Operating Specification for the Aeronautical Information Service

UK Digital Dataset Specification

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CAA Point of Contact: Joanna Llewellyn
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Action	Role	Name	Signature	Date
Approved (CAA)	AIMR Policy Specialist	Joanna Llewellyn		
Approved (NATS)	Head of AIM	Chris Bray		

*During the Evaluation period this document will be updated based on feedback received. The document may begin to depart from the approved version 1.0 and will be re-issued as version 2.0 prior to go-live.

Document Version

Issue	Date	Operating Specification Version and Date	Change Reference	Changes in this issue
1.0	01/08/2024	Revision 3.0 15th Feb 2023 inc CR001/22, CR002/23, CR001/24	CP-30989	New release and new BMS number. AIM-AIS-004-Spec > SPC_AIM006_04 Inclusion of ICAO Datasets. Delivery in accordance with CR001_2023 and associated milestone plan.
1.1	03/10/2024	Revision 4	CP-30989	• UAS DS V0.1 > 1.0. • VRP DS V0.1 > 1.0. • Sector DS V0.1 > 1.0. • Aerodrome mapping datasets added. • ICAO DS' reorganised to reflect ICAO Annex 15 order. • VRP Metadata updated to meet AIS.TR.340 Metadata requirements. • IFP Dataset content updated.

1 Introduction

This specification documents the dataset product specification for all datasets associated with specific services specified in the Operating Specification for the Aeronautical Information Service.

1.1 Scope

The Operating Specification for the Aeronautical Information Service contains numerous services which involve the creation, management, and delivery of Aeronautical Datasets. This documents describes the Product Specification associated with those Aeronautical Datasets.

A Product Specification will contain an overview, specification scope, data product identification, data content and structure, reference system, data quality, data capture, data maintenance, data portrayal, data product delivery, additional information, and metadata. This facilitates and supports the use and exchange of the digital dataset and enables air navigation users to evaluate the product and determine whether it fulfils the requirements for their intended use (application).

The format of the primary data delivery scope for each specification shall carry the same level of assurance as the stored source data and will be supplied to the AIXM 5.1 specification, modelled in close conformance to the coding guidelines as developed by Eurocontrol, unless specified otherwise.

The formats of secondary and tertiary data delivery scopes may not be capable of this assurance given the need to transform stored source data into the additional format, resulting in an unavoidable loss of precision and attribution. This will be highlighted against each data delivery scope.

1.2 Change Management

The product specifications are described below, they have been agreed and approved by the signatories of this document and cannot be changed without following the formal change management process.

2 Dataset Specifications

Below are the dataset product specifications for each dataset product type.

3 Data Product Specification for the UK UAS Flight Restrictions Dataset

Version:	1.0
Published	01/08/2024
Language	English
Extent of the data product	UK ENR 5.1 Airspace Structures within the entire territory and airspace of the UK and UK Crown Dependencies (the Isle of Man and the Bailiwicks of Jersey and Guernsey).
Topic category	Transportation
Keywords	UAS/RESTRICTION
Supported AIS Service	4.5.1.1 - ENR 5.1 UAS Airspace Restrictions

3.1 Abstract of the data product

The Air Navigation Order, as amended, sets out UAS Flight Restriction Zones (FRZ) around Protected Aerodromes for Unmanned Aircraft operating in the Open and Specific categories.

The shape of FRZ is constructed by using the airfield's existing aerodrome traffic zone and, where applicable, a Runway Protection Zone(s) with a shape five kilometres by one kilometre starting from the point known as the 'threshold' at the end of each of the airfield's runways. Both zones extend upwards to a height of 2,000 feet above the airfield. Certain exceptions apply to the shapes of FRZ and RPZ and information regarding the exact dimensions of each FRZ/RPZ is published in the UK AIP (Section ENR 5.1 Prohibited, Restricted and Danger Areas).

An Aerodromes FRZ and RPZ(s) are contiguous irrespective of how mapping tools may portray them.

It is illegal to fly any drone at any time within these restricted zones unless you have permission from air traffic control at the airport or, if air traffic control is not operational, from the airport itself. (AIP Section ENR 1.1 contains information for UAS operators and aerodromes in relation to requesting and granting permission for any unmanned aircraft flight within an FRZ/RPZ).

A Protected aerodrome is one which is:

> UK Licensed;
> Certified;
> UK Government;
> Prescribed by the secretary of state for the purpose of being Protected.

All Protected aerodromes and details of their FRZ/RPZ Restriction Zones are published in the UK AIP, Section ENR 5.1 Prohibited, Restricted and Danger Areas. Every airfield's restriction will be different.

3.2 Contact Information

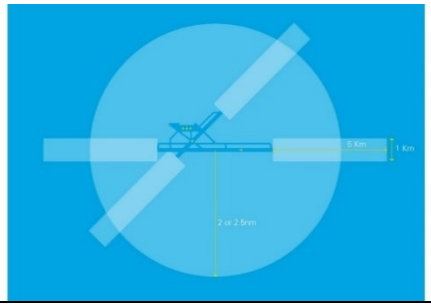
Organisation	Aeronautical Information Service (AIS)
Address	NATS Swanwick, Sopwith Way, Southampton, Hants, SO31 7AY
Email	aissupervisor@nats.co.uk
Web site	www.nats.aero/ais

3.3 About the data product Specification

Title	DATA PRODUCT SPECIFICATION OF UK UAS FLIGHT RESTRICTION
Contact	Aeronautical Information Service (AIS) NATS Swanwick, Sopwith Way, Southampton, Hants, SO31 7AY
Web location	http://www.nats.aero/ais/datasets
Format	PDF

Maintenance	Reviewed on change and every 2 years.	
Handling restrictions	N/A	
Terms and definitions	N/A	
Abbreviations	UAS	Unmanned Aeronautical System

3.4 Identification and purpose of the data product

Official title	EG_UAS_FR_DS_AREA1_FULL_YYYYMMDD • **UAS_FR_DS** is a fixed text (meaning "UAS Flight Restriction Dataset"); • **AREA1** – Area of Extent • **FULL** - when the file contains a complete dataset; • **YYYYMMDD** is the start of effective date in the format year, month, date;
Alternative title	N/A
Abstract	Navigation restrictions that are applicable to unmanned aircraft systems are published in the UK AIP (Section ENR 5.1 Prohibited, Restricted and Danger Areas) including restrictions applicable around aerodromes (Flight Restriction Zones) and restrictions applicable around other areas. A dataset of all ENR 5.1 UAS Airspace Restrictions is also available as an electronic (digital) file.
Purpose	To provide definition of zones restricting the flight of UAS
Topic category	Transportation
Keywords	UAS/RESTRICTION
Spatial representation	Cartesian/Latitude and Longitude
Spatial resolution	N/A
Supplemental information	*NIL*
Restrictions	Use limitations: For aviation use only. Access restrictions: Unrestricted. Usage restrictions: Unrestricted. Security restrictions: Unclassified. Commercial restrictions: Not for resale.
Extent	All Protected aerodromes and details of their FRZ/RPZ Restriction Zones are published in the UK AIP, Section ENR 5.1 Prohibited, Restricted and Danger Areas. Every airfield's restriction will be different, but the diagram below gives a generic example of what FRZ/RPZ restricted zones look like. 

3.5 Scopes

3.5.1 General scope

Scope id	General scope
Level	Series

Level name	General scope
Level description	The general scope is the root level of the scope level. hierarchy. The general scope level defines the specifications which for UAS Flight Restrictions.

3.6 Data content and structure

3.6.1 General scope

Narrative description	Data is modelled and stored in accordance with the AIXM 5.1 UML classes and data types. Format: The dataset is provided in AIXM version 5.1. (http://www.aixm.aero/schema/5.1) NATS reserving the right to model aeronautical information (AI) appropriately for AI product production and the right to adopt newer versions of AIXM with prior notification. Users shall check forward/backward compatibility within their applications if using a newer AIXM version in the future to ensure there is no data loss. Please review http://www.aixm.aero/page/aixm-versioning-policy for guidance. Content: Content of the dataset is recorded in the accompanying file_ export-filter.xml and is a subset of the AI used to compile the UK AIP and associated products.
Application schema	aixm.aero
Feature catalogue	Included features:

Feature name	Filtered
Airspace	Yes
Geo Border	Yes

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Property="codeType">
                          <Value>P</Value>
                      </SimpleCondition>
                      <SimpleCondition Operator="Equals"
Property="codeType">
                          <Value>D</Value>
                      </SimpleCondition>
                      <LogicalCondition Operator="And">
                          <SimpleCondition Operator="Equals"
Property="codeType">
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                          </SimpleCondition>
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                          </SimpleCondition>
                          <SimpleCondition Operator="NotLike"
Property="codeId">
                                  <Value>%EGR160%</Value>
                              </SimpleCondition>
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Narrative description	The general scope is the root level of the scope level

	hierarchy. The general scope level defines the specifications which for UAS Flight Restrictions.

3.7 Reference System

3.7.1 General scope	
Spatial reference system	Horizontal reference system: WGS-84, EPSG: 4326 (Realisation: ITRF2008 Epoch 2005.0), Vertical reference system: The Ordnance Datum Newlyn (ODN) can be considered the source of Mean Sea Level (MSL) in the UK. OSGM15 is the National Geoid Model used in the UK for determining elevations Above Mean Sea Level (AMSL) datum.
Temporal reference system	Gregorian Calendar, UTC

3.8 Data Quality

3.8.1 General scope

NATS maintain the integrity of the information and data supplied to the AIS, from receipt through to the point of publication. However, because these products are compiled using information originated and supplied by numerous external parties, NATS cannot guarantee the accuracy or completeness of content. To the fullest extent permitted by law, NATS accepts no liability for your use of UK Aeronautical Information Products.

Requirement 1	Data quality element: Assurance (Integrity) Data quality measure: Where horizontal and vertical position integrity is classified, processing procedures have been setup to meet the integrity requirements.
Requirement 2	Data quality element: Traceability Data quality measure: All actions over the objects are traced and saved in metadata.
Requirement 3	Data quality element: Timeliness Data quality measure: Timeliness is assured by providing the start and end time position of all features according to the temporality concept of AIXM.
Requirement 4	Data quality element: Completeness Data quality measure: All features and attributes are expressed according to the AIXM model. The content of the dataset was checked.

3.8.2 Specific Scope

Requirement 1	Data quality element: Horizontal accuracy Data quality measure: The horizontal accuracy requirements of features are specified in CAA CAP 1054[a]. Each feature may contain a specified accuracy and confidence value. Features which do not meet the requirements of CAA CAP 1054[a] are listed in the ADQ Non-Compliance Report available at www.nats.aero/ais/dataquality
Requirement 2	Data quality element: Vertical accuracy Data quality measure: The vertical accuracy requirements of features are specified in CAA CAP 1054[a]. Each feature may contain a specified accuracy and confidence value. Features which do not meet the requirements of CAA CAP 1054[a] are listed in the ADQ

	Non-Compliance Report available at www.nats.aero/ais/dataquality
Requirement 3	Data quality element: Horizontal position resolution Data quality measure: The horizontal position resolution is expressed in decimal degrees ranging from 5 to 15 decimal places, commensurate with the accuracy requirements. The resolution is sufficient to guarantee the accuracy requirements.
Requirement 4	Data quality element: Vertical position resolution. Data quality measure: The vertical position resolution requirements of features are specified in CAA CAP 1054[a] and are commensurate with the accuracy requirements. The resolution is sufficient to guarantee the accuracy requirements.

3.9 Data capture and production

3.9.1 General scope	
Description	Data capture rules are based on CAA CAP 1054[a]
Guide	CAA CAP 1054[a]
Inclusion criteria	Unless otherwise stated either in the remarks section or associated SI the Navigational restrictions listed with an identification which starts with "EGD", "EGP" or "EGR" are applicable to both manned and unmanned aircraft systems. Restrictions listed with an identification which starts with "EG RU" are applicable to **Unmanned Aircraft Systems only**.
Data acquisition and processing	The data was captured and processed in accordance with the requirements set out in CAA CAP 1054[a] and CAA CAP 1616[c].

3.10 Maintenance of the data

3.10.1 General scope	
Description	An AIXM BASELINE dataset will be provided 28 days prior to the effective date of the dataset. An AIXM PERMDELTA dataset will be provided 28 days prior to the effective date of the dataset containing changes to the previous BASELINE. For temporary updates with a validity of three months or longer (the equivalent of AIP SUP data), an AIXM TEMPDELTA (for pre-existing AIXM features) or additional BASELINE (for new temporary AIXM features) will be generated to supplement the original Baseline. Effective dates are aligned to the AIRAC cycle. A Secondary Scope dataset will be provided 28 days prior to the effective date of the dataset.
Frequency	Baseline: Every 28 days Changes: Continuous between baselines via NOTAM and Baseline corrigendum, see ANNEX A – Notification of corrections to Datasets

3.11 Portrayal rules

3.11.1 General scope	
Portrayal rules	*Not applicable*

3.12 Data delivery

3.12.1 Primary scope - AIXM

Format name	Aeronautical Information Exchange Model (AIXM)
Format version	5.1
Format specification	AIXM 5.1 Specification (source http://aixm.aero)
File structure	http://www.aixm.aero/schema/5.1/AIXM_Features.xsd
Language	English – eng
Character set	UTF-8
Units of delivery	Dataset
Transfer size	Various
Medium name	Internet Briefing System
Other delivery	N/A
Service property	No information service overview is available.
Protection	SHA256 Checksum
Limitations	All attributes which have no stored value are presented as: • nilReason="unknown" xsi:nil="true" At the point of release the file contains information available in the public domain. The content carries the same data quality statement and limitations and limitations as the content of the official UK AIP, see UK AIP Gen 0.1 Preface paragraph 5.
3.12.1.1 Metadata	
Specification	Title: ISO 19115:2003, Geographic information – Metadata Date: 2003
Encoding	Title: ISO 19139:2007, Geographic information – Metadata – XML schema implementation Date: 2007
Metadata elements	The metadata is included in the dataset as described in UK Reg (EU) No 2017/373[b], AIS.TR.340 Metadata requirements. The following metadata is provided: (a) the name of the organisations or entities providing the dataset; (b) the date and time when the dataset was provided; (c) the validity of the dataset; and (d) any limitations on the use of the dataset.

3.12.2 Secondary scope - KML

Format name	Keyhole Markup Language (KML)
Format version	2.2
Format specification	http://schemas.opengis.net/kml/
File structure	https://schemas.opengis.net/kml/2.2.0/ogckml22.xsd
Language	English – eng
Character set	UTF-8
Units of delivery	Dataset
Transfer size	Various
Medium name	Internet Briefing System

Other delivery	N/A
Service property	No information service overview is available.
Protection	SHA256 Checksum
Limitations	For hours of activation and associated services refer to the AIP and NOTAM Service. KML does not contain circle geometry, therefore, circle/curved airspace has been created using LineStrings joining points on the circumference of the circle/curve. Due to this limitation when visually zoomed in there can appear to be small gaps between abutting airspace. KML is provided purely a visualisation constraint for the airspace, which is physically contiguous, abutted with a common boundary, for an authoritative definition refer to the AIP. At the point of release the file contains information available in the public domain. The content carries the same data quality statement and limitations and limitations as the content of the official UK AIP, see UK AIP Gen 0.1 Preface paragraph 5.

3.12.2.1 Metadata

Specification	None
Encoding	None
Metadata elements	The metadata is included in the dataset as described in UK Reg (EU) No 2017/373[b], AIS.TR.340 Metadata requirements. The following metadata is provided: (a) the name of the organisations or entities providing the dataset; (b) the date and time when the dataset was provided; (c) the validity of the dataset; and (d) any limitations on the use of the dataset.

3.12.3 Tertiary scope – Moving Map

Format name	Moving Map
Format version	N/A
Format specification	N/A
File structure	N/A
Language	N/A
Character set	N/A
Units of delivery	On screen map
Transfer size	N/A
Medium name	Internet Briefing System
Other delivery	N/A
Service property	N/A
Protection	N/A
Limitations	The moving map presentments the KML file in a visual format online. For hours of activation and associated services refer to the AIP and NOTAM Service. KML does not contain circle geometry, therefore, circle/curved airspace has been created using LineStrings joining points on the circumference of the circle/curve. Due to this limitation when

	visually zoomed in there can appear to be small gaps between abutting airspace. KML is provided purely a visualisation constraint for the airspace, which is physically contiguous, abutted with a common boundary, for an authoritative definition refer to the AIP. At the point of release the file contains information available in the public domain. The content carries the same data quality statement and limitations and limitations as the content of the official UK AIP, see UK AIP Gen 0.1 Preface paragraph 5.

3.12.3.1 Metadata

Specification	None
Encoding	None
Metadata elements	The metadata is included in the dataset as described in UK Reg (EU) No 2017/373[b], AIS.TR.340 Metadata requirements. The following metadata is provided: (a) the name of the organisations or entities providing the dataset; (b) the date and time when the dataset was provided; (c) the validity of the dataset; and (d) any limitations on the use of the dataset.

3.13 Additional information

3.13.1 General scope

Additional information	*Not applicable*

4 Data Product Specification for the UK Visual Reference Points (VRP) Dataset

Version:	2.0
Published	01/08/2024
Language	English
Extent of the data product	Visual Reference Points within the entire territory and airspace of the UK and UK Crown Dependencies (the Isle of Man and the Bailiwicks of Jersey and Guernsey).
Topic category	Transportation
Keywords	VRP
Supported AIS Service	4.5.1.3 Visual Reporting Points (VRPs)

4.1 Abstract of the data product

The purpose of a VRP is to provide a visual reference to facilitate:

- ATC provision of routing advice within, beneath or adjacent to Controlled Airspace to facilitate access and transit of VFR traffic.
- ATC provision of routing advice outside Controlled Airspace to assist the deconfliction of traffic using instrument approaches or departure procedures.
- Radar identification.

VRPs may be established to support with temporary airspace arrangements notified for special events.

- Responsibility for establishing, reviewing or disestablishing VRPs lies with:
- The Air Traffic Service Unit (ATSU) acting as controlling authority for Controlled Airspace (normally a Control Zone or Control Area) within which the VRP is be located.
- An ATSU providing air traffic services for published instrument approaches to aerodromes outside Controlled Airspace which utilises the VRP.
- The operator of an aerodrome wholly or partially within Controlled Airspace (other than the controlling aerodrome) at which either Aerodrome Flight Information Service or Air/Ground service only is provided, which utilise the VRP

4.2 Contact Information

Organisation	Aeronautical Information Service (AIS)
Address	NATS Swanwick, Sopwith Way, Southampton, Hants, SO31 7AY
Email	aissupervisor@nats.co.uk
Web site	www.nats.aero/ais

4.3 About the data product Specification

Title	DATA PRODUCT SPECIFICATION OF UK VISUAL REFERENCE POINTS (VRP)
Contact	Aeronautical Information Service (AIS) NATS Swanwick, Sopwith Way, Southampton, Hants, SO31 7AY
Web location	http://www.nats.aero/ais/datasets
Format	PDF
Maintenance	Reviewed on change and every 2 years.
Handling restrictions	N/A
Terms and definitions	N/A

Abbreviations	VRP	Visual Reference Point

4.4 Identification and purpose of the data product

Official title	EG_VRP_DS_AREA1_FULL_YYYYMMDD • **VRP_DS** is a fixed text (meaning "Visual Reference Points Dataset"); • **AREA1** – area of Extent • **FULL** - when the file contains a complete dataset; • **YYYYMMDD** is the start of effective date in the format year, month, date;
Alternative title	N/A
Abstract	ATC references relating to VRPs are advisory; however, pilots are requested to comply with instructions associated with a particular routing if it is safe for them to do so in order to assist in traffic integration, for example to remain clear of other traffic making instrument approaches or departures. Pilots should as far as practicable avoid direct overflight of a VRP. Controllers should avoid directing VFR traffic to fly overhead a VRP unless the position of other traffic making an instrument approach or departure specifically demands it.
Purpose	To provide information of all UK VRPs
Topic category	Transportation
Keywords	VRP
Spatial representation	Cartesian/Latitude and Longitude
Spatial resolution	N/A
Supplemental information	*NIL*
Restrictions	Use limitations: For aviation use only. Access restrictions: Unrestricted. Usage restrictions: Unrestricted. Security restrictions: Unclassified. Commercial restrictions: Not for resale.
Extent	All VRPs within the entire territory and airspace of the UK and UK Crown Dependencies (the Isle of Man and the Bailiwicks of Jersey and Guernsey).

4.5 Scopes

4.5.1 General scope

Scope id	General scope
Level	Series
Level name	General scope
Level description	The general scope is the root level of the scope level. hierarchy. The general scope level defines the specifications which for Visual Reference Points are defined in CAA Policy[1]

4.6 Data content and structure

4.6.1 General scope

[1] CAA POLICY FOR THE ESTABLISHMENT OF VISUAL REFERENCE POINTS (VRPs) Version 2, 16 July 2019.

<table>
<tr><td>Narrative description</td><td>Data is modelled and stored in accordance with the AIXM 5.1 UML classes and data types.</td></tr>
<tr><td>Application schema</td><td>aixm.aero</td></tr>
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Property="codeType">
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                        </SimpleCondition>
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                </FilterCondition>
            </Include>
        </Feature>
    </FeaturesFilter>
    <AreaFilter/>
    <FilterParameters/>
        </ImpExpConfiguration>
</pre></td></tr>
<tr><td>Narrative description</td><td>The general scope is the root level of the scope level. hierarchy. The general scope level defines the specifications which for Visual Reference Points are defined in CAA Policy[1]</td></tr>
</table>

4.7 Reference System

4.7.1 General scope

Spatial reference system	Horizontal reference system: WGS-84, EPSG: 4326 (Realisation: ITRF2008 Epoch 2005.0), Vertical reference system: The Ordnance Datum Newlyn (ODN) can be considered the source of Mean Sea Level (MSL) in the UK. OSGM15 is the National Geoid Model used in the UK for determining elevations Above Mean Sea Level (AMSL) datum.
Temporal reference system	Gregorian Calendar, UTC

4.8 Data Quality

4.8.1 General scope

NATS maintain the integrity of the information and data supplied to the AIS, from receipt through to the point of publication. However, because these products are compiled using information originated and supplied by numerous external parties, NATS cannot guarantee the accuracy or completeness of content. To the fullest extent permitted by law, NATS accepts no liability for your use of UK Aeronautical Information Products.

Requirement 1	Data quality element: Assurance (Integrity) Data quality measure: Where horizontal and vertical position integrity is classified, processing procedures have been setup to meet the integrity requirements.
Requirement 2	Data quality element: Traceability

	Data quality measure: All actions over the objects are traced and saved in metadata.
Requirement 3	Data quality element: Timeliness Data quality measure: Timeliness is assured by providing the start and end time position of all features according to the temporality concept of AIXM.
Requirement 4	Data quality element: Completeness Data quality measure: All features and attributes are expressed according to the AIXM model. The content of the dataset was checked.
4.8.2 Specific Scope	
Requirement 1	Data quality element: Horizontal accuracy Data quality measure: The horizontal accuracy requirements of features are specified in CAA CAP 1054[a]. Each feature may contain a specified accuracy and confidence value. Features which do not meet the requirements of CAA CAP 1054[a] are listed in the ADQ Non-Compliance Report available at www.nats.aero/ais/dataquality
Requirement 2	Data quality element: Vertical accuracy Data quality measure: The vertical accuracy requirements of features are specified in CAA CAP 1054[a]. Each feature may contain a specified accuracy and confidence value. Features which do not meet the requirements of CAA CAP 1054[a] are listed in the ADQ Non-Compliance Report available at www.nats.aero/ais/dataquality
Requirement 3	Data quality element: Horizontal position resolution Data quality measure: The horizontal position resolution is expressed in decimal degrees ranging from 5 to 15 decimal places, commensurate with the accuracy requirements. The resolution is sufficient to guarantee the accuracy requirements.
Requirement 4	Data quality element: Vertical position resolution Data quality measure: The vertical position resolution requirements of features are specified in CAA CAP 1054[a] and are commensurate with the accuracy requirements. The resolution is sufficient to guarantee the accuracy requirements.

4.9 Data capture and production

4.9.1 General scope	
Description	Data capture rules are based on CAA CAP 1054[a] and captured in submission of a DAP1916 Statement of Need in accordance with CAP 1616[c].
Guide	CAA CAP 1054[a] CAA CAP 1616[c]
Inclusion criteria	As assessed under CAA CAP 1616[c]and notified the AIS.
Data acquisition and processing	The data was captured and processed in accordance with the requirements set out in CAA CAP 1054[a] and CAA CAP 1616[c].

4.10 Maintenance of the data

4.10.1 General scope

Description	A dataset will be provided 28 days prior to the effective date of the dataset. Effective dates are aligned to the AIRAC cycle. Any Secondary Scope dataset will be provided 28 days prior to the effective date of the dataset.
Frequency	Upon receipt of a valid change request amending the content of the dataset, an update will be generated. Changes: Continuous between baselines via NOTAM and Baseline corrigendum, see ANNEX A – Notification of corrections to Datasets

4.11 Portrayal rules

4.11.1 General scope	
Portrayal rules	N/A

4.12 Data delivery

4.12.1 Primary scope - CSV

Format name	Comma-Separated Values (CSV)
Format version	N/A
Format specification	RFC 4180
File structure	<table><tr><td>Column 1</td><td>VRP Name</td><td>Textural Numeric</td></tr><tr><td>Column 2</td><td>Latitude</td><td>DDMMSS*</td></tr><tr><td>Column 3</td><td>Longitude</td><td>DDDMMSS*</td></tr><tr><td>Column 4</td><td>Associated Aerodrome</td><td>Textural</td></tr><tr><td>Column 5</td><td>ICAO Code</td><td>Textural</td></tr><tr><td>Column 6</td><td>Valid From</td><td>dd/mm/yyyy</td></tr></table> *Decimal seconds supplied to the same resolution as the stored value. This will vary depending on the resolution to which the original value was supplied to AIS.
Language	English – eng
Character set	UTF-8
Units of delivery	Dataset
Transfer size	Various
Medium name	Internet Briefing System
Other delivery	N/A
Service property	No information service overview is available.
Protection	SHA256 Checksum
Limitations	At the point of release the file contains information available in the public domain. The content carries the same data quality statement and limitations and limitations as the content of the official UK AIP, see UK AIP Gen 0.1 Preface paragraph 5.

4.12.1.1 Metadata

Specification	None
Encoding	None
Metadata elements	Effective Date of the Dataset is encoded on the title of the file.

Title	DATASET OF UK VISUAL REFERENCE POINTS (VRP)
Contact	Aeronautical Information Service (AIS) NATS Swanwick, Sopwith Way, Southampton, Hants, SO31 7AY
Web location	http://www.nats.aero/ais/datasets
Effective	YYYY-MM-DD - YYYY-MM-DD
Created on	YYYY-MM-DD
Limitation	At the point of release the file contains information available in the public domain. The content carries the same data quality statement and limitations as the content of the official UK AIP, see UK AIP Gen 0.1 Preface paragraph 5.

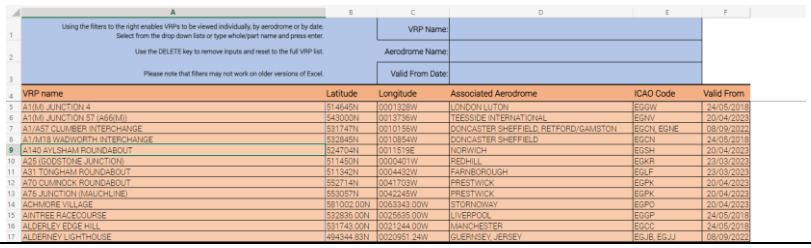
4.12.2 Secondary scope – XLSX

Format name	Microsoft XLSX (Extension to the Office Open XML SpreadsheetML File Format)
Format version	Version 2208
Format specification	ISO 29500:2008-2016
File structure	

Row 1	VRP Name Lookup	Applies Filter
Row 2	Aerodrome Name Lookup	Applies Filter
Row 3	Valid From Date Lookup	Applies Filter
Column A	VRP Name	Textural Numeric
Column B	Latitude	DDMMSS*
Column C	Longitude	DDDMMSS*
Column D	Associated Aerodrome	Textural
Column E	ICAO Code	Textural
Column F	Valid From	dd/mm/yyyy

*Decimal seconds supplied to the same resolution as the stored value. This will vary depending on the resolution to which the original value was supplied to AIS.

Generic instructions provided for users.



Language	English – eng
Character set	UTF-8
Units of delivery	Dataset
Transfer size	Various
Medium name	Internet Briefing System
Other delivery	N/A
Service property	No information service overview is available.

Protection	SHA256 Checksum
Limitations	The dataset is specifically void of VBA code to ensure maximum end user compatibility. Note provided: Please note filters may not work on older version of excel. At the point of release the file contains information available in the public domain. The content carries the same data quality statement and limitations as the content of the official UK AIP, see UK AIP Gen 0.1 Preface paragraph 5.

4.12.2.1 Metadata

Specification	None
Encoding	None
Metadata elements	Effective Date of the Dataset is encoded on the title of the file.

Title	DATA PRODUCT SPECIFICATION OF UK VISUAL REFERENCE POINTS (VRP)
Contact	Aeronautical Information Service (AIS) NATS Swanwick, Sopwith Way, Southampton, Hants, SO31 7AY
Web location	http://www.nats.aero/ais/datasets
Effective	YYYY-MM-DD - YYYY-MM-DD
Created on	YYYY-MM-DD
Limitation	The dataset is specifically void of VBA code to ensure maximum end user compatibility. Note provided: Please note filters may not work on older version of excel. At the point of release the file contains information available in the public domain. The content carries the same data quality statement and limitations as the content of the official UK AIP, see UK AIP Gen 0.1 Preface paragraph 5.

4.13 Additional information

4.13.1 General scope

Additional information	*Not applicable*

5 Data Product Specification for the UK ICAO AIP Dataset (Under Evaluation)

Version:	0.1 Under Development [d]
Published	01/08/2024
Language	English
Extent of the data product	Aeronautical information of lasting character within the entire territory and airspace of the UK and UK Crown Dependencies (the Isle of Man and the Bailiwicks of Jersey and Guernsey).
Topic category	Transportation
Keywords	AIP
Supported AIS Service	Roadmap

5.1 Abstract of the data product

This dataset describes Aeronautical information of lasting character including permanent information and long-duration temporary change as described in UK Reg (EU) No 2017/373[b]:

- AIS.OR.345 AIP data set
- AIS.TR.345 AIP data set

5.2 Contact Information

Organisation	Aeronautical Information Service (AIS)
Address	NATS Swanwick, Sopwith Way, Southampton, Hants, SO31 7AY
Email	aissupervisor@nats.co.uk
Web site	www.nats.aero/ais

5.3 About the data product Specification

Title	DATA PRODUCT SPECIFICATION OF UK ICAO AIP DATASET	
Contact	Aeronautical Information Service (AIS) NATS Swanwick, Sopwith Way, Southampton, Hants, SO31 7AY	
Web location	http://www.nats.aero/ais/datasets	
Format	PDF	
Maintenance	Reviewed on change and every 2 years.	
Handling restrictions	N/A	
Terms and definitions	N/A	
Abbreviations	AIP	Aeronautical Information Publication

5.4 Identification and purpose of the data product

Official title	EG_AIP_DS_Variant_YYYYMMDD
	
	• **AIP_DS** is a fixed text (meaning "AIP Dataset");
	• **Variant** is a mandatory element and it can take one of the following values (based on the [To review] Dataset variants guidelines):
	  • **FULL** - when the file contains a complete dataset;
	  • **DIFF_BL** - when the file contains a Dataset Differences variant coded with BASELINE TimeSlices;
	  • **DIFF_DELTA** - when the file contains a Dataset Differences variant coded with PERMDELTA TimeSlices.

	• **SUP** - when the file contains a Supplementary Dataset. • **YYYYMMDD** is the start of effective date in the format year, month, date;
Alternative title	N/A
Abstract	UK Reg (EU) No 2017/373[b] AIS.OR.345 AIP data set: An AIS provider shall ensure that the AIP data set, if available, contains the digital representation of aeronautical information of lasting character, including permanent information and long-duration temporary changes.
Purpose	The purpose of the AIP data set is to support the transition of the ATM domain towards the use of digital data sets instead of paper products. Therefore, its scope is defined considering the likelihood that the data contained in this set is being used in digital format by service providers, ATC and instrument flight rules/visual flight rules (IFR/VFR) airspace users.
Topic category	Transportation
Keywords	AIP
Spatial representation	Cartesian/Latitude and Longitude
Spatial resolution	N/A
Supplemental information	*NIL*
Restrictions	Use limitations: For aviation use only. Access restrictions: Unrestricted. Usage restrictions: Unrestricted. Security restrictions: Unclassified. Commercial restrictions: Not for resale.
Extent	Entire territory and airspace of the UK and UK Crown Dependencies (the Isle of Man and the Bailiwicks of Jersey and Guernsey).

5.5 Scopes

5.5.1 General scope	
Scope id	General scope
Level	Series
Level name	General scope
Level description	The general scope is the root level of the scope level hierarchy. The general scope level defines the specifications which are for AIP features according to the requirements of UK Reg (EU) No 2017/373[b] AIS.TR.345 and CAA CAP 1054[a].

5.6 Data content and structure

5.6.1 General scope	
Narrative description	Data is modelled and stored in accordance with the AIXM 5.1 UML classes and data types. Format: The dataset is provided in AIXM version 5.1. (http://www.aixm.aero/schema/5.1) NATS reserving the right to model aeronautical information (AI) appropriately for AI product

<table>
<tr><td></td><td>production and the right to adopt newer versions of AIXM with prior notification.

Users shall check forward/backward compatibility within their applications if using a newer AIXM version in the future to ensure there is no data loss. Please review http://www.aixm.aero/page/aixm-versioning-policy for guidance.

Content:
Content of the dataset is recorded in the accompanying file_ export-filter.xml and is a subset of the AI used to compile the UK AIP and associated products.</td></tr>
<tr><td>Application schema</td><td>Index (aixm.aero)</td></tr>
<tr><td>Feature catalogue</td><td>UK Reg (EU) No 2017/373[b] AIS.TR.345 AIP data set

The AIP data set shall include data about the following subjects, including the properties indicated, if applicable:

Table 1: AIP data set

<table>
<tr><th>Data Subjects</th><th>Associated properties</th></tr>
<tr><td>Aerodrome/heliport</td><td>• Location, indicator,
• name,
• International Air Transport Association (IATA) designator,
• served city,
• certification date,
• certification expiration date, if applicable,
• control type,
• field elevation,
• reference temperature,
• magnetic variation,
• airport reference point.</td></tr>
<tr><td>ATS airspace</td><td>• Type,
• name,
• lateral limits,
• vertical limits,
• class of airspace</td></tr>
<tr><td>Final approach and take-off area</td><td>• Designation,
• length,
• width,
• threshold point</td></tr>
<tr><td>Radio navigation aid</td><td>• Type,
• identification,
• name,
• aerodrome served,
• hours of operation,
• magnetic variation,
• frequency/channel,
• position,
• elevation,
• magnetic variation</td></tr>
<tr><td>Route</td><td>• Identifier prefix,
• flight rules,
• designator</td></tr>
<tr><td>Route segment</td><td>• Navigation specification,
• start point,
• end point,
• track,
• distance,
• upper limit,</td></tr>
</table></td></tr>
</table>

		• lower limit, • minimum en route altitude (MEA), • minimum obstacle clearance altitude (MOCA), • direction of cruising level, • reverse direction of cruising level, • required navigation performance
	Runway	• Designator, • nominal length, • nominal width, • surface type, • strength
	Runway direction	• Designator, • true bearing, • threshold, • take-off run available (TORA), • take-off distance available (TODA), • accelerate-stop distance available (ASDA), • landing distance available (LDA), rejected TODA (for helicopters)
	Special activity airspace	• Type, • name, • lateral limits, • vertical limits, • restriction, • activation
	Touch down and lift-off area (TLOF)	• Designator, • centre point, • length, • width, • surface type
	Waypoint - en route	• Reporting requirement, identification, • Location, • formation

Included features:

Feature name	Filtered
Aeronautical Ground Light	
Airport Heliport	
Airspace	Yes
Angle Indication	
Designated Point	Yes
Distance Indication	
DME	
Geo Border	Yes
Geo Border Geometry	
Glidepath	
Holding Pattern	Yes
Localizer	
Marker Beacon	
Navaid	
NDB	
Organisation Authority	
Radio Communication Channel	
Route	
Route Segment	
Runway	

Runway Centreline Point	
Runway Declared Distance	
Runway Direction	
Touch Down Lift Off	
Unit	
VOR	

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<RelationSubCondition EntityName="GEO_BORDER"/>

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Narrative description	The general scope is the root level of the scope level hierarchy. The general scope level defines the specifications which are for AIP features according to the requirements of UK Reg (EU) No 2017/373[b] AIS.TR.345 and CAA CAP 1054[a].

5.7 Reference System

5.7.1 General scope	
Spatial reference system	Horizontal reference system: WGS-84, EPSG: 4326 (Realisation: ITRF2008 Epoch 2005.0), Vertical reference system: The Ordnance Datum Newlyn (ODN) can be considered the source of Mean Sea Level (MSL) in the UK. OSGM15 is the National Geoid Model used in the UK for determining elevations Above Mean Sea Level (AMSL) datum.
Temporal reference system	Gregorian Calendar, UTC

5.8 Data Quality

5.8.1 General scope

NATS maintain the integrity of the information and data supplied to the AIS, from receipt through to the point of publication. However, because these products are compiled using information originated and supplied by numerous external parties, NATS cannot guarantee the accuracy or completeness of content. To the fullest extent permitted by law, NATS accepts no liability for your use of UK Aeronautical Information Products.

Requirement 1	Data quality element: Assurance (Integrity) Data quality measure: Where horizontal and vertical position integrity is classified, processing procedures have been setup to meet the integrity requirements.
Requirement 2	Data quality element: Traceability Data quality measure: All actions over the objects are traced and saved in metadata.
Requirement 3	Data quality element: Timeliness

	Data quality measure: Timeliness is assured by providing the start and end time position of all features according to the temporality concept of AIXM.
Requirement 4	Data quality element: Completeness Data quality measure: All features and attributes are expressed according to the AIXM model. The content of the dataset was checked.
5.8.2 Specific Scope	
Requirement 1	Data quality element: Horizontal accuracy Data quality measure: The horizontal accuracy requirements of features are specified in CAA CAP 1054[a]. Each feature may contain a specified accuracy and confidence value. Features which do not meet the requirements of CAA CAP 1054[a] are listed in the ADQ Non-Compliance Report available at www.nats.aero/ais/dataquality
Requirement 2	Data quality element: Vertical accuracy Data quality measure: The vertical accuracy requirements of features are specified in CAA CAP 1054[a]. Each feature may contain a specified accuracy and confidence value. Features which do not meet the requirements of CAA CAP 1054[a] are listed in the ADQ Non-Compliance Report available at www.nats.aero/ais/dataquality
Requirement 3	Data quality element: Horizontal position resolution Data quality measure: The horizontal position resolution is expressed in decimal degrees ranging from 5 to 15 decimal places, commensurate with the accuracy requirements. The resolution is sufficient to guarantee the accuracy requirements.
Requirement 4	Data quality element: Vertical position resolution Data quality measure: The vertical position resolution requirements of features are specified in CAA CAP 1054[a] and are commensurate with the accuracy requirements. The resolution is sufficient to guarantee the accuracy requirements.

5.9 Data capture and production

5.9.1 General scope	
Description	AIP feature capture rules are based on CAA CAP 1054[a].
Guide	CAA CAP 1054[a]
Inclusion criteria	ICAO Annex 15 Aeronautical Information Services provides the inclusion criteria for a states which is further refined by UK Reg (EU) No 2017/373b AIS.OR.345/AIS.TR.345 AIP data set.
Data acquisition and processing	The data was captured and processed in accordance with the requirements set out in CAA CAP 1054[a].

5.10 Maintenance of the data

5.10.1 General scope	
Description	An AIXM BASELINE dataset will be provided 28 days prior to the effective date of the dataset.

	An AIXM PERMDELTA dataset will be provided 28 days prior to the effective date of the dataset containing changes to the previous BASELINE. For temporary updates with a validity of three months or longer (the equivalent of AIP SUP data), an AIXM TEMPDELTA (for pre-existing AIXM features) or additional BASELINE (for new temporary AIXM features) will be generated to supplement the original Baseline. Effective dates are aligned to the AIRAC cycle. Any Secondary Scope dataset will be provided 28 days prior to the effective date of the dataset.
Frequency	Baseline: Every 28 days in accordance with AIRAC cycle Changes: Continuous between baselines via NOTAM and Baseline corrigendum, see ANNEX A – Notification of corrections to Datasets

5.11 Portrayal rules

5.11.1 General scope	
Portrayal rules	*Not applicable*

5.12 Data delivery

5.12.1 Primary scope - AIXM

Format name	AIXM
Format version	5.1
Format specification	AIXM 5.1 Specification (source http://aixm.aero)
File structure	http://www.aixm.aero/schema/5.1/AIXM_Features.xsd
Language	English – eng
Character set	UTF-8
Units of delivery	Dataset
Transfer size	Various
Medium name	Internet Briefing System *(NATS SharePoint for CAA and NATS internal parties in the interim)*
Other delivery	N/A
Service property	No information service overview is available.
Protection	SHA256 Checksum
Limitations	All attributes which have no stored value are presented as: nilReason="unknown" xsi:nil="true" Aerial activities presented in the AIP as a single co-ordinate without defined lateral limits are not included in the dataset. At the point of release the file contains information available in the public domain. The content carries the same data quality statement and limitations as the content of the official UK AIP, see UK AIP Gen 0.1 Preface paragraph 5.
5.12.1.1 Metadata	
Specification	Title: ISO 19115:2003, Geographic information – Metadata Date: 2003

Encoding	Title: ISO 19139:2007, Geographic information – Metadata – XML schema implementation Date: 2007
Metadata elements	The metadata is included in the dataset as described in UK Reg (EU) No 2017/373[b] AIS.TR.340 Metadata requirements. The following metadata is provided: (a) the name of the organisations or entities providing the dataset; (b) the date and time when the dataset was provided; (c) the validity of the dataset; and (d) any limitations on the use of the dataset.

5.12.2 Secondary scope - KML

Format name	KML (presented as KMZ)
Format version	2.2
Format specification	http://schemas.opengis.net/kml/
File structure	https://schemas.opengis.net/kml/2.2.0/ogckml22.xsd
Language	English – eng
Character set	UTF-8
Units of delivery	Dataset
Transfer size	Various
Medium name	Internet Briefing System
Other delivery	N/A
Service property	No information service overview is available.
Protection	SHA256 Checksum
Limitations	For hours of activation and associated services refer to the AIP and NOTAM Service. Aerial activities presented in the AIP as a single co-ordinate without defined lateral limits are not included in the dataset. KML does not contain circle geometry, therefore, circle/curved airspace has been created using LineStrings joining points on the circumference of the circle/curve. Due to this limitation when visually zoomed in there can appear to be small gaps between abutting airspace. KML is provided purely a visualisation constraint for the airspace which is physically contiguous, abutted with a common boundary, for an authoritative definition refer to the AIP. At the point of release the file contains information available in the public domain. The content carries the same data quality statement and limitations as the content of the official UK AIP, see UK AIP Gen 0.1 Preface paragraph 5.

5.12.2.1 Metadata

Specification	None
Encoding	None
Metadata elements	The metadata is included in the dataset as described in UK Reg (EU) No 2017/373[b], AIS.TR.340 Metadata requirements. The following metadata is provided: (a) the name of the organisations or entities providing the dataset; (b) the date and time when the dataset was provided; (c) the validity of the dataset; and

	(d) any limitations on the use of the dataset.

5.13 Additional information

5.13.1 General scope	
Additional information	*Not applicable*

6 Data Product Specification for the UK Terrain Datasets

6.1 Abstract of the data product

Terrain datasets are not provided or managed by the UK AIS Service Provider. Availability of Terrain datasets and custodians contact information are communicated to users at the web location below. The datasets will be updated with continual permanent amendments and shall describe terrain in Areas 1, 2 (2a, 2b, 2c, 2d), 3, 4 (where supplied) of a specified Airport (EGXX). The descriptions and requirements of these Areas can be found in UK Reg (EU) No 2017/373[b]: • AIS.OR.350 Terrain and obstacle data - General requirements. • AIS.TR.350 Terrain and obstacle data - General requirements. • AIS.OR.355 Terrain data sets. • AIS.TR.355 Terrain data Sets. Terrain is collected in accordance with CAA CAP 1054[a] and CAA CAP 1732[f] .	
Web location	http://www.nats.aero/ais/datasets

7 Data Product Specification for the UK ICAO Obstacle Dataset Area 1 (Under Evaluation)

Version:	0.1 Under Development [d]
Published	01/08/2024
Language	English
Extent of the data product	Obstacles affecting air navigation in AREA 1 being the entire territory and airspace of the UK and UK Crown Dependencies (the Isle of Man and the Bailiwicks of Jersey and Guernsey).
Topic category	Transportation
Keywords	OBSTACLES/ETOD
Supported AIS Service	4.5.1.2 ENR 5.4 AREA 1 Obstacles

7.1 Abstract of the data product

This dataset describes the obstacles in Area 1. The description and requirements of the Areas 1 can be found in UK Reg (EU) No 2017/373[b]:

- AIS.OR.360 Obstacle datasets.
- AIS.TR.360 Obstacle datasets.

Obstacles are collected in accordance with CAA CAP 1054[a].

7.2 Contact Information

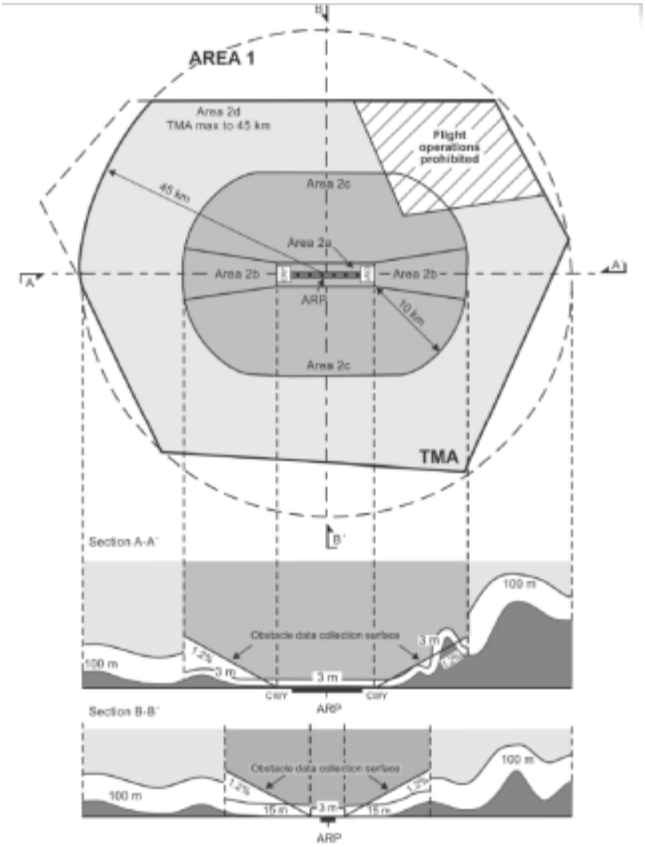
Organisation	Aeronautical Information Service (AIS)
Address	NATS Swanwick, Sopwith Way, Southampton, Hants, SO31 7AY
Email	aissupervisor@nats.co.uk
Web site	www.nats.aero/ais

7.3 About the data product Specification

Title	DATA PRODUCT SPECIFICATION OF UK ICAO OBSTACLE DATASETS AREA 1
Contact	Aeronautical Information Service (AIS) NATS Swanwick, Sopwith Way, Southampton, Hants, SO31 7AY
Web location	http://www.nats.aero/ais/datasets
Format	PDF
Maintenance	Reviewed on change and every 2 years.
Handling restrictions	N/A
Terms and definitions	N/A
Abbreviations	None

7.4 Identification and purpose of the data product

Official title	EG_OBS_DS_AREA1_FULL_YYYYMMDD • **OBS_DS** is a fixed text (meaning "Obstacle Dataset"); • **AREA1** – area of extent • **FULL** - when the file contains a complete Obstacle dataset; • **YYYYMMDD** is the start of effective date in the format year, month, date;
Alternative title	N/A
Abstract	UK Reg (EU) No 2017/373[b], AIS.OR.360 Obstacle datasets: An AIS provider shall ensure that obstacle data, if available, is provided:

	(a) for obstacles in Area 1 whose height is 100 m or higher above ground
Purpose	The purpose of the data product is to provide obstacle data for air navigation applications. ICAO Doc 10066 PANS-AIM[e], Chapter 5.3.3.2 provides possible uses of the data. It is the responsibility of the users to determine if the data product meets their needs.
Topic category	Transportation
Keywords	OBSTACLES/ETOD
Spatial representation	Cartesian/Latitude and Longitude
Spatial resolution	N/A
Supplemental information	*NIL*
Restrictions	Use limitations: For aviation use only. Access restrictions: Unrestricted. Usage restrictions: Unrestricted. Security restrictions: Unclassified. Commercial restrictions: Not for resale.
Extent	Obstacles affecting air navigation in AREA 1 being the entire territory and airspace of the UK and UK Crown Dependencies (the Isle of Man and the Bailiwicks of Jersey and Guernsey), collected according to UK Reg (EU) No 2017/373[b], AIS.TR.260 and CAA CAP 1732[f] eTOD Plus policy requirements: 

7.5 Scopes

7.5.1 General scope

Scope id	General scope
Level	Series
Level name	General scope

Level description	The general scope is the root level of the scope level hierarchy.

7.6 Data content and structure

7.6.1 General scope

Narrative description	Data is modelled and stored in accordance with the AIXM 5.1 UML classes and data types. Format: The dataset is provided in AIXM version 5.1. (http://www.aixm.aero/schema/5.1) NATS reserving the right to model aeronautical information (AI) appropriately for AI product production and the right to adopt newer versions of AIXM with prior notification. Users shall check forward/backward compatibility within their applications if using a newer AIXM version in the future to ensure there is no data loss. Please review http://www.aixm.aero/page/aixm-versioning-policy for guidance. Content: Content of the dataset is recorded in the accompanying file_ export-filter.xml and is a subset of the AI used to compile the UK AIP and associated products.
Application schema	aixm.aero
Feature catalogue	The following features for a specific Aerodrome: Included features:

Feature name	Filtered
Obstacle Area	Yes
Obstacle Area - Vertical Structure	Yes
Vertical Structure	Yes

```
<ImpExpConfiguration>
    <FeaturesFilter otherFeatures="EXCLUDE">
        <Feature name="Obs">
            <Include>
                <FilterCondition>
                    <RelationSubCondition
EntityName="OBSTACLE_AREA_OBSTACLE">
                        <RelationSubCondition
EntityName="OBSTACLE_AREA">
                            <SimpleCondition Operator="Equals"
Property="codeType">
                                <Value>AREA1</Value>
                            </SimpleCondition>
                        </RelationSubCondition>
                    </RelationSubCondition>
                </FilterCondition>
            </Include>
        </Feature>
        <Feature name="Oba">
            <Include>
                <FilterCondition>
                    <SimpleCondition Operator="Equals"
Property="codeType">
                        <Value>AREA1</Value>
                    </SimpleCondition>
                </FilterCondition>
            </Include>
```

	</Feature> <Feature name="Oao"> <Include> <FilterCondition> <RelationSubCondition EntityName="OBSTACLE_AREA"> <SimpleCondition Operator="Equals" Property="codeType"> <Value>AREA1</Value> </SimpleCondition> </RelationSubCondition> </FilterCondition> </Include> </Feature> </FeaturesFilter> <FilterParameters/> </ImpExpConfiguration> The Feature catalogue includes all obstacles associated with obstacle Area 1.
Narrative description	The general scope is the root level of the scope level hierarchy.

7.7 Reference System

7.7.1 General scope	
Spatial reference system	Horizontal reference system: WGS-84, EPSG: 4326 (Realisation: ITRF2008 Epoch 2005.0), Vertical reference system: The Ordnance Datum Newlyn (ODN) can be considered the source of Mean Sea Level (MSL) in the UK. OSGM15 is the National Geoid Model used in the UK for determining elevations Above Mean Sea Level (AMSL) datum.
Temporal reference system	Gregorian Calendar, UTC

7.8 Data Quality

7.8.1 General scope

NATS maintain the integrity of the information and data supplied to the AIS, from receipt through to the point of publication. However, because these products are compiled using information originated and supplied by numerous external parties, NATS cannot guarantee the accuracy or completeness of content. To the fullest extent permitted by law, NATS accepts no liability for your use of UK Aeronautical Information Products.

Requirement 1	Data quality element: Assurance (Integrity) Data quality measure: Where horizontal and vertical position integrity is classified, processing procedures have been setup to meet the integrity requirements.
Requirement 2	Data quality element: Traceability Data quality measure: All actions over the objects are traced and saved in metadata.
Requirement 3	Data quality element: Timeliness Data quality measure: Timeliness is assured by providing the start and end time position of all features according to the temporality concept of AIXM.
Requirement 4	Data quality element: Completeness Data quality measure: All features and attributes are expressed according to the AIXM model. The content of the dataset was checked.

7.8.2 Specific Scope	
Requirement 1	Data quality element: Horizontal accuracy Data quality measure: The horizontal accuracy requirements of features are specified in CAA CAP 1054[a]. Each feature may contain a specified accuracy and confidence value. Features which do not meet the requirements of CAA CAP 1054[a] are listed in the ADQ Non-Compliance Report available at: www.nats.aero/ais/dataquality
Requirement 2	Data quality element: Vertical accuracy Data quality measure: The vertical accuracy requirements of features are specified in CAA CAP 1054[a]. Each feature may contain a specified accuracy and confidence value. Features which do not meet the requirements of CAA CAP 1054[a] are listed in the ADQ Non-Compliance Report available at: www.nats.aero/ais/dataquality
Requirement 3	Data quality element: Horizontal position resolution Data quality measure: The horizontal position resolution is expressed in decimal degrees ranging from 5 to 15 decimal places, commensurate with the accuracy requirements. The resolution is sufficient to guarantee the accuracy requirements.
Requirement 4	Data quality element: Vertical position resolution Data quality measure: The vertical position resolution requirements of features are specified in CAA CAP 1054[a] and are commensurate with the accuracy requirements. The resolution is sufficient to guarantee the accuracy requirements.

7.9 Data capture and production

7.9.1 General scope	
Description	Data capture rules are based on CAA CAP 1054[a]. Obstacle coverage areas are described in UK Reg (EU) No 2017/373[b], AIS.OR.360 Obstacle data sets.
Guide	CAA CAP 1054[a]
Inclusion criteria	Obstacles as described in UK Reg (EU) No 2017/373[b], AIS.OR.360 Obstacle data sets.
Data acquisition and processing	The data was captured and processed in accordance with the requirements set out in CAA CAP 1054[a].

7.10 Maintenance of the data

7.10.1 General scope	
Description	An AIXM BASELINE dataset will be provided on the effective date of the dataset. An AIXM PERMDELTA dataset will be provided on the effective date of the dataset containing changes to the previous BASELINE. Effective dates are aligned to the AIRAC cycle. A Secondary Scope dataset will be provided on the effective date of the dataset.

Frequency	Baseline: Obstacle Datasets contain features that are not subject to the AIRAC requirements (6.2.1 ICAO Annex 15), these datasets will be issued on the next effective AIRAC date post processing. Changes: Continuous between baselines via NOTAM and Baseline corrigendum, see ANNEX A – Notification of corrections to Datasets

7.11 Portrayal rules

7.11.1 General scope	
Portrayal rules	*Not applicable*

7.12 Data delivery

7.12.1 Primary scope - AIXM

Format name	AIXM
Format version	5.1
Format specification	AIXM 5.1 Specification (source http://aixm.aero)
File structure	http://www.aixm.aero/schema/5.1/AIXM_Features.xsd
Language	English – eng
Character set	UTF-8
Units of delivery	Dataset
Transfer size	Various
Medium name	Internet Briefing System *(NATS SharePoint for CAA and NATS internal parties in the interim)*
Other delivery	N/A
Service property	No information service overview is available.
Protection	SHA256 Checksum
Limitations	All attributes which have no stored value are presented in the AIXM dataset as: nilReason="unknown" xsi:nil="true" . At the point of release the file contains information available in the public domain. The content carries the same data quality statement and limitations as the content of the official UK AIP, see UK AIP Gen 0.1 Preface paragraph 5.

7.12.1.1 Metadata

Specification	Title: ISO 19115:2003, Geographic information – Metadata Date: 2003
Encoding	Title: ISO 19139:2007, Geographic information – Metadata – XML schema implementation Date: 2007
Metadata elements	The metadata is included in the dataset as described in UK Reg (EU) No 2017/373[b], AIS.TR.340 Metadata requirements. The following metadata is provided: (a) the name of the organisations or entities providing the dataset; (b) the date and time when the dataset was provided; (c) the validity of the dataset; and (d) any limitations on the use of the dataset.

7.12.2 Secondary scope - XLS

<table>
<tr><td>Format name</td><td>Microsoft XLSX (Extension to the Office Open XML SpreadsheetML File Format)</td></tr>
<tr><td>Format version</td><td>Version 2208</td></tr>
<tr><td>Format specification</td><td>ISO 29500:2008-2016</td></tr>
<tr><td>File structure</td><td><table>
<tr><td>Field 1</td><td>Designation/Identification</td></tr>
<tr><td>Field 2</td><td>Obstacle Type</td></tr>
<tr><td>Field 3</td><td>Obstacle Position</td></tr>
<tr><td>Field 4</td><td>Elevation</td></tr>
<tr><td>Field 5</td><td>Height</td></tr>
<tr><td>Field 6</td><td>Obstacle Lighting</td></tr>
</table></td></tr>
<tr><td>Language</td><td>English – eng</td></tr>
<tr><td>Character set</td><td>Restricted ISO 8859-17, no commas or backslashes are to be used within fields.</td></tr>
<tr><td>Units of delivery</td><td>Dataset</td></tr>
<tr><td>Transfer size</td><td>Various</td></tr>
<tr><td>Medium name</td><td>Internet Briefing System</td></tr>
<tr><td>Other delivery</td><td>N/A</td></tr>
<tr><td>Service property</td><td>No information service overview is available.</td></tr>
<tr><td>Protection</td><td>SHA256 Checksum</td></tr>
<tr><td>Limitations</td><td>At the point of release the file contains information available in the public domain. The content carries the same data quality statement and limitations as the content of the official UK AIP, see UK AIP Gen 0.1 Preface paragraph 5.</td></tr>
<tr><td colspan="2">7.12.2.1 Metadata</td></tr>
<tr><td>Specification</td><td>None</td></tr>
<tr><td>Encoding</td><td>None</td></tr>
<tr><td>Metadata elements</td><td>Effective Date of the Dataset is encoded on the title of the file.<table>
<tr><td>Title</td><td>DATASET OF UK ICAO OBSTACLE DATASETS AREA 1</td></tr>
<tr><td>Contact</td><td>Aeronautical Information Service (AIS)
NATS Swanwick, Sopwith Way,
Southampton, Hants, SO31 7AY</td></tr>
<tr><td>Web location</td><td>http://www.nats.aero/ais/datasets</td></tr>
<tr><td>Effective</td><td>YYYY-MM-DD - YYYY-MM-DD</td></tr>
<tr><td>Created on</td><td>YYYY-MM-DD</td></tr>
<tr><td>Limitation</td><td>At the point of release the file contains information available in the public domain. The content carries the same data quality statement and limitations as the content of the official UK AIP, see UK AIP Gen 0.1 Preface paragraph 5.</td></tr>
</table></td></tr>
</table>

7.13 Additional information

7.13.1 General scope

Additional information	*Not applicable*

8 Data Product Specification for the UK ICAO Obstacle Datasets (Aerodromes) (Under Evaluation)

Version:	0.1 Under Development [d]
Published	01/08/2024
Language	English
Extent of the data product	Obstacles affecting air navigation in Area 2, Area 3, Area 4 and/or ICAO Annex 14 Obstacle Limitation Surfaces (OLS) of a specified aerodrome.
Topic category	Transportation
Keywords	OBSTACLES/ETOD
Supported AIS Service	Roadmap

8.1 Abstract of the data product

This dataset describes the obstacles in Areas 2 (2a, 2b, 2c, 2d), 3, 4 (where supplied) and/or OLS of a specified Airport (EGXX).
The descriptions and requirements of the Areas 2 (a-d), 3 and 4 obstacles can be found in UK Reg (EU) No 2017/373[b]:

- AIS.OR.360 Obstacle data sets
- AIS.TR.360 Obstacle Data Sets.

Obstacles are collected in accordance with CAA CAP 1054[a]

8.2 Contact Information

Organisation	Aeronautical Information Service (AIS)
Address	NATS Swanwick, Sopwith Way, Southampton, Hants, SO31 7AY
Email	aissupervisor@nats.co.uk
Web site	www.nats.aero/ais

8.3 About the data product Specification

Title	DATA PRODUCT SPECIFICATION OF UK ICAO OBSTACLE DATASET (Aerodrome)
Contact	Aeronautical Information Service (AIS) NATS Swanwick, Sopwith Way, Southampton, Hants, SO31 7AY
Web location	http://www.nats.aero/ais/datasets
Format	PDF
Maintenance	Reviewed on change and every 2 years.
Handling restrictions	N/A
Terms and definitions	N/A
Abbreviations	None

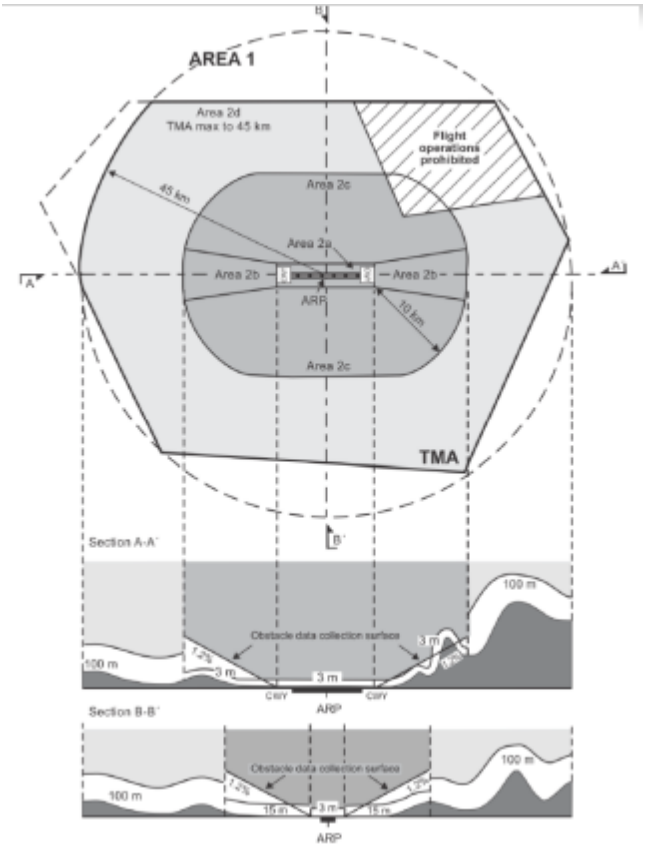
8.4 Identification and purpose of the data product

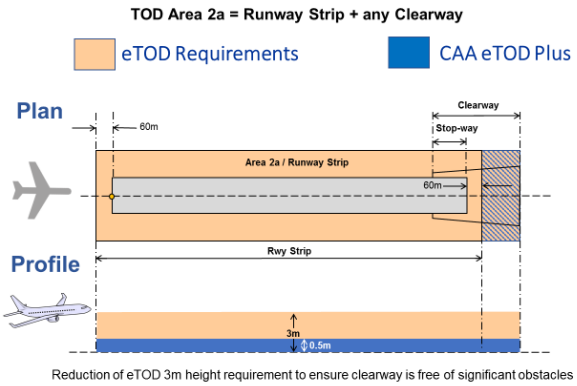
Official title	EG_[CCAD]_[ADName]_OBS_DS_[AREA]_Variant_YYYYMMDD • **[CCAD]** represents the ICAO Location Indicator of the aerodrome/heliport for which the dataset is published. It is mandatory for datasets that contain Area 2/3/4 data. If there is no ICAO Location Indicator, then "XX" or "XXX" (similar to the rules for the NOTAM Item A) should be used after the letter(s) that correspond to the State.

	• **ADName** represents the name of the aerodrome/heliport for which the dataset is published, in case no ICAO Location Indicator is specified for the aerodrome/heliport. This cannot be used for datasets that contain only Area 1 data. It is mandatory for datasets that contain Area 2/3/4 data;
	• **OBS_DS** is a fixed text (meaning "Obstacle Dataset");
	• **[AREA]** is an optional element and it indicates for which areas the data is provided in the file. It may take one of the following values if the data belongs to a particular area:
	  • **AREA[2][a][b][c][d][3][4]** - for obstacle datasets that include one or more of the areas 2(a/b/c/d), 3 and/or 4
	  • **AREA_MULTI** - for other combinations of obstacle areas
	• **Variant** is a mandatory element and it can take one of the following values (based on the [To review] Dataset variants guidelines):
	  • **FULL** - when the file contains a complete Obstacle dataset;
	  • **DIFF_DELTA** - when the file contains an Obstacles Dataset Differences variant coded with PERMDELTA TimeSlices.
	• **YYYYMMDD** is the start of effective date in the format year, month, date;

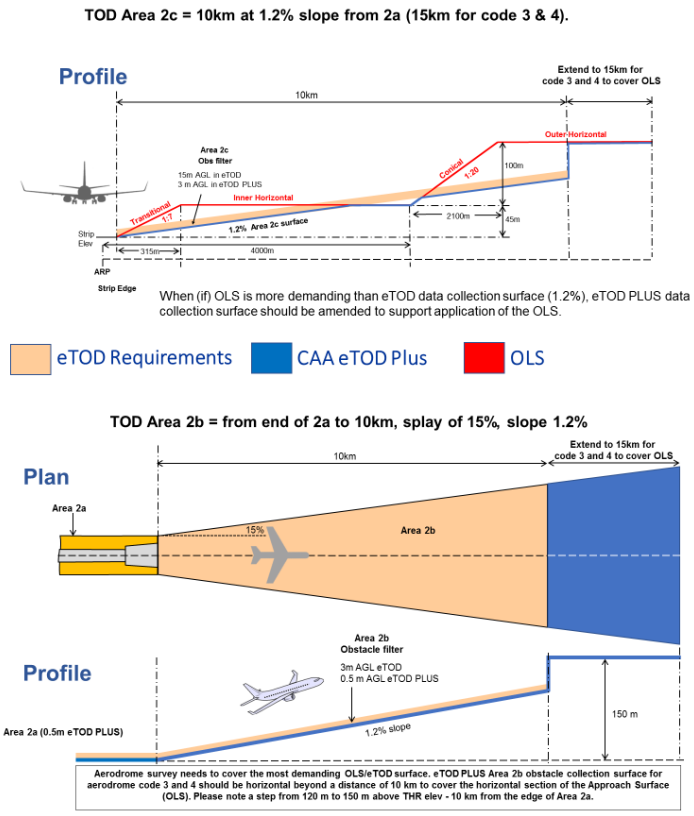
Alternative title	N/A
Abstract	UK Reg (EU) No 2017/373[b], AIS.OR.360 Obstacle data sets: An AIS provider shall ensure that obstacle data, if available, is provided: (a) for obstacles in Area 1 whose height is 100 m or higher above ground; (b) for aerodromes, for all obstacles within Area 2 that are assessed as being a hazard to air navigation; and (c) for aerodromes, to cover: (1) Area 2a or parts of Area 2a, for those obstacles that penetrate the relevant obstacle data collection surface; (2) objects in the take-off flight path area or parts of that area, which project above a plane surface having a 1.2 % slope and having a common origin with the take-off flight path area; (3) penetrations of the aerodrome obstacle limitation surfaces or parts of those surfaces; (4) Areas 2b, 2c and 2d, for obstacles that penetrate the relevant obstacle data collection surfaces; (5) Area 3 or parts of Area 3, for obstacles that penetrate the relevant obstacle data collection surface; and (6) Area 4 or parts of Area 4, for all runways where precision approach Category II or III operations have been established.
Purpose	The purpose of the data product is to provide obstacle data for air navigation applications. ICAO Doc 10066 PANS-AIM[e], Chapter 5.3.3.2 provides possible uses of the data. It is the responsibility of the users to determine if the data product meets their needs.
Topic category	Transportation
Keywords	OBSTACLES/ETOD

Spatial representation	Cartesian/Latitude and Longitude
Spatial resolution	N/A
Supplemental information	*NIL*
Restrictions	Use limitations: For aviation use only. Access restrictions: Unrestricted. Usage restrictions: Unrestricted. Security restrictions: Unclassified. Commercial restrictions: Not for resale.
Extent	Obstacles affecting air navigation in Area 2, Area 3 and Area 4 of a specified aerodrome, collected according to UK Reg (EU) No 2017/373[b], AIS.TR.260 and CAA CAP 1732[f] eTOD Plus policy requirements:





Reduction of eTOD 3m height requirement to ensure clearway is free of significant obstacles

	 And/ or obstacles affecting ICAO Annex 14 Obstacle Limitation Surfaces (OLS) collected in accordance with CAA CAP 232[g] requirements.

8.5 Scopes

8.5.1 General scope	
Scope id	General scope
Level	Series
Level name	General scope
Level description	The general scope is the root level of the scope level hierarchy. The general scope level defines the specifications which are for obstacles of Areas 2, 3, 4 and OLS according to UK Reg (EU) No 2017/373[b], AIS.TR.260, CAA CAP 1732[f] eTOD Plus policy and or CAA CAP 232[g] requirements.

8.6 Data content and structure

8.6.1 General scope	
Narrative description	Data is modelled and stored in accordance with the AIXM 5.1 UML classes and data types. Format: The dataset is provided in AIXM version 5.1. (http://www.aixm.aero/schema/5.1) NATS reserving the right to model aeronautical information (AI) appropriately for AI product production and the right to adopt newer versions of AIXM with prior notification.

	Users shall check forward/backward compatibility within their applications if using a newer AIXM version in the future to ensure there is no data loss. Please review http://www.aixm.aero/page/aixm-versioning-policy for guidance. Content: Content of the dataset is recorded in the accompanying file_ export-filter.xml and is a subset of the AI used to compile the UK AIP and associated products.
Application schema	Index (aixm.aero)
Feature catalogue	The following features for a specific Aerodrome: Included features:

Feature name	Filtered
Obstacle Area	Yes
Obstacle Area - Vertical Structure	Yes
Vertical Structure	Yes

```
<ImpExpConfiguration>
    <FeaturesFilter otherFeatures="EXCLUDE">
        <Feature name="Oba">
            <Include>
                <FilterCondition>
                    <RelationSubCondition EntityName="AD_HP">
                        <SimpleCondition Operator="Like"
Property="codeId">
                            <Value>%#AD_Designator%</Value>
                        </SimpleCondition>
                    </RelationSubCondition>
                </FilterCondition>
            </Include>
        </Feature>
        <Feature name="Oao">
            <Include>
                <FilterCondition>
                    <RelationSubCondition
EntityName="OBSTACLE_AREA">
                        <RelationSubCondition EntityName="AD_HP">
                            <SimpleCondition Operator="Like"
Property="codeId">
                                <Value>%#AD_Designator%</Value>
                            </SimpleCondition>
                        </RelationSubCondition>
                    </RelationSubCondition>
                </FilterCondition>
            </Include>
        </Feature>
        <Feature name="Obs">
            <Include>
                <FilterCondition>
                    <RelationSubCondition
EntityName="OBSTACLE_AREA_OBSTACLE">
                        <RelationSubCondition
EntityName="OBSTACLE_AREA">
                            <RelationSubCondition
EntityName="AD_HP">
                                <SimpleCondition Operator="Like"
Property="codeId">
                                    <Value>%#AD_Designator%</Value>
                                </SimpleCondition>
                            </RelationSubCondition>
                        </RelationSubCondition>
                    </RelationSubCondition>
                </FilterCondition>
            </Include>
        </Feature>
    </FeaturesFilter>
    <FilterParameters>
```

	<Parameter name="AD_Designator"/> </FilterParameters> </ImpExpConfiguration> The Feature catalogue includes all obstacles associated to any obstacles area associated to an aerodrome (identified by a variable parameter “AD_Designator”).
Narrative description	The general scope is the root level of the scope level hierarchy. The general scope level defines the specifications which are for obstacles of Areas 2, 3 and 4 according to UK Reg (EU) No 2017/373[b], AIS.TR.260 and CAA CAP 1732[f] eTOD Plus policy and CAA CAP 232[g] requirements.

8.7 Reference System

8.7.1 General scope	
Spatial reference system	Horizontal reference system: WGS-84, EPSG: 4326 (Realisation: ITRF2008 Epoch 2005.0), Vertical reference system: The Ordnance Datum Newlyn (ODN) can be considered the source of Mean Sea Level (MSL) in the UK. OSGM15 is the National Geoid Model used in the UK for determining elevations Above Mean Sea Level (AMSL) datum.
Temporal reference system	Gregorian Calendar, UTC

8.8 Data Quality

8.8.1 General scope

NATS maintain the integrity of the information and data supplied to the AIS, from receipt through to the point of publication. However, because these products are compiled using information originated and supplied by numerous external parties, NATS cannot guarantee the accuracy or completeness of content. To the fullest extent permitted by law, NATS accepts no liability for your use of UK Aeronautical Information Products.

Requirement 1	Data quality element: Assurance (Integrity) Data quality measure: Where horizontal and vertical position integrity is classified, processing procedures have been setup to meet the integrity requirements.
Requirement 2	Data quality element: Traceability Data quality measure: All actions over the objects are traced and saved in metadata.
Requirement 3	Data quality element: Timeliness Data quality measure: Timeliness is assured by providing the start and end time position of all features according to the temporality concept of AIXM.
Requirement 4	Data quality element: Completeness Data quality measure: All features and attributes are expressed according to the AIXM model. The content of the dataset was checked.
8.8.2 Specific Scope	
Requirement 1	Data quality element: Horizontal accuracy Data quality measure: The horizontal accuracy requirements of features are specified in CAA CAP 1054[a]. Each feature may contain a specified accuracy and confidence value. Features which do not

	meet the requirements of CAA CAP 1054[a] are listed in the ADQ Non-Compliance Report available at www.nats.aero/ais/dataquality
Requirement 2	Data quality element: Vertical accuracy Data quality measure: The vertical accuracy requirements of features are specified in CAA CAP 1054[a]. Each feature may contain a specified accuracy and confidence value. Features which do not meet the requirements of CAA CAP 1054[a] are listed in the ADQ Non-Compliance Report available at www.nats.aero/ais/dataquality
Requirement 3	Data quality element: Horizontal position resolution Data quality measure: The horizontal position resolution is expressed in decimal degrees ranging from 5 to 15 decimal places, commensurate with the accuracy requirements. The resolution is sufficient to guarantee the accuracy requirements.
Requirement 4	Data quality element: Vertical position resolution Data quality measure: The vertical position resolution requirements of features are specified in CAA CAP 1054[a] and are commensurate with the accuracy requirements. The resolution is sufficient to guarantee the accuracy requirements.

8.9 Data capture and production

8.9.1 General scope	
Description	Data capture rules are based on CAA CAP 1054[a]. Obstacle coverage areas are described in UK Reg (EU) No 2017/373[b], AIS.OR.360 Obstacle data sets.
Guide	CAA CAP 1054[a]
Inclusion criteria	Obstacles as described in UK Reg (EU) No 2017/373[b], AIS.OR.360 Obstacle data sets.
Data acquisition and processing	The data was captured and processed in accordance with the requirements set out in CAA CAP 1054[a].

8.10 Maintenance of the data

8.10.1 General scope	
Description	An AIXM BASELINE dataset will be provided on the effective date of the dataset. An AIXM PERMDELTA dataset will be provided on the effective date of the dataset containing changes to the previous BASELINE. Effective dates are aligned to the AIRAC cycle. Any Secondary Scope dataset will be provided on the effective date of the dataset.
Frequency	Baseline: Obstacle Datasets contain features that are not subject to the AIRAC requirements (6.2.1 ICAO Annex 15), these datasets will be issued on the next effective AIRAC date post processing. Changes: Continuous between baselines via NOTAM and Baseline corrigendum, see ANNEX A – Notification of corrections to Datasets

8.11 Portrayal rules

8.11.1 General scope	
Portrayal rules	*Not applicable*

8.12 Data delivery

8.12.1 Primary scope – AIXM

Format name	AIXM
Format version	5.1
Format specification	AIXM 5.1 Specification (source http://aixm.aero)
File structure	http://www.aixm.aero/schema/5.1/AIXM_Features.xsd
Language	English – eng
Character set	UTF-8
Units of delivery	Dataset
Transfer size	Various
Medium name	Internet Briefing System *(NATS SharePoint for CAA and NATS internal parties in the interim)*
Other delivery	N/A
Service property	No information service overview is available.
Protection	SHA256 Checksum
Limitations	All attributes which have no stored value are presented as: • nilReason=”unknown” xsi:nil=”true” At the point of release the file contains information available in the public domain. The content carries the same data quality statement and limitations as the content of the official UK AIP, see UK AIP Gen 0.1 Preface paragraph 5.
8.12.1.1 Metadata	
Specification	Title: ISO 19115:2003, Geographic information – Metadata Date: 2003
Encoding	Title: ISO 19139:2007, Geographic information – Metadata – XML schema implementation Date: 2007
Metadata elements	The metadata is included in the dataset as described in UK Reg (EU) No 2017/373[b], AIS.TR.340 Metadata requirements. The following metadata is provided: (a) the name of the organisations or entities providing the dataset; (b) the date and time when the dataset was provided; (c) the validity of the dataset; and (d) any limitations on the use of the dataset.

8.12.2 Secondary scope – CAP 1732 CSV

Format name	**Comma-Separated Values (CSV) ACSII**
Format version	N/A
Format specification	RFC 4180
File structure	

Field 1	SITE NAME
Field 2	TYPE OF FEATURE
Field 3	IDENTIFICATION
Field 4	ASSOCIATION

	Field 5 — LATITUDE Field 6 — LONGITUDE Field 7 — ELLIPSOIDAL HEIGHT (M) Field 8 — ELLIPSOIDAL HEIGHT (FT) Field 9 — LIT OR UNLIT Field 10 — LIGHTING DESCRIPTION Field 11 — MOBILE Field 12 — FRANGIBLE Field 13 — CONSTRUCTION STATUS Field 17 — VERTICAL REFERENCE SYSTEM Field 18 — ORTHOMETRIC HEIGHT (M) Field 19 — ORTHOMETRIC HEIGHT (FT) Field 20 — HEIGHT ABOVE GROUND LEVEL (M) Field 21 — HEIGHT ABOVE GROUND LEVEL (FT) Field 24 — HORIZONTAL EXTENT (M) Field 25 — HORIZONTAL ACCURACY (M) Field 26 — VERTICAL ACCURACY (M) Field 27 — RECORD IDENTIFIER Field 28 — SURVEY DATE Field 29 — CRVC
Language	English – eng
Character set	Restricted ISO 8859-17, no commas or backslashes are to be used within fields.
Units of delivery	Dataset
Transfer size	Various
Medium name	Internet Briefing System
Other delivery	N/A
Service property	No information service overview is available.
Protection	SHA256 Checksum
Limitations	At the point of release the file contains information available in the public domain. The content carries the same data quality statement and limitations as the content of the official UK AIP, see UK AIP Gen 0.1 Preface paragraph 5.

8.12.2.1 Metadata

Specification	CAA CAP 1732[f]
Encoding	None
Metadata elements	Effective Date of the Dataset is encoded on the title of the file.

Title	DATASET OF UK ICAO OBSTACLE DATASETS (Aerodrome)
Contact	Aeronautical Information Service (AIS) NATS Swanwick, Sopwith Way, Southampton, Hants, SO31 7AY
Web location	http://www.nats.aero/ais/datasets
Effective	YYYY-MM-DD - YYYY-MM-DD
Created on	YYYY-MM-DD (UTC)

Limitation	At the point of release the file contains information available in the public domain. The content carries the same data quality statement and limitations as the content of the official UK AIP, see UK AIP Gen 0.1 Preface paragraph 5.

8.12.1 Tertiary scope – CAP 232 CSV

Format name	**Comma-Separated Values (CSV) ACSII**
Format version	N/A
Format specification	RFC 4180
File structure	

Field 1	SITE NAME
Field 2	TYPE OF FEATURE
Field 3	IDENTIFICATION
Field 4	LATITUDE
Field 5	LONGITUDE
Field 6	ELLIPSOIDAL HEIGHT (M)
Field 7	ELLIPSOIDAL HEIGHT (FT)
Field 8	LIT OR UNLIT
Field 9	EASTING
Field 10	NORTHING
Field 11	ORTHOMETRIC HEIGHT (M)
Field 12	ORTHOMETRIC HEIGHT (FT)
Field 13	RECORD IDENTIFIER
Field 14	SURVEY DATE
Field 15	CRVC

Language	English – eng
Character set	Restricted ISO 8859-17, no hyphens, word spaces, commas or backslashes are to be used within fields.
Units of delivery	Dataset
Transfer size	Various
Medium name	Internet Briefing System
Other delivery	N/A
Service property	No information service overview is available.
Protection	SHA256 Checksum
Limitations	At the point of release the file contains information available in the public domain. The content carries the same data quality statement and limitations as the content of the official UK AIP, see UK AIP Gen 0.1 Preface paragraph 5.

8.12.1.1 Metadata

Specification	CAA CAP 232[g]
Encoding	None
Metadata elements	Effective Date of the Dataset is encoded on the title of the file.

Title	DATASET OF UK CAP 232 OBSTACLE DATASETS (Aerodrome)
Contact	Aeronautical Information Service (AIS) NATS Swanwick, Sopwith Way, Southampton, Hants, SO31 7AY
Web location	http://www.nats.aero/ais/datasets
Effective	YYYY-MM-DD - YYYY-MM-DD
Created on	YYYY-MM-DD (UTC)
Limitation	At the point of release the file contains information available in the public domain. The content carries the same data quality statement and limitations as the content of the official UK AIP, see UK AIP Gen 0.1 Preface paragraph 5.

8.13 Additional information

8.13.1 General scope

Additional information	*Not applicable*

9 Data Product Specification for the UK ICAO Aerodrome Mapping Datasets

9.1 Abstract of the data product

Aerodrome mapping datasets are not managed by the UK AIS Service Provider.	
Web location	N/A

10 Data Product Specification for the UK ICAO Instrument Flight Procedure Dataset (Under Evaluation)

Version:	0.1 Under Development [d]
Published	01/08/2024
Language	English
Extent of the data product	UK Licensed Aerodromes RNAV Instrument Flight Procedures
Topic category	Transportation
Keywords	IFP
Supported AIS Service	Roadmap

10.1 Abstract of the data product

This dataset describes the RNAV instrument flight procedure data available at UK Licensed Aerodromes.
The descriptions and requirements of the Instrument Flight Procedure Dataset can be found in UK Reg (EU) No 2017/373[b]:

- AIS.OR.370 Instrument flight procedure data sets.
- AIS.TR.360 Instrument flight procedure data sets.

10.2 Contact Information

Organisation	Aeronautical Information Service (AIS)
Address	NATS, Swanwick , Sopwith Way, Southampton, Hants, SO31 7AY
Email	aissupervisor@nats.co.uk
Web site	www.nats.aero/ais

10.3 About the data product Specification

Title	DATA PRODUCT SPECIFICATION OF UK ICAO INSTRUMENT FLIGHT PROCEDURE DATASET	
Contact	Aeronautical Information Service (AIS) NATS Swanwick, Sopwith Way, Southampton, Hants, SO31 7AY	
Web location	http://www.nats.aero/ais/datasets	
Format	PDF	
Maintenance	Reviewed on change and every 2 years.	
Handling restrictions	N/A	
Terms and definitions	N/A	
Abbreviations	IFP	Instrument Flight Procedures

10.4 Identification and purpose of the data product

Official title	EG_IFP_DS_Variant_YYYYMMDD
	
	• **IFP_DS** is a fixed text (meaning "Instrument Flight Procedure Dataset");
	• **Variant** is a mandatory element and it can take one of the following values (based on the [To review] Dataset variants guidelines):
	  • **FULL** - when the file contains a complete Obstacle dataset;
	  • **DIFF_BL** - when the file contains an Obstacle Dataset Differences variant coded with BASELINE TimeSlices;

	• **DIFF_DELTA** - when the file contains an Obstacles Dataset Differences variant coded with PERMDELTA TimeSlices. • **SUP** - when the file contains a Supplementary Obstacle Dataset. • **YYYYMMDD** is the start of effective date in the format year, month, date;
Alternative title	N/A
Abstract	UK Reg (EU) No 2017/373[b] , AIS.OR.370 Instrument flight procedure data sets: An AIS provider shall ensure that instrument flight procedure data sets, if available, are provided in accordance with point AIS.TR.370.
Purpose	The purpose of the instrument flight procedure dataset is to support the transition of the ATM domain towards the use of digital datasets instead of paper products. Therefore, its scope is defined considering the likelihood that the data contained in this set is being used in digital format by service providers, ATC and IFR/VFR airspace users.
Topic category	Transportation
Keywords	IFP
Spatial representation	Graphical Markup Language
Spatial resolution	N/A
Supplemental information	*NIL*
Restrictions	Use limitations: For aviation use only. Access restrictions: Unrestricted. Usage restrictions: Unrestricted. Security restrictions: Unclassified. Commercial restrictions: Not for resale.
Extent	UK Licensed Aerodromes RNAV Instrument Flight Procedures

10.5 Scopes

10.5.1 General scope	
Scope id	General scope
Level	Series
Level name	General scope
Level description	The general scope is the root level of the scope level hierarchy. The general scope level defines the specifications which are for IFPs according to the requirements of ICAO Annex 15 Aeronautical Information Services para 5.3.5 Instrument flight procedure datasets wherein the recommendation is Instrument flight procedure datasets should be made available for aerodromes regularly used by international civil aviation.

10.6 Data content and structure

10.6.1 General scope	
Narrative description	Data is modelled and stored in accordance with the AIXM 5.1 UML classes and data types.

<table>
<tr><td></td><td>Format: The dataset is provided in AIXM version 5.1. (http://www.aixm.aero/schema/5.1) NATS reserving the right to model aeronautical information (AI) appropriately for AI product production and the right to adopt newer versions of AIXM with prior notification.

Users shall check forward/backward compatibility within their applications if using a newer AIXM version in the future to ensure there is no data loss. Please review http://www.aixm.aero/page/aixm-versioning-policy for guidance.

Content:
Content of the dataset is recorded in the accompanying file_ export-filter.xml and is a subset of the AI used to compile the UK AIP and associated products.</td></tr>
<tr><td>Application schema</td><td>Index (aixm.aero)</td></tr>
<tr><td>Feature catalogue</td><td>UK Reg (EU) No 2017/373[b] AIS.TR.370 Instrument flight procedure data sets:

a) Instrument flight procedure data sets shall contain the digital representation of instrument flight procedures.
b) The instrument flight procedure data sets shall include data about the following subjects, including all of their properties:
i. procedure;
ii. procedure segment;
iii. final approach segment;
iv. procedure fix;
v. procedure holding;
vi. helicopter procedure specifics.

Included features:
<table><tr><th>Feature name</th><th>Filtered</th></tr><tr><td>Designated Point</td><td>Yes</td></tr><tr><td>Holding Pattern</td><td>Yes</td></tr><tr><td>Instrument Approach Procedure</td><td></td></tr><tr><td>Safe Altitude Area</td><td></td></tr><tr><td>Standard Instrument Arrival</td><td></td></tr><tr><td>Standard Instrument Departure</td><td></td></tr><tr><td>Terminal Arrival Area</td><td></td></tr></table><pre><ImpExpConfiguration>
    <FeaturesFilter otherFeatures="EXCLUDE">
        <Feature name="Iap">
            <Include>
                <FilterCondition/>
            </Include>
        </Feature>
        <Feature name="Sia">
            <Include>
                <FilterCondition/>
            </Include>
        </Feature>
        <Feature name="Sid">
            <Include>
                <FilterCondition/>
            </Include>
        </Feature>
        <Feature name="Hpe">
            <Include>
                <FilterCondition></pre></td></tr>
</table>

```
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Property="codeType">
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                    </SimpleCondition>
                </FilterCondition>
            </Include>
        </Feature>
        <Feature name="Mgp">
            <Include>
                <FilterCondition/>
            </Include>
        </Feature>
        <Feature name="Taa">
            <Include>
                <FilterCondition/>
            </Include>
        </Feature>
        <Feature name="Dpn">
            <Include>
                <FilterCondition>
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                        <LogicalCondition Operator="Or">
                            <RelationSubCondition
EntityName="SIGNIFICANT_POINT" relationSuffix="Spn">
                                <RelationSubCondition
EntityName="PROCEDURE_LEG" relationSuffix="Cen">
                                    <RelationSubCondition
EntityName="SIGNIFICANT_POINT" relationSuffix="Cen">
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Operator="IsDefined" Property="mid"/>
                                    </RelationSubCondition>
                                </RelationSubCondition>
                            </RelationSubCondition>
                            <RelationSubCondition
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                                <RelationSubCondition
EntityName="PROCEDURE_LEG" relationSuffix="End">
                                    <RelationSubCondition
EntityName="SIGNIFICANT_POINT" relationSuffix="End">
                                        <SimpleCondition
Operator="IsDefined" Property="mid"/>
                                    </RelationSubCondition>
                                </RelationSubCondition>
                            </RelationSubCondition>
                            <RelationSubCondition
EntityName="SIGNIFICANT_POINT" relationSuffix="Spn">
                                <RelationSubCondition
EntityName="PROCEDURE_LEG" relationSuffix="Sta">
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Operator="IsDefined" Property="mid"/>
                                    </RelationSubCondition>
                                </RelationSubCondition>
                            </RelationSubCondition>
                            <RelationSubCondition
EntityName="SIGNIFICANT_POINT" relationSuffix="Spn">
                                <RelationSubCondition
EntityName="HOLDING_PROCEDURE" relationSuffix="Sig">
                                    <RelationSubCondition
EntityName="SIGNIFICANT_POINT" relationSuffix="Sig">
                                        <SimpleCondition
Operator="IsDefined" Property="mid"/>
                                    </RelationSubCondition>
                                </RelationSubCondition>
                            </RelationSubCondition>
                        </LogicalCondition>
                        <SimpleCondition Operator="Equals"
Property="codeType">
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                        </SimpleCondition>
                    </LogicalCondition>
                </FilterCondition>
            </Include>
        </Feature>
    </FeaturesFilter>
    <FilterParameters/>
</ImpExpConfiguration>
```

Narrative description	The general scope is the root level of the scope level hierarchy. The general scope level defines the specifications which are for IFP features according to the requirements of UK Reg (EU) No 2017/373[b] AIS.TR.370 and CAA CAP 1054[a].

10.7 Reference System

10.7.1 General scope	
Spatial reference system	Horizontal reference system: WGS-84, EPSG: 4326 (Realisation: ITRF2008 Epoch 2005.0), Vertical reference system: The Ordnance Datum Newlyn (ODN) can be considered the source of Mean Sea Level (MSL) in the UK. OSGM15 is the National Geoid Model used in the UK for determining elevations Above Mean Sea Level (AMSL) datum.
Temporal reference system	Gregorian Calendar, UTC

10.8 Data Quality

10.8.1 General scope

NATS maintain the integrity of the information and data supplied to the AIS, from receipt through to the point of publication. However, because these products are compiled using information originated and supplied by numerous external parties, NATS cannot guarantee the accuracy or completeness of content. To the fullest extent permitted by law, NATS accepts no liability for your use of UK Aeronautical Information Products.

Requirement 1	Data quality element: Assurance (Integrity) Data quality measure: Where horizontal and vertical position integrity is classified, processing procedures have been setup to meet the integrity requirements.
Requirement 2	Data quality element: Traceability Data quality measure: All actions over the objects are traced and saved in metadata.
Requirement 3	Data quality element: Timeliness Data quality measure: Timeliness is assured by providing the start and end time position of all features according to the temporality concept of AIXM.
Requirement 4	Data quality element: Completeness Data quality measure: All features and attributes are expressed according to the AIXM model. The content of the dataset was checked.

10.8.2 Specific Scope

Requirement 1	Data quality element: Horizontal accuracy Data quality measure: The horizontal accuracy requirements of features are specified in CAA CAP 1054[a]. Each feature may contain a specified accuracy and confidence value. Features which do not meet the requirements of CAA CAP 1054[a] are listed in the ADQ Non-Compliance Report available at www.nats.aero/ais/dataquality
Requirement 2	Data quality element: Vertical accuracy Data quality measure: The vertical accuracy requirements of features are specified in CAA CAP 1054[a]. Each feature may contain a specified accuracy and confidence value. Features which do not

	meet the requirements of CAA CAP 1054[a] are listed in the ADQ Non-Compliance Report available at www.nats.aero/ais/dataquality
Requirement 3	Data quality element: Horizontal position resolution Data quality measure: The horizontal position resolution is expressed in decimal degrees ranging from 5 to 15 decimal places, commensurate with the accuracy requirements. The resolution is sufficient to guarantee the accuracy requirements.
Requirement 4	Data quality element: Vertical position resolution Data quality measure: The vertical position resolution requirements of features are specified in CAA CAP 1054[a] and are commensurate with the accuracy requirements. The resolution is sufficient to guarantee the accuracy requirements.

10.9 Data capture and production

10.9.1 General scope	
Description	AIP feature capture rules are based on CAA CAP 1054[a].
Guide	CAA CAP 1054[a]
Inclusion criteria	Instrument flight procedure datasets should be made available for aerodromes regularly used by international civil aviation.
Data acquisition and processing	The data was captured and processed in accordance with the requirements set out in CAA CAP 1054[a].

10.10 Maintenance of the data

10.10.1 General scope	
Description	An AIXM BASELINE dataset will be provided 28 days prior to the effective date of the dataset. An AIXM PERMDELTA dataset will be provided 28 days prior to the effective date of the dataset containing changes to the previous BASELINE. For temporary updates with a validity of three months or longer (the equivalent of AIP SUP data), an AIXM TEMPDELTA (for pre-existing AIXM features) or additional BASELINE (for new temporary AIXM features) will be generated to supplement the original Baseline. Effective dates are aligned to the AIRAC cycle. Any Secondary Scope dataset will be provided 28 days prior to the effective date of the dataset.
Frequency	Baseline: Upon receipt of a valid change request amending the content of the dataset an update will be generated. Changes: Continuous between baselines via NOTAM and Baseline corrigendum, see ANNEX A – Notification of corrections to Datasets

10.11 Portrayal rules

10.11.1 General scope	
Portrayal rules	*Not applicable*

10.12 Data delivery

10.12.1 Primary scope - AIXM

Format name	AIXM
Format version	5.1
Format specification	AIXM 5.1 Specification (source http://aixm.aero)
File structure	http://www.aixm.aero/schema/5.1/AIXM_Features.xsd
Language	English – eng
Character set	UTF-8
Units of delivery	Dataset
Transfer size	Various
Medium name	Internet Briefing System
Other delivery	N/A
Service property	No information service overview is available.
Protection	SHA256 Checksum
Limitations	All attributes which have no stored value are presented as: nilReason="unknown" xsi:nil="true" At the point of release the file contains information available in the public domain. The content carries the same data quality statement and limitations as the content of the official UK AIP, see UK AIP Gen 0.1 Preface paragraph 5. Due to the complexity of Instrument Approach Procedure Minima modelling in AIXM 5.1 procedure data is limited to nominal track information only.
10.12.1.1 Metadata	
Specification	Title: ISO 19115:2003, Geographic information – Metadata Date: 2003
Encoding	Title: ISO 19139:2007, Geographic information – Metadata – XML schema implementation Date: 2007
Metadata elements	The metadata is included in the dataset as described in UK Reg (EU) No 2017/373[b] AIS.TR.340 Metadata requirements. The following metadata is provided: (a) the name of the organisations or entities providing the dataset; (b) the date and time when the dataset was provided; (c) the validity of the dataset; and (d) any limitations on the use of the dataset.

10.13 Additional information

10.13.1 General scope	
Additional information	*Not applicable*

11 Data Product Specification for the London Area Control (LAC) and Prestwick Control (PC) Sector Dataset

Version:	1.0
Published	01/08/2024
Language	English
Extent of the data product	Aeronautical information of lasting character within the entire territory and airspace of the UK and UK Crown Dependencies (the Isle of Man and the Bailiwicks of Jersey and Guernsey).
Topic category	Transportation
Keywords	SECTOR
Supported AIS Service	N/A

11.1 Abstract of the data product

This dataset describes the sector volumes which reflect the operational sectorisation for London Area and Prestwick ATC centres excluding areas where the ATS provision has been delegated to another sector/unit.

11.2 Contact Information

Organisation	Aeronautical Information Service (AIS)
Address	Aeronautical Information Service (AIS) NATS Swanwick, Sopwith Way, Southampton, Hants, SO31 7AY
Email	aissupervisor@nats.co.uk
Web site	www.nats.aero/ais

11.3 About the data product Specification

Title	DATA PRODUCT SPECIFICATION OF LAC AND PC SECTOR DATASET
Contact	Aeronautical Information Service (AIS) NATS Swanwick, Sopwith Way, Southampton, Hants, SO31 7AY
Web location	http://www.nats.aero/ais/datasets
Format	PDF
Maintenance	Reviewed on change and every 2 years.
Handling restrictions	N/A
Terms and definitions	N/A
Abbreviations	N/A

11.4 Identification and purpose of the data product

Official title	EG_LAC_PC_SECTOR_DS_Variant_YYYYMMDD
	
	• **SECTOR_DS** is a fixed text (meaning "Sector Volumes Dataset");
	• **Variant** is a mandatory element and it can take one of the following values (based on the [To review] Dataset variants guidelines):
	  • **FULL** - when the file contains a complete Obstacle dataset;
	  • **DIFF_BL** - when the file contains an Obstacle Dataset Differences variant coded with BASELINE TimeSlices;
	  • **DIFF_DELTA** - when the file contains an Obstacles Dataset Differences variant coded with PERMDELTA TimeSlices.

	• **SUP** - when the file contains a Supplementary Obstacle Dataset. • **YYYYMMDD** is the start of effective date in the format year, month, date;
Alternative title	N/A
Abstract	UK Reg (EU) No 2017/373[b] AIS.OR.345 AIP dataset: An AIS provider shall ensure that the AIP dataset, if available, contains the digital representation of aeronautical information of lasting character, including permanent information and long-duration temporary changes. UK sector data is a subset of the AIP dataset.
Purpose	The purpose of the sector dataset is to support the transition of the ATM domain towards the use of digital datasets instead of paper products. Therefore, its scope is defined considering the likelihood that the data contained in this set is being used in digital format by service providers, ATC and instrument flight rules/visual flight rules (IFR/VFR) airspace users.
Topic category	Transportation
Keywords	SECTOR
Spatial representation	Cartesian/Latitude and Longitude
Spatial resolution	N/A
Supplemental information	*NIL*
Restrictions	Use limitations: For aviation use only. Access restrictions: Unrestricted. Usage restrictions: Unrestricted. Security restrictions: Unclassified. Commercial restrictions: Not for resale.
Extent	Entire territory and airspace of the UK and UK Crown Dependencies (the Isle of Man and the Bailiwicks of Jersey and Guernsey).

11.5 Scopes

11.5.1 General scope

Scope id	General scope
Level	Series
Level name	General scope
Level description	The general scope is the root level of the scope level hierarchy. The general scope level defines the specifications which are for sector volumes as a subset of AIP features according to the requirements of UK Reg (EU) No 2017/373[b] AIS.TR.345 and CAA CAP 1054[a].

11.6 Data content and structure

11.6.1 General scope

Narrative description	Data is modelled and stored in accordance with the AIXM 5.1 UML classes and data types. Format: The dataset is provided in AIXM version 5.1. (http://www.aixm.aero/schema/5.1) NATS reserving the right to model aeronautical information (AI) appropriately for AI product

<table>
<tr><td></td><td>production and the right to adopt newer versions of AIXM with prior notification.

Users shall check forward/backward compatibility within their applications if using a newer AIXM version in the future to ensure there is no data loss. Please review http://www.aixm.aero/page/aixm-versioning-policy for guidance.

Content:
Content of the dataset is recorded in the accompanying file_ export-filter.xml and is a subset of the AI used to compile the UK AIP and associated products.</td></tr>
<tr><td>Application schema</td><td>Index (aixm.aero)</td></tr>
<tr><td>Feature catalogue</td><td>Sector data as a subset of UK Reg (EU) No 2017/373[b] AIS.TR.345 AIP dataset

Table 1: AIP dataset

Data Subjects Associated properties
ATS airspace
• Type,
• name,
• lateral limits,
• vertical limits,
• class of airspace
Included features:

<table>
<tr><th>Feature name</th><th>Filtered</th></tr>
<tr><td>Airspace</td><td>Yes</td></tr>
</table>

<pre>
<ImpExpConfiguration>
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        <Feature name="Ase">
            <Include>
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                        <LogicalCondition Operator="Or">
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Property="codeId">
                                <Value>AC%</Value>
                            </SimpleCondition>
                            <SimpleCondition Operator="Like"
Property="codeId">
                                <Value>PC%</Value>
                            </SimpleCondition>
                        </LogicalCondition>
                        <SimpleCondition Operator="Equals"
Property="codeType">
                            <Value>PART</Value>
                        </SimpleCondition>
                        <SimpleCondition Operator="NotLike"
Property="txtLocalType">
                            <Value>%DELEGATION%</Value>
                        </SimpleCondition>
                    </LogicalCondition>
                </FilterCondition>
            </Include>
        </Feature>
    </FeaturesFilter>
    <FilterParameters/>
</ImpExpConfiguration>
</pre>
</td></tr>
<tr><td>Narrative description</td><td>The general scope is the root level of the scope level hierarchy. The general scope level defines the specifications which are for sector</td></tr>
</table>

	volumes as a subset of AIP features according to the requirements of UK Reg (EU) No 2017/373[b] AIS.TR.345 and CAA CAP 1054[a].

11.7 Reference System

11.7.1 General scope	
Spatial reference system	Horizontal reference system: WGS-84, EPSG: 4326 (Realisation: ITRF2008 Epoch 2005.0), Vertical reference system: The Ordnance Datum Newlyn (ODN) can be considered the source of Mean Sea Level (MSL) in the UK. OSGM15 is the National Geoid Model used in the UK for determining elevations Above Mean Sea Level (AMSL) datum.
Temporal reference system	Gregorian Calendar, UTC

11.8 Data Quality

11.8.1 General scope

NATS maintain the integrity of the information and data supplied to the AIS, from receipt through to the point of publication. However, because these products are compiled using information originated and supplied by numerous external parties, NATS cannot guarantee the accuracy or completeness of content. To the fullest extent permitted by law, NATS accepts no liability for your use of UK Aeronautical Information Products.

Requirement 1	Data quality element: Assurance (Integrity) Data quality measure: Where horizontal and vertical position integrity is classified, processing procedures have been setup to meet the integrity requirements.
Requirement 2	Data quality element: Traceability Data quality measure: All actions over the objects are traced and saved in metadata.
Requirement 3	Data quality element: Timeliness Data quality measure: Timeliness is assured by providing the start and end time position of all features according to the temporality concept of AIXM.
Requirement 4	Data quality element: Completeness Data quality measure: All features and attributes are expressed according to the AIXM model. The content of the dataset was checked.

11.8.2 Specific Scope

Requirement 1	Data quality element: Horizontal accuracy Data quality measure: The horizontal accuracy requirements of features are specified in CAA CAP 1054[a]. Each feature may contain a specified accuracy and confidence value. Features which do not meet the requirements of CAA CAP 1054[a] are listed in the ADQ Non-Compliance Report available at www.nats.aero/ais/dataquality
Requirement 2	Data quality element: Vertical accuracy Data quality measure: The vertical accuracy requirements of features are specified in CAA CAP 1054[a]. Each feature may contain a specified accuracy and confidence value. Features which do not meet the requirements of CAA CAP 1054[a] are listed in the ADQ

	Non-Compliance Report available at www.nats.aero/ais/dataquality
Requirement 3	Data quality element: Horizontal position resolution Data quality measure: The horizontal position resolution is expressed in decimal degrees ranging from 5 to 15 decimal places, commensurate with the accuracy requirements. The resolution is sufficient to guarantee the accuracy requirements.
Requirement 4	Data quality element: Vertical position resolution Data quality measure: The vertical position resolution requirements of features are specified in CAA CAP 1054[a] and are commensurate with the accuracy requirements. The resolution is sufficient to guarantee the accuracy requirements.

11.9 Data capture and production

11.9.1 General scope	
Description	AIP feature capture rules are based on CAA CAP 1054[a].
Guide	CAA CAP 1054[a]
Inclusion criteria	All sector volumes which reflect the operational sectorisation for London Area and Prestwick ATC centres excluding areas where the ATS provision has been delegated to another sector/unit.
Data acquisition and processing	ATS sectors are not explicitly listed as a data item within Annex A of CAP1054, however the data was captured and processed in accordance with the requirements set out in CAA CAP 1054a.

11.10 Maintenance of the data

11.10.1 General scope	
Description	An AIXM BASELINE dataset will be provided 28 days prior to the effective date of the dataset. An AIXM PERMDELTA dataset will be provided 28 days prior to the effective date of the dataset containing changes to the previous BASELINE. For temporary updates with a validity of three months or longer (the equivalent of AIP SUP data), an AIXM TEMPDELTA (for pre-existing AIXM features) or additional BASELINE (for new temporary AIXM features) will be generated to supplement the original Baseline. Effective dates are aligned to the AIRAC cycle. Any Secondary Scope dataset will be provided 28 days prior to the effective date of the dataset.
Frequency	Baseline: Upon receipt of a valid change request amending the content of the dataset an update will be generated. Changes: Continuous between baselines via NOTAM and Baseline corrigendum, see ANNEX A – Notification of corrections to Datasets

11.11 Portrayal rules

11.11.1 General scope	
Portrayal rules	*Not applicable*

11.12 Data delivery

11.12.1 Primary scope - AIXM

Format name	AIXM
Format version	5.1
Format specification	AIXM 5.1 Specification (source http://aixm.aero)
File structure	http://www.aixm.aero/schema/5.1/AIXM_Features.xsd
Language	English – eng
Character set	UTF-8
Units of delivery	Dataset
Transfer size	Various
Medium name	Internet Briefing System
Other delivery	N/A
Service property	No information service overview is available.
Protection	SHA256 Checksum
Limitations	All attributes which have no stored value are presented as: nilReason="unknown" xsi:nil="true" At the point of release the file contains information available in the public domain. The content carries the same data quality statement and limitations as the content of the official UK AIP, see UK AIP Gen 0.1 Preface paragraph 5. The sector volumes reflect the operational sectorisation and this differs to the Eurocontrol NEST sector volumes that are used for network capacity planning.
11.12.1.1 Metadata	
Specification	Title: ISO 19115:2003, Geographic information – Metadata Date: 2003
Encoding	Title: ISO 19139:2007, Geographic information – Metadata – XML schema implementation Date: 2007
Metadata elements	The metadata is included in the dataset as described in UK Reg (EU) No 2017/373[b] AIS.TR.340 Metadata requirements. The following metadata is provided: (a) the name of the organisations or entities providing the dataset; (b) the date and time when the dataset was provided; (c) the validity of the dataset; and (d) any limitations on the use of the dataset.

11.12.2 Secondary scope - KML

Format name	KML (presented as KMZ)
Format version	2.2
Format specification	http://schemas.opengis.net/kml/
File structure	https://schemas.opengis.net/kml/2.2.0/ogckml22.xsd
Language	English – eng
Character set	UTF-8
Units of delivery	Dataset

Transfer size	Various
Medium name	Internet Briefing System
Other delivery	N/A
Service property	No information service overview is available.
Protection	SHA256 Checksum
Limitations	For hours of activation and associated services refer to the AIP and NOTAM Service. KML does not contain circle geometry, therefore, circle/curved airspace has been created using LineStrings joining points on the circumference of the circle/curve. Due to this limitation when visually zoomed in there can appear to be small gaps between abutting airspace. KML is provided purely a visualisation constraint for the airspace which is physically contiguous, abutted with a common boundary, for an authoritative definition refer to the AIP. At the point of release the file contains information available in the public domain. The content carries the same data quality statement and limitations as the content of the official UK AIP, see UK AIP Gen 0.1 Preface paragraph 5. The sector volumes reflect the operational sectorisation and this differs to the Eurocontrol NEST sector volumes that are used for network capacity planning.

11.12.2.1 Metadata

Specification	None
Encoding	None
Metadata elements	The metadata is included in the dataset as described in UK Reg (EU) No 2017/373[b], AIS.TR.340 Metadata requirements. The following metadata is provided: (a) the name of the organisations or entities providing the dataset; (b) the date and time when the dataset was provided; (c) the validity of the dataset; and (d) any limitations on the use of the dataset.

11.13 Additional information

11.13.1 General scope

Additional information	*Not applicable*

ANNEX A – Notification of corrections to Data Sets.

(Draft AIM manual part IV – Digital Data Sets 3.7 Notification of corrections to Data Sets)
All AIM Team - AIS Manual Part IV - Digital Data Sets (1) - DRAFT.pdf - All Documents (sharepoint.com)

If an AIRAC data set correction is necessary, providing the correction with more than 28 days ahead of the effective date increases its chances to be processed in time.

When no other option is available and it becomes necessary to correct an already issued digital data set, the following procedure shall be applied:

1. A NOTAM shall be issued notifying stakeholders about the problem.
    a. It shall indicate when and where the corrigenda data set is/will be made available.
2. A corrigendum data set(s) will be published.
    a. The correction shall be applied in all data sets that contain the wrong elements and each data set variant shall be re-issued in full, named identical to the original data set, with a suffix '_CORRIGENDA' added.

When the corrigendum data set is published at the same time or shortly (hours) after the NOTAM, the NOTAM shall clearly indicate which digital data sets are affected and how.

Example: "some data is incorrect, the effectivity of some data elements needs to be changed, etc".
The NOTAM will not contain information about the data set elements that are incorrect.

When the corrigendum data set is delayed (days) after the NOTAM, the NOTAM shall provide more detailed information about the error, allowing the users to decide what action needs to be taken.

If the problem affects a small number of data set elements, the NOTAM shall also indicate which exactly are these data items, by using either UUID values or natural key descriptors.

Example: "the declared distances of RWY 09R at EGLL are incorrect", etc."
If the problem affects a large number of items and identifying them all risks to generate a very long NOTAM, then the message shall contain a simple sentence.

Example "numerous data elements are affected'.

ANNEX B – Data set provision checklist

Extracted from Annex EUROCONTROL-GUID-172

Step 1 – checkpoints to be considered before releasing a *new digital AIS data set* as AIS Product:

Note: Checkpoints may also be considered during the AISP's Safety Support Assessment.
ID Check Status

1.1 Does a common specification (e.g. EUROCONTROL Specification) exist for the data set and is the data set in compliance with this specification?
Rationale: The data sets should be based on a commonly used standardised data exchange formats. This ensures interoperability and reduces the implementation costs.

1.2 Is the data set accompanied by a Data Product Specification (DPS)?
Rationale: The data sets shall be provided based on a DPS, allowing users to explore the content of a data set series and to identify the data of interest.
Note: A proposal for a common DPS structure and content is being developed under the ICAO IMP/WG-A group and will be included in the ICAO AIS Manual, part 4 – Digital Data Sets.

1.3 Was the information about the future availability of new data set(s) timely published by means of an Aeronautical Information Circular (AIC)?
Rationale: An AIC shall be promulgated to forecast important changes in air navigation services (such as a new digital data set series). The AIC should notify the intended date for the release of the new data set and the steps that the AIS is taking prior to that publication, such as the provision of a DPS and sample data (see the relevant checkpoints).

1.4 Were complete samples of the new data set made available to AIS users for testing purposes over an adequate period (e.g. 4- 6 update cycles6), prior to the official release to ensure a smooth transition?
Rationale: The provision of data set samples enables users to test their tools/software with real data. This reduces the risk of unexpected data constructs or missing data when data sets are used operationally.

1.5 Were all data set samples fully compliant with the relevant DPS(s)?
Rationale: A data set shall be compliant with the description provided in the relevant DPS. This verification cannot be made automatically and requires human analysis. This dedicated checkpoint ensures that such verification is actually done.

1.6 Were blocking issues reported by AIS users on the samples, if any, resolved satisfactorily?
Rationale: Data sets should not be officially provided if the quality aspects of the data sets are not assured and critical issues resolved. If the issues pertain to the AIS user's inability to ingest the data (e.g. internal process issues, drawbacks of an internal system) these should not be considered "blocking issues".

1.7 Will the data set be provided without any disclaimer that could prevent its use as data source?
Rationale: The experience of DAT Providers (DATPs) indicates that some obstacle data sets were issued with disclaimers that prevented their use by AIS users. This checkpoint ensures that AISP are aware of the blocking aspect of such disclaimers.

1.8 Will access to the data set be ensured for all the AIS users that wish to subscribe to the new AIS product?
Rationale: Digital AIS data sets are formally part of the "Aeronautical information products" family, as indicated in [RD 1]. Therefore, they should be accessible for subscription for any user, similarly to the availability of the AIP, AIP AMDT service, etc.

1.9 Was the AIP GEN 3.1.6 section timely updated with the required information at least two AIRAC cycles in advance of the effective date of the first digital AIS data set?
Rationale: GEN 3.1.6 contains information about Digital Data Sets provided by a State. The provision of a new AIS product is a major change, thus it needs to be notified at least two AIRAC cycles in advance.

Step 2 – checkpoints before removing the AIP tables:

Note: Checkpoints may also be considered during the AISP's Safety Support Assessment.
ID Check Status

2.1 Does the list of tables considered for removal fully match the relevant list of eligible tables of PANS-AIM?
Rationale: The tables that can be removed from the AIP when the equivalent data is provided in the relevant digital data set are explicitly listed in PANS-AIM (para 5.2.1.1.3). Removing any other tables causes disruptions for users - their processes might not be prepared to deal with missing tables or/and they might have difficulties finding/retrieving/inserting the missing data.

2.2 Will the AIP tables be removed altogether and is the information provided in these tables fully reflected in the equivalent digital data set?
Rationale: The AIP tables should only be removed when their content is fully reflected in the corresponding digital data set. By principle, the AIP tables should be removed altogether, rather than as subsets to avoid disruptions/inconsistencies for users.

2.3 Was the equivalent data set provided as an official AIS product for at least 13 update cycles (but no longer than 18 months)?
Rationale: The transition from the AIP tables towards data sets requires a different data ingestion process to be implemented by AIS users and may come with additional regulatory challenges. Although, a long transition period (e.g. 5 years) could facilitate adaptation on DATPs' part, the removal of AIP tables had been foreseen by ICAO as an incentive for the AISPs. Therefore, a shorter transition period should be considered (e.g. 12 to 18 months – 13 update cycles) to verify that AIS users' data set processing is reliable. This allows the data set ingestion process to be tested for the typical situations that may occur during that period, including winter/summer seasons.

2.4 If applicable, was the equivalent data set repeatedly provided for an adequate period (e.g. for the last six update cycles), without infringement of the AIRAC provisions?
Rationale: Most digital data sets include data subject to AIRAC cycle provisions. Compliance with the AIRAC cycle is as important for data sets as it is for paper products. Initially, corrections to already issued data sets may be expected due to process adjustments. This checkpoint ensures that AISP can still benefit from the AIP tables (paper version) until such issues are resolved.

2.5 Were external AIS users, including at least one DATP, able to use/ingest the equivalent data set repeatedly, without any blocking issues, for an adequate period (e.g. for the last six update cycles)?
Rationale: The communication between AISPs and AIS users should be maintained to collect feedback with regard to digital data sets and verify whether the product meets their expectations. If a data set is issued but is not actually used, its potential errors may remain undetected.

2.6 Were no discrepancies reported by AIS users between the digital data set and the corresponding AIP tables during this period?
Rationale: Discrepancies between the data contained in digital data sets and the AIP are considered a critical issue undermining users' confidence in the correctness and completeness of the digital product. Because of the large amount of data contained in digital data sets, its complexity, and the fact that an update might concern only a small part of the data, it might be difficult to identify such discrepancies. Verification should be done on a series of data sets' updates.

2.7 Was the removal of the AIP tables timely announced (e.g. 3-6 months in advance) by means of an Aeronautical Information Circular (AIC)?
Rationale: The transition from the AIP tables towards data sets requires users to implement a different data ingestion process. For DATPs, this comes with changes to processes, which are strictly regulated and may trigger the need for staff training or reallocation. Therefore, the transition needs to be planned carefully. An advanced warning is critical for the DATPs' planning. Changes in the structure and content of the AIP fall under the scope of information that should be announced in advance by means of an AIC. This ensures that the information reaches all AIS users. The AIC should contain information about the intended date for the removal of the AIP tables and repeat information provided earlier about the provision of equivalent information in digital data sets.

2.8 Was the AIP GEN 3.1.6 section checked and timely updated, if necessary, with the target/ultimate information on the digital AIS data set?
Rationale: Following the issuance of relevant AIC, GEN 3.1.6 should be updated with the final information on the digital AIS data set, as the information confirmed at checkpoint 1.9 may not be up to date.

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[a] *Aeronautical Data Quality – Guidance for the provision and maintenance of aeronautical data and aeronautical information in UK Aeronautical Information Products CAP 1054 - Edition 2, January 2022*
[b] *UK Reg (EU) No 2017/373 (The UK ATM Provision of Services Regulation) – Last updated 20 November 2021*
[c] *Airspace Change – CAP1616 - Fourth edition published March 2021*
[d] *Ops Spec CR001_2023*
[e] *ICAO Doc 10066 Procedures for Air Navigation Services – Aeronautical Information Management – First Edition 2018 (Amdt No. 2)*
[f] *Aerodrome Survey Guidance – CAP 1732 - Edition 1 December 2018*
[g] *Aerodrome Survey Information – CAP 232* - Edition 3, Amendment 1, 31 January 2008