

AERONAUTICAL INFORMATION CIRCULAR Y 129/2023

UNITED KINGDOM



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(Content - CAA - Instrument Flight Procedures)

Date Of Publication

14 Dec 2023

Subject

Operational

Cancellation

Y 107/2023



PROMULGATION IN THE UK AIP OF RNAV SUBSTITUTION TO CONVENTIONAL PROCEDURES DEPENDENT ON GROUND BASED NAVIGATION AIDS TARGETED FOR REMOVAL

1 Introduction

In 2008 NATS, the UK en-route Air Navigation Service Provider (NATS) and owner of the majority Ground Based Navigation Aids announced, following consultation with industry, their intention to reduce the number of en-route DVORs and NDBs in the UK.

Following the publication of UK CAA CAP 1781 - "DVOR/DME/NDB Rationalisation: Guidance for the use of RNAV Substitution" in June 2021, various aerodromes have identified the use of RNAV Substitution as their preferred option to mitigate the loss of ground-based navigation aids in support of their operations. RNAV Substitution is defined by the use of a suitable RNAV capability and Flight Management System to fly an overlay of a conventional procedure as the Primary Means of Navigation when a conventional ground-based navaid is out-of-service or removed.

When RNAV Substitution is identified as the preferred option in accordance with the guidance as set out in CAP 1781, then the airspace change process (CAP 1616) applies.

Once RNAV substitution is approved, sponsors must submit an Aeronautical Information Publication (AIP) Change request (ACR) to AIS with the aim at amending all relevant charts which shall indicate that the use of RNAV Substitution has been approved by the UK CAA.

The purpose of this AIC is to demonstrate how the use of RNAV Substitution is promulgated on affected navigation aids, aerodromes and Instrument Flight Procedures.

This document will be continuously updated, aviation users are advised to check for updates to this on a regular basis – the title of this document will remain the same although the AIC reference number will change and associated links to the document may expire.

2 Scope

The application of RNAV Substitution will impact the promulgation of aeronautical data in the AIP, below is a list of impacted sections in the AIP:

- All AIP entries of the relevant navigation aids (e.g. GEN 2.5, ENR 4.1, ENR 3.2, AD 2.19);
- Various types of aeronautical charts depicting these navigation aids (e.g. ENR 6, AD 2.24, VFR charts etc.).

2.1 List of affected Navigation Aids

Below is a list of navigation aids and IFPs which have been approved by the CAA for the use of RNAV Substitution. This list will be continuously updated.

Name of Station	ID	Type of Navigation Aid	Affected Aerodromes	Affected Procedures	Effective AIRAC
Brecon	BCN	VOR	EGGD	SID BCN 1X SID BCN 1Z SID EXMOR 1X SID EXMOR 1Z	13/2022
Brecon	BCN	VOR	EGGF	SID BCN 1A SID BCN 1B	01/2023
Whitegate NDB	WHI	NDB	EGGP	SID NANTI 2V	11/2023

Name of Station	ID	Type of Navigation Aid	Affected Aerodromes	Affected Procedures	Effective AIRAC
Ockham	OCK	VOR/DME	EGLF, EGKK, EGLL	SID BOGNA 1M SID BOGNA 1V SID GOGSI 2F SID GOGSI 2G SID GAGSU 2J SID GAGSU 2K EGLL INITIAL AP-PROACH PROCEDURES ILS RWY 09L/R via BIG and OCK EGLL INITIAL AP-PROACH PROCEDURES ILS RWY 27L/R via OCK EGLL INITIAL AP-PROACH PROCEDURES ILS RWY 09L/R via CHT and EPM EGLL INITIAL AP-PROACH PROCEDURES ILS RWY 27L/R via CHT and EPM	13/2023

3 Promulgation

One navigation aid may be the dependency for various IFPs at different aerodrome and each aerodrome may have different strategies and/or timelines employed to mitigate the risk against a navigation aid being removed. Therefore, a navigation aid may be depicted differently between multiple airfields depending on whether RNAV Substitution is applied or not.

Once the use of RNAV Substitution has been approved for an IFP, the relevant aeronautical information pertaining to the navigation aid and procedures will be promulgated as follows:

1. AIP ENR 4.1

Following the DVOR rationalisation programme, VOR dependencies were removed from the ENR ATS route structure and as such "VOR" related data was also removed from this table. Therefore, only the DME elements of a navigation aid is published along with the remarks "No associated en-route VOR".

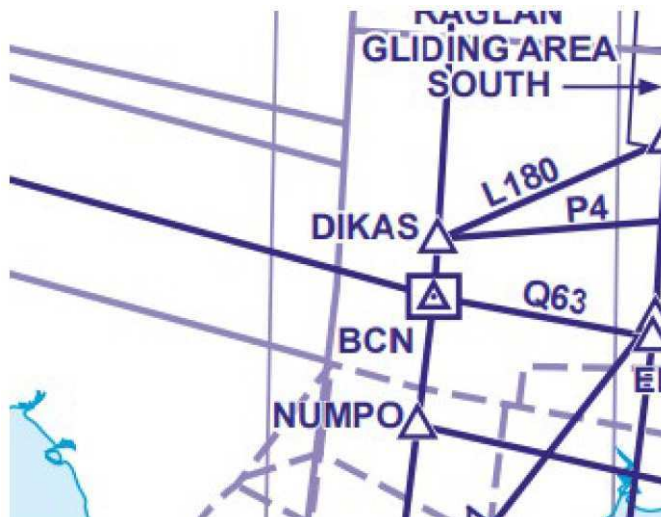
No changes will be applied at this time.

Any future change to this section will be advised in updates to this AIC.

BRECON DME 0.59°W (2022)	BCN	121Y 117.450 MHz	H24	514331.89N 0031546.92W	1450 FT	No associated En-route VOR. DME DOC: 65 NM/50000 FT (125 NM/50000 FT in Sector R136-001).
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2. AIP ENR 6 Charts

All charts which include the depiction of Navigation aids such as ENR 6.68 will reflect the aeronautical data as found in ENR 4.1.



3. AIP AD 2.19

Following the DVOR rationalisation programme, VOR dependencies were removed from the ENR ATS route structure and as such "VOR" related information was also removed from ENR 4.1.

VOR information will be published in AD 2.19 for aerodromes with Instrument flight procedures dependent on the navigation aid and will be annotated as "RNAV Substitution Only." in the Remarks columns.

VOR/DME: 0.59°W (2022) 0.80°W (2019)	BCN	121Y 117.450 MHz	H24	514331.88N 0031546.92W	1450 FT	RNAV Substitution Only VOR DOC: 65 NM/50000 FT. DME DOC: 65 NM/50000 FT (125 NM/50000 FT in Sector R136-001).
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4. AIP AD 2.22

No changes will be applied at this time.

Any future change to this section will be advised in updates to this AIC.

5. AIP AD 2.24

i. ATCSMAC Charts

Information relating to navigation aids on ATCSMAC charts will be reviewed.

No changes will be made to the way the navigation aid is depicted on the chart and the navigation aid will remain until such time it is reviewed and deemed irrelevant to the chart or when the RNAV Substituted procedure is withdrawn. If deemed relevant for the design of the chart, the navigation aid will be published on the chart as standard.



ii. Instrument Flight Procedure Charts

IFP charts in the AD 2.24 section will include the following changes:

- “(RNAV SUBSTITUTION ONLY)” to be added to the end of the affected chart title, this addition will not be part of the ATC IFP clearance to pilots.
- Warning box to be added within the charts with the following information as a minimum:
 - “WARNING - RNAV Substitution only due: BCN VOR Not Available”
 - Nav Aid Morse Code will be removed
- Displayed as such in the table of charts:

EGGD AD 2.24 CHARTS RELATED TO AN AERODROME	
AERODROME CHART - ICAO	AD 2 EGGD-2-1
AIRCRAFT PARKING/DOCKING CHART - ICAO	AD 2 EGGD-2-2
CONTROL ZONE and CONTROL AREA CHART	AD 2 EGGD-4-1
ATC SURVEILLANCE MINIMUM ALTITUDE CHART - ICAO	AD 2 EGGD-5-1
STANDARD DEPARTURE CHART - INSTRUMENT (SID) BCN 1X 1Z (RNAV Substitution Only) - ICAO	AD 2 EGGD-8-1
STANDARD DEPARTURE CHART - INSTRUMENT (SID) BADIM 1X WOTAN 1Z - ICAO	AD 2 EGGD-8-2
STANDARD DEPARTURE CHART - INSTRUMENT (SID) EXMOR 1X 1Z - ICAO	AD 2 EGGD-8-3

iii. VFR Charts

No changes will be applied at this time.

Any future change to this section will be advised in updates to this AIC.