces]

[Name of State] will provide sets of electronic obstacle data for Area 3 at the following aerodromes **[list of aerodromes required to provide sets of electronic obstacle data for Area 3]**

[The list should include those aerodromes where the provision of electronic obstacle data for Area 3 is considered useful in conjunction with the provision of aerodrome mapping data]

[Name of State] will provide sets of electronic obstacle data for Area 4 at the following aerodromes and runways **[list of aerodromes and runways required to provide sets of electronic obstacle data for Area 4]**

[The list should include as a minimum all aerodrome runways with CAT II/III operations]

A.3.1.4 Functions required for electronic obstacle data

[Provide here the list of all functions and their roles within [Name of State] required for the collection, processing and provision of electronic obstacle data for each specific coverage area, preferably with a diagram of the intended data flow processes]

[A non-exhaustive list of possible functions is provided below:

- *Regulation: entity responsible for the development of the national civil aviation regulatory framework for electronic obstacle data*
- *Data source:*
 - o *Obstacle owner: entity owning/commissioning the erection of any objects penetrating the obstacle collection surfaces for specific coverage areas in accordance with the national obstacle authorisation process*
 - o *Data origination: entity with the capacity to survey obstacles and provide the surveyed data with the required numerical and quality characteristics*
- *Obstacle assessment: entity constituted from various aviation domains (e.g. military, CNS infrastructure authority, aerodrome safeguarding authority, PANS-OPS) responsible for the assessment of the effects of the obstacle on aviation infrastructure. The opinion of this entity should be considered in the obstacle authorisation process.*
- *Verification and validation: entity responsible for the validation and verification of the quality of data*
- *Obstacle data repository: entity responsible for obstacle data storage and maintenance as described in the national obstacle authorisation process.*
- *Obstacle data provision: entity responsible for the provision of obstacle data to the next-intended users*
- *Oversight: national supervisory authority responsible for oversight]*

A.3.2 Definition of responsibilities

This section sets out the responsibilities for the collection, processing and provision of electronic obstacle data for **[list each specific coverage area]** in **[Name of State]**.

[For the area of coverage in question, this section shall state who is responsible for which function. Each “Function required for electronic obstacle data” from the above should be listed and related to the full identification of the entities responsible for this function. If such responsibilities are shared, it shall detail how.]

The following entities may also be involved (non-exhaustive list):

Ministry responsible for transport, Civil Aviation Authority, AISP, ANSP, Military, National Geodetic, Cadastral or State Survey organisation, commercial survey companies or associations, military survey organisation, local authorities or other bodies responsible for aerodrome safeguarding/construction approval in the vicinity of the aerodrome, Ministry responsible for local government, land planning and the environment, power transmission companies, regulatory authority for radio and television broadcasts, mobile antenna operators, local port authorities if ports exist in close proximity to an airport, etc.]

A.3.2.1 Responsibility for regulation

The **[Name of entity]** will be responsible in **[Name of State]** for developing/updating the national civil aviation regulatory framework to ensure the collection, processing and provision of electronic obstacle data for **[each specific coverage area]**

[This section could include the list of specific regulations to be developed or updated]

A.3.2.2 Responsibility for the data source

The **[Name of entity]** will be responsible in **[Name of State]** for originate the initial or provide updates² to existing electronic obstacle data for **[each specific coverage area]**

[This section could include the State’s approach to electronic obstacle data origination in each particular coverage area, based on the national obstacle authorisation process and aerodrome safeguarding policy. The data sources could be the individual obstacle owners or data originators able to collect such obstacles with the required numerical and quality characteristics]

Possible examples of obstacle owners:

- *Power transmission companies*
- *Regulatory authority for radio and television broadcasts*
- *Mobile antenna operators*
- *Wind farm operators*
- *Etc.]*

A.3.2.2.1 Data sources

[Provide a list of data sources of electronic obstacle data for [each specific coverage area]]

A.3.2.2.2 Formal arrangements

[List here the elements of the formal arrangements which need to be put in place for the provision of electronic obstacle data for [each specific coverage area]]

² Updates could be covered under the responsibility for data maintenance

[Where arrangements are made for data source providers to make data available for aviation use, formal arrangements should be established between the data source providers and the receiving body. This section should list the formal arrangements (to be put) in place related to the provision of electronic obstacle data for each specific coverage area.

As a minimum, such arrangements should include the following elements:

- *Data source provider name and status*
- *Data quality requirements*
- *Survey formats and requirements*
- *Means of provision*
- *Liability*

Additional information could be included regarding licensing policy, survey vetting, etc.]

A.3.2.3 Responsibility for obstacle assessment

The **[Name of entity]** will be responsible in **[Name of State]** for assessing the effects of the objects penetrating the obstacle collection surfaces on the aviation infrastructure for **[each specific coverage area]** and providing advice to the obstacle authorisation process.

[Obstacle assessment should cover the expertise of various aviation domains, i.e. military, CNS infrastructure, aerodrome safeguarding authority, airspace and instrument procedure designers). The opinion of this entity should be considered in the obstacle authorisation process.

A.3.2.4 Responsibility for verification and validation

The **[Name of entity]** will be responsible in **[Name of State]** for validating and verifying the electronic obstacle data for **[each specific coverage area]**

[This section could include the State's approach to the validation and verification of electronic obstacle data in each particular coverage area]

A.3.2.5 Responsibility for the electronic obstacle data repository

The **[Name of entity]** will be responsible in **[Name of State]** for storing the electronic obstacle data for **[each specific coverage area]**

[This section could include the State's approach to the electronic obstacle data repository in each particular coverage area]

A.3.2.6 Responsibility for electronic obstacle data maintenance

The **[Name of entity]** will be responsible in **[Name of State]** for the maintenance of the electronic obstacle data for **[each specific coverage area]** in accordance with the national obstacle authorisation process.

[Unless this is covered in the responsibilities for data sources, this section could include the State's approach to the maintenance of the electronic obstacle data in each particular coverage area based on the national obstacle authorisation process]

A.3.2.7 Responsibility for electronic obstacle data provision

The **[Name of entity]** will be responsible in **[Name of State]** for providing the electronic obstacle data for **[each specific coverage area]** to the next-intended users.

[This section could include the State's approach to electronic obstacle data provision to the next-intended users for each particular coverage area, including the formats to be used and the means and media whereby the electronic obstacle data could be made available]

A.3.2.8 Responsibility for cross-border exchange of electronic obstacle data

[List the arrangements (to be put) in place with neighbouring States for the exchange, provision and receipt of electronic obstacle data]

[This section should document the arrangements (to be put) in place with adjacent States for the exchange, provision and receipt of electronic obstacle data for a particular coverage area which might affect the civil aviation infrastructure, e.g. aerodromes located close to the border with obstacle limitation surfaces extending into the adjacent State, wind farms or other obstacles close to the border. Arrangements could include sharing the survey costs or use of same survey company, all with the intention of reducing the cost of data acquisition.]

A.3.2.9 Responsibility for the oversight mechanism

The **[Name of entity]** will be responsible in **[Name of State]** for the oversight of electronic obstacle data provision for **[each specific coverage area]**.

[This section should detail how the State will monitor the implementation of the electronic obstacle data (e.g. mechanism whereby the State intends to monitor the implementation, and plan for the audit of the organisations involved in the implementation and the subsequent management and maintenance of the electronic obstacle data). It should also deal with the verification of compliance with the regulatory requirements through the oversight and acceptance of national implementation of data origination, collection, verification and validation, management and provision based on international requirements and the national regulatory framework]

A.3.3 Cost recovery and charging

[Provide here the cost recovery and charging mechanisms for each specific coverage area of the electronic obstacle data]

[This section identifies how the functions in A.3.2. will finance their defined responsibilities and the charging mechanisms (to be put) in place].