

[REDACTED]
[REDACTED]
6 July 2015
EIR Reference: E0002831

Dear [REDACTED]

I am writing in respect of your recent request of 1 July 2016, for the release of information held by the Civil Aviation Authority (CAA).

Your request:

'Under the Freedom of Information Act, please can you supply a copy of the NATS/CAA AIP Supplement from Summer 2014 that detailed the London Heathrow Airport RNAV Westerly SID Trial routes that were to route towards Slough and Maidenhead.

I understand from

<http://www.windsorexpress.co.uk/News/Areas/Windsor/Heathrow-to-cut-short-flight-path-trials-over-Old-Windsor-and-Ascot-02102014.htm>

that the trials were due to start on October 20th 2014 but were cancelled in early October 2014.'

Our response:

Having considered your request in line with the provisions of the Environmental Information Regulations 2004, we are able to provide the information below.

In your request you have asked for trials pertinent to Maidenhead and Slough, however the article you have referenced relates to Windsor and Ascot. Therefore, I have attached the Supplements for all of the SID trials.

If you are not satisfied with how we have dealt with your request in the first instance you should approach the CAA in writing at:-

Caroline Chalk
Head of External Information Services
Civil Aviation Authority
Aviation House
Gatwick Airport South
Gatwick
RH6 0YR

caroline.chalk@caa.co.uk

Civil Aviation Authority

Aviation House Gatwick Airport South Gatwick RH6 0YR www.caa.co.uk

Telephone 01293 768512 foi.requests@caa.co.uk

The CAA has a formal internal review process for dealing with appeals or complaints in connection with requests under the Environmental Information Regulations. The key steps in this process are set in the attachment.

Should you remain dissatisfied with the outcome you have a right to appeal against the decision by contacting the Information Commissioner at:-

Information Commissioner's Office
FOI/EIR Complaints Resolution
Wycliffe House
Water Lane
Wilmslow
SK9 5AF
<https://ico.org.uk/concerns/>

If you wish to request further information from the CAA, please use the form on the CAA website at <http://publicapps.caa.co.uk/modalapplication.aspx?appid=24>.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Rihanne Stephen', written in a cursive style.

Rihanne Stephen
Information Rights Officer

CAA INTERNAL REVIEW & COMPLAINTS PROCEDURE

- The original case to which the appeal or complaint relates is identified and the case file is made available;
- The appeal or complaint is allocated to an Appeal Manager, the appeal is acknowledged and the details of the Appeal Manager are provided to the applicant;
- The Appeal Manager reviews the case to understand the nature of the appeal or complaint, reviews the actions and decisions taken in connection with the original case and takes account of any new information that may have been received. This will typically require contact with those persons involved in the original case and consultation with the CAA Legal Department;
- The Appeal Manager concludes the review and, after consultation with those involved with the case, and with the CAA Legal Department, agrees on the course of action to be taken;
- The Appeal Manager prepares the necessary response and collates any information to be provided to the applicant;
- The response and any necessary information is sent to the applicant, together with information about further rights of appeal to the Information Commissioners Office, including full contact details.

AIP SUPPLEMENT 13/2014

UNITED KINGDOM



NATS Services
UK Aeronautical Information Services
Heathrow House
Bath Road, Cranford
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ais.supervisor@nats.co.uk
<http://www.ais.org.uk>
020-7453 6519 (Content - SARG/Airspace Regulation)
0191-203 2329 (Distribution - Communisis UK)

Date Of Publication

20 March 2014

Notes

- (a) All times are UTC.
- (b) References are to the UK AIP.
- (c) Information, where applicable, should also be used to amend appropriate charts.



LONDON HEATHROW AIRPORT - RNAV1 DOKEN SID TRIAL

1 Introduction

- 1.1 **This AIP Supplement 13/2014 replaces AIP Supplement 2/2014, all DOKEN SID coding tables have changed. The change is limited to the Speed Constraint column.**
- 1.2 The purpose of this AIP Supplement is to detail the trial operation of RNAV1 DOKEN SIDs from London Heathrow Airport. **All Carriers, that are RNAV1 equipped and route via MID, must have the DOKEN SIDs listed at paragraph 1.5 coded and available for use from the trial's commencement on Monday 16 December 2013.** Carriers not suitably equipped will be issued MID SIDs.
- 1.3 The trial RNAV1 DOKEN SID has been designed to reflect ATC tactical vectoring of aircraft that flight plan the current MID westerly SID. This trial will be for westerly departures only.
- 1.4 The new DOKEN SIDs have an equivalent track mileage of aircraft operating the current MID SID with ATC intervention. Details of the SID charts can be found at Annex A of this document.
- 1.5 There are 4 DOKEN SIDs, 2 per runway with the additional purpose to gather data regarding noise dispersion utilising offset tracks. Both westerly runways will have an inner and outer offset track either side of the current MID SID. The noise profiles will be monitored to determine any reduction in noise as a result of the offset tracks. Heathrow ATC GMP will issue the appropriate SID for the departure runway based on a weekly rotational schedule, this will be handled by NATS systems. Please see Annex E for details of the rotational schedule.
- 1.6 This trial will introduce the following RNAV1 SIDs:
 - Annex A - DOKEN1A - Runway 27R - Inner Offset;
 - Annex B - DOKEN1B - Runway 27R - Outer Offset
 - Annex C - DOKEN1C - Runway 27L - Inner Offset;
 - Annex D - DOKEN1D - Runway 27L - Outer Offset.
- 1.7 The trial RNAV1 DOKEN SIDs are available only to aircraft that are equipped and approved in accordance with the requirements of JAA TGL-10, or equivalent, and where the operator has been approved by their State of Registry for RNAV1 operations.
- 1.8 In addition, the trial RNAV1 DOKEN SIDs are only available to those aircraft that are either GNSS equipped or that have a **DME/ DME and INS/IRU with automatic runway updates.**
- 1.9 There are no critical nav aids associated with the RNAV1 SIDs assuming the use of GNSS or INS/IRU for initial guidance up to an altitude of 2000 ft.

2 Purpose of the RNAV1 DOKEN SID Trial

- 2.1 The purpose of the trial is:
 - (a) To continue to gain ATC and aircraft operator experience of RNAV1 operations within the UK;
 - (b) To assess track keeping accuracy of aircraft flying RNAV1 SIDs;
 - (c) To assess route placement against holding aircraft;
 - (d) To assess the suitability of design criteria for RNAV1 procedures;
 - (e) To confirm the flyability of RNAV1 SIDs;
 - (f) To develop proof of concept regarding affected noise dispersion.

3 RNAV1 Trial Procedure

- 3.1 The trial RNAV1 DOKEN SIDs are detailed in Annexes A-D to this supplement together with appropriate navigation database coding tables.
- 3.2 RNAV1 DOKEN SIDs must be used on a 24-hour basis (H24), unless notified otherwise.

- 3.3 The RNAV1 DOKEN SIDs will be clearly identified and be distinguishable from the conventional Midhurst SIDs by using the new waypoint designator DOKEN as the prefix as well as different route identifiers.
- 3.4 Crews of suitably equipped aircraft will be issued the RNAV1 DOKEN SID clearance by Heathrow ATC GMP. **Aircraft which are not equipped to the appropriate standard will be issued the conventional MID SID clearance.**
- 3.5 As part of the requirements for initial call on departure, participating flight crews are to advise ATC by stating the SID that they are flying, e.g. '(Callsign), DOKEN XX, passing xxxx feet, climbing altitude xxxx feet'.
- 3.6 Speed limits apply at specified waypoints for track containment purposes. Aircraft must adhere to the specified speeds when following this trial. If the specified speeds cannot be adhered to flight crew must advise ATC of non-compliance as soon as it is safe to do so.
- 3.7 Aircraft flying the RNAV1 DOKEN SIDs may receive radar vectors from ATC in keeping with operating procedures (i.e. following NPR adherence), although the purpose of the trial is to gather track-keeping data which should see the majority of aircraft left on their own navigation following the standard instrument departure.
- 3.8 Throughout the trial period the conventional MID SIDs, as detailed in the UK AIP, will remain available. These SIDs will be used by any aircraft not suitably equipped, by any Gatwick positioning flight, by aircraft not participating in the trial and for any other occasion when the trial SID cannot be issued.
- 3.9 Radio Communication Failure Procedures: Aircraft experiencing loss of communications having been cleared for a RNAV1 DOKEN SID should continue in accordance with UK AIP ENR 1-1-3 General Flight Procedures, Paragraph 3.4.2.4.2 (b) (ii), which stipulates: 'If failure occurs when the aircraft is following a notified departure procedure such as a Standard Instrument Departure (SID) and clearance to climb, or re-routing instructions have not been given, the procedure should be flown in accordance with the published lateral track and vertical profile, including any stepped climbs, until the last position, fix, or waypoint, published for the procedure, has been reached. Then, for that part of the period of seven minutes that may remain, maintain the current speed and last assigned level or minimum safe altitude if this is higher.'
- 3.10 Aircraft avionics failure: if such an event should occur the flight crew should make their intentions known to ATC as soon as possible and follow their standard MOPS for such an occurrence.
- 3.11 In the event that the required navigation equipment fails, the flight crew shall advise ATC that they can no longer continue with the procedure, or are unable to accept the procedure, with the phraseology:
- '(Callsign), unable DOKEN (XX) due equipment.'
- In such an event, ATC shall provide radar vectors and climb instructions in accordance with standard procedures.
- 3.12 If the noise dispersal aspect of the trial be suspended for any reason, then only DOKEN 1A and DOKEN 1C will be used.

4 Air Navigation Order

- 4.1 For the Purpose of the trial these procedures are hereby notified for the purposes of Articles 124(1) and 125(1) of the Air Navigation: The Order and the Regulations, CAP 393, Third edition incorporating amendments up to 1/2012.

5 Flight Planning

- 5.1 For this trial all suitably equipped aircraft, as detailed in their flight plan, will be issued the DOKEN SID when flight planning via MID and when westerly departures are in use. **Aircraft Operators do not need to change the manner in which they file flight plans for this trial.** Allocation of the appropriate SID will be handled by NATS Systems. However the DOKEN SIDs may be flight planned and it is important to note that flight plans will not be rejected if DOKEN is selected.
- 5.2 After reaching DOKEN and according to the airway that has been flight planned, carriers can expect to flight plan and route as follows:

DOKEN	DCT	DRAKE	DCT	OSPOL	M189
DOKEN	DCT	DRAKE	L151		
DOKEN	DCT	BENBO	N615		
DOKEN	DCT	HARDY	M605		

- 5.3 Schedule – the alternation between DOKEN 1A/1C and DOKEN 1B/1D will occur at prior to 0400 (Local Time) each Monday morning.

6 Trial Implementation Date

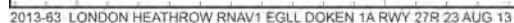
- 6.1 This trial will be effective from the 16 December 2013 at 0400 and end at 0259 on 15 June 2014.

Note:

- The end of this trial may be subject to change due to data gathering requirements;
- The end date of this trial will be confirmed by NOTAM, following which this supplement and the associated procedures will be withdrawn.

7 Trial Contact

- 7.1 Should any operator require further assistance please email NATS Customer Affairs at the following email address, quoting this AIP Supplement: CustomerAffairs@nats.co.uk



Standard Instrument Departure Coding Tables

London Heathrow Runway 27R DOKEN 1A

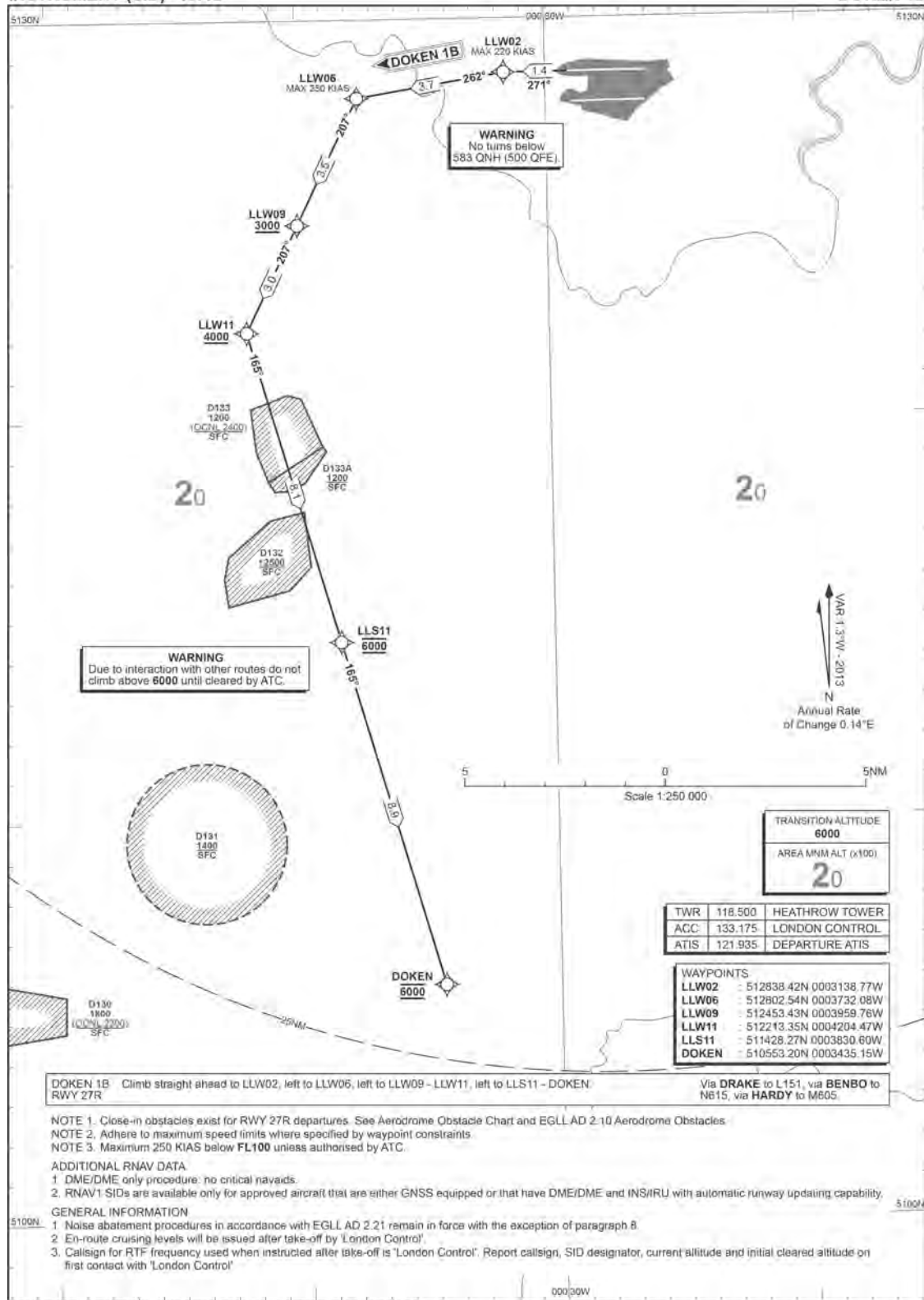
Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
DOKEN 1A	001	CA	-	-	-	271° (269.7°)	-1.3	-	-	+583	-	RNAV1
DOKEN 1A	002	CF	LLW02	512838.42N 0003138.77W	N	271° (269.7°)	-1.3	1.4	LEFT	-	-220	RNAV1
DOKEN 1A	003	TF	LLW03	512717.10N 0003620.81W	N	247° (245.3°)	-1.3	3.2	LEFT	-	-250	RNAV1
DOKEN 1A	004	TF	LLW08	512407.25N 0003849.13W	N	207° (206.0°)	-1.3	3.5	-	+3000	-	RNAV1
DOKEN 1A	005	TF	LLW13	512047.39N 0004124.85W	N	207° (206.0°)	-1.3	3.7	LEFT	+4000	-	RNAV1
DOKEN 1A	006	TF	LLS11	511428.27N 0003830.60W	N	165° (163.9°)	-1.3	6.6	-	6000	-	RNAV1
DOKEN 1A	007	TF	DOKEN	510553.20N 0003435.15W	N	165° (163.9°)	-1.3	8.9	-	6000	-	RNAV1

2013-63_LONDON HEATHROW RNAV1 EGLL DOKEN 1A RWY 27R CODING 14 FEB 14

**RNAV1 (DME/DME or GNSS)
STANDARD DEPARTURE CHART -
INSTRUMENT (SID) - ICAO**

DISTANCES IN NAUTICAL MILES
TRACKS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET

**LONDON HEATHROW
RWY 27R
DOKEN 1B**



Standard Instrument Departure Coding Tables

London Heathrow Runway 27R DOKEN 1B

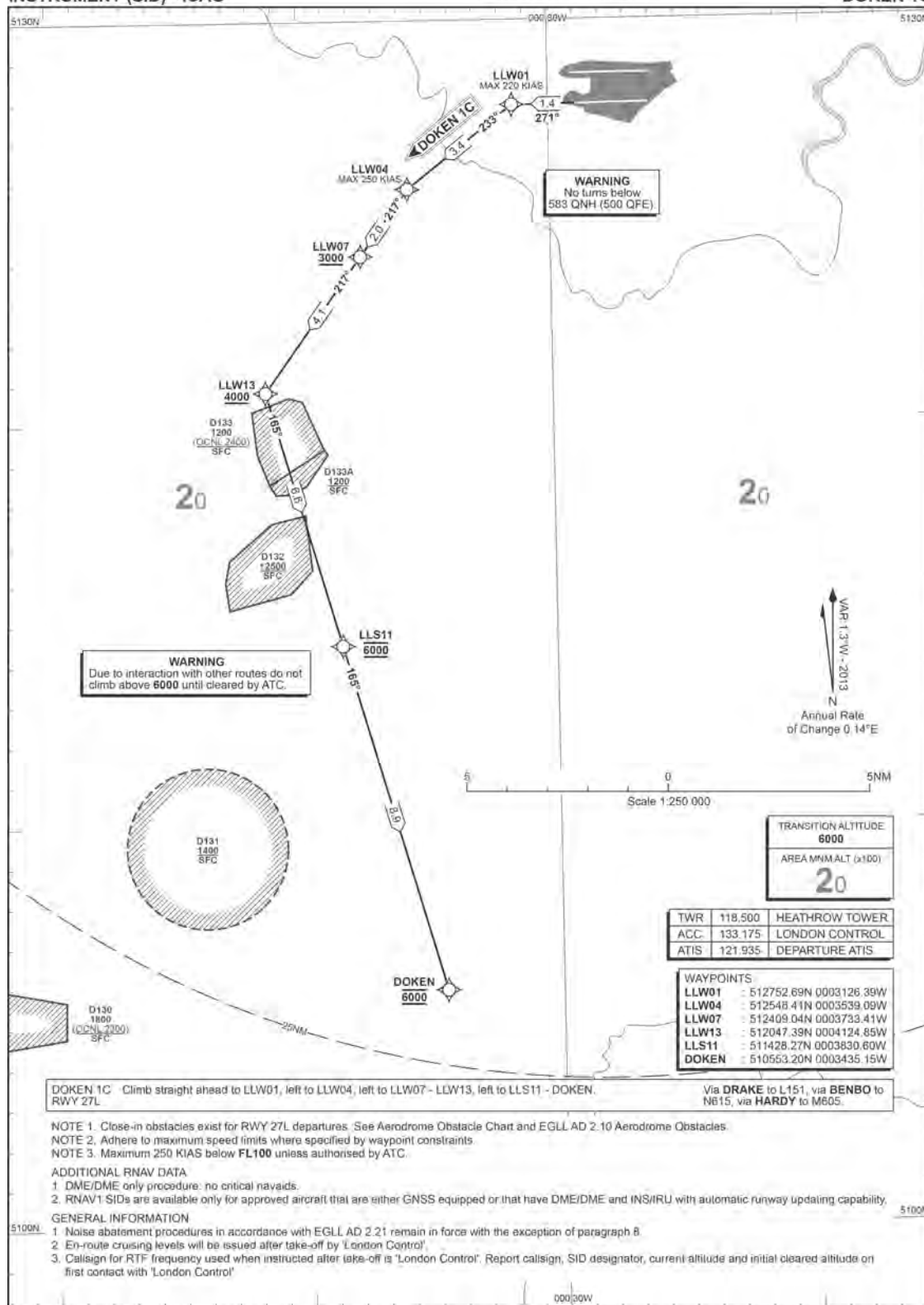
Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
DOKEN 1B	001	CA	-	-	-	271° (269.7°)	-1.3	-	-	+583	-	RNAV1
DOKEN 1B	002	CF	LLW02	512838.42N 0003138.77W	N	271° (269.7°)	-1.3	1.4	LEFT	-	-220	RNAV1
DOKEN 1B	003	TF	LLW06	512802.54N 0003732.08W	N	262° (260.8°)	-1.3	3.7	LEFT	-	-250	RNAV1
DOKEN 1B	004	TF	LLW09	512453.43N 0003959.76W	N	207° (206.0°)	-1.3	3.5	-	+3000	-	RNAV1
DOKEN 1B	005	TF	LLW11	512213.35N 0004204.47W	N	207° (206.0°)	-1.3	3.0	LEFT	+4000	-	RNAV1
DOKEN 1B	006	TF	LLS11	511428.27N 0003830.60W	N	165° (163.9°)	-1.3	8.1	-	6000	-	RNAV1
DOKEN 1B	007	TF	DOKEN	510553.20N 0003435.15W	N	165° (163.9°)	-1.3	8.9	-	6000	-	RNAV1

2013-63_LONDON HEATHROW RNAV1 EGLL DOKEN 1B RWY 27R CODING 14 FEB 14

RNAV1 (DME/DME or GNSS) STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO

DISTANCES IN NAUTICAL MILES
TRACKS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET

**LONDON HEATHROW
RWY 27L
DOKEN 1C**



2013-63_LONDON HEATHROW RNAV1 EGLL DOKEN 1C RWY 27L 23 AUG 13

Standard Instrument Departure Coding Tables

London Heathrow Runway 27L DOKEN 1C

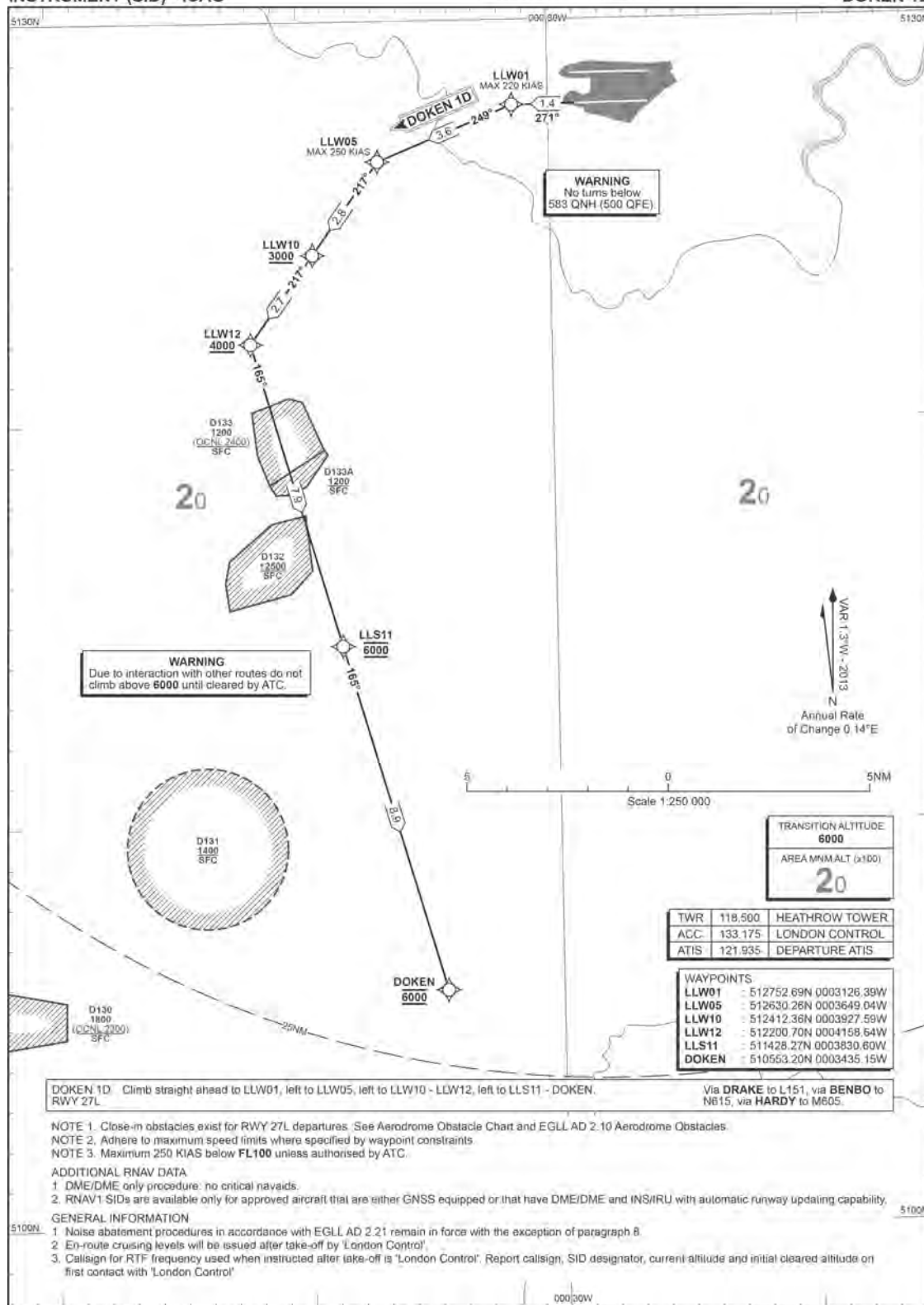
Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
DOKEN 1C	001	CA	-	-	-	271° (269.7°)	-1.3	-	-	+583	-	RNAV1
DOKEN 1C	002	CF	LLW01	512752.69N 0003126.39W	N	271° (269.7°)	-1.3	1.4	LEFT	-	-220	RNAV1
DOKEN 1C	003	TF	LLW04	512548.41N 0003539.09W	N	233° (231.8°)	-1.3	3.4	LEFT	-	-250	RNAV1
DOKEN 1C	004	TF	LLW07	512409.04N 0003733.41W	N	217° (215.7°)	-1.3	2.0	-	+3000	-	RNAV1
DOKEN 1C	005	TF	LLW13	512047.39N 0004124.85W	N	217° (215.7°)	-1.3	4.1	LEFT	+4000	-	RNAV1
DOKEN 1C	006	TF	LLS11	511428.27N 0003830.60W	N	165° (163.9°)	-1.3	6.6	-	6000	-	RNAV1
DOKEN 1C	007	TF	DOKEN	510553.20N 0003435.15W	N	165° (163.9°)	-1.3	8.9	-	6000	-	RNAV1

2013-63_LONDON HEATHROW RNAV1 EGLL DOKEN 1C RWY 27L CODING 12 FEB 14

**RNAV1 (DME/DME or GNSS)
STANDARD DEPARTURE CHART -
INSTRUMENT (SID) - ICAO**

DISTANCES IN NAUTICAL MILES
TRACKS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET

**LONDON HEATHROW
RWY 27L
DOKEN 1D**



2013-63_LONDON HEATHROW RNAV1 EGLL DOKEN 1C RWY 27R 23 AUG 13

Standard Instrument Departure Coding Tables

London Heathrow Runway 27L DOKEN 1D

Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
DOKEN 1D	001	CA	-	-	-	271° (269.7°)	-1.3	-	-	+583	-	RNAV1
DOKEN 1D	002	CF	LLW01	512752.69N 0003126.39W	N	271° (269.7°)	-1.3	1.4	LEFT	-	-220	RNAV1
DOKEN 1D	003	TF	LLW05	512630.26N 0003649.04W	N	249° (247.8°)	-1.3	3.6	LEFT	-	-250	RNAV1
DOKEN 1D	004	TF	LLW10	512412.36N 0003927.59W	N	217° (215.7°)	-1.3	2.8	-	+3000	-	RNAV1
DOKEN 1D	005	TF	LLW12	512200.70N 0004158.64W	N	217° (215.7°)	-1.3	2.7	LEFT	+4000	-	RNAV1
DOKEN 1D	006	TF	LLS11	511428.27N 0003830.60W	N	165° (163.9°)	-1.3	7.9	-	6000	-	RNAV1
DOKEN 1D	007	TF	DOKEN	510553.20N 0003435.15W	N	165° (163.9°)	-1.3	8.9	-	6000	-	RNAV1

2013-63_LONDON HEATHROW RNAV1 EGLL DOKEN 1D RWY 27L CODING 14 FEB 14

ANNEX E				
Schedule				
Week	Start	Finish	RWY 27R	RWY 27L
1	16 Dec 13 (0400 hrs)	23 Dec 13 (0359 hrs)	DOKEN1A	DOKEN1C
2	23 Dec 13 (0400 hrs)	30 Dec 13 (0359 hrs)	DOKEN1B	DOKEN1D
3	30 Dec 13 (0400 hrs)	6 Jan 14 (0359 hrs)	DOKEN1A	DOKEN1C
4	6 Jan 14 (0400 hrs)	13 Jan 14 (0359 hrs)	DOKEN1B	DOKEN1D
5	13 Jan 14 (0400 hrs)	20 Jan 14 (0359 hrs)	DOKEN1A	DOKEN1C
6	20 Jan 14 (0400 hrs)	27 Jan 14 (0359 hrs)	DOKEN1B	DOKEN1D
7	27 Jan 14 (0400 hrs)	3 Feb 14 (0359 hrs)	DOKEN1A	DOKEN1C
8	3 Feb 14 (0400 hrs)	10 Feb 14 (0359 hrs)	DOKEN1B	DOKEN1D
9	10 Feb 14 (0400 hrs)	17 Feb 14 (0359 hrs)	DOKEN1A	DOKEN1C
10	17 Feb 14 (0400 hrs)	24 Feb 14 (0359 hrs)	DOKEN1B	DOKEN1D
11	24 Feb 14 (0400 hrs)	3 Mar 14 (0359 hrs)	DOKEN1A	DOKEN1C
12	3 Mar 14 (0400 hrs)	10 Mar 14 (0359 hrs)	DOKEN1B	DOKEN1D
13	10 Mar 14 (0400 hrs)	17 Mar 14 (0359 hrs)	DOKEN1A	DOKEN1C
14	17 Mar 14 (0400 hrs)	24 Mar 14 (0359 hrs)	DOKEN1B	DOKEN1D
15	24 Mar 14 (0400 hrs)	31 Mar 14 (0359 hrs)	DOKEN1A	DOKEN1C
16	31 Mar 14 (0400 hrs)	7 Apr 14 (0359 hrs)	DOKEN1B	DOKEN1D
17	7 Apr 14 (0400 hrs)	14 Apr 14 (0359 hrs)	DOKEN1A	DOKEN1C
18	14 Apr 14 (0400 hrs)	21 Apr 14 (0359 hrs)	DOKEN1B	DOKEN1D
19	21 Apr 14 (0400 hrs)	28 Apr 14 (0359 hrs)	DOKEN1A	DOKEN1C
20	28 Apr 14 (0400 hrs)	5 May 14 (0359 hrs)	DOKEN1B	DOKEN1D
21	5 May 14 (0400 hrs)	12 May 14 (0359 hrs)	DOKEN1A	DOKEN1C
22	12 May 14 (0400 hrs)	19 May 14 (0359 hrs)	DOKEN1B	DOKEN1D
23	19 May 14 (0400 hrs)	26 May 14 (0359 hrs)	DOKEN1A	DOKEN1C
24	26 May 14 (0400 hrs)	2 Jun 14 (0359 hrs)	DOKEN1B	DOKEN1D
25	2 Jun 14 (0400 hrs)	9 Jun 14 (0359 hrs)	DOKEN1A	DOKEN1C
26	9 Jun 14 (0400 hrs)	16 Jun 14 (0359 hrs)	DOKEN1B	DOKEN1D

INTENTIONALLY BLANK

AIP SUPPLEMENT 14/2014

UNITED KINGDOM



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020-7453 6519 (Content - SARG/Airspace Regulation)
0191-203 2329 (Distribution - Communisis UK)

Date Of Publication

20 March 2014

Notes

- (a) All times are UTC.
- (b) References are to the UK AIP.
- (c) Information, where applicable, should also be used to amend appropriate charts.



LONDON HEATHROW AIRPORT - RNAV1 EASTERLY MID SID NOISE DISPERSION TRIAL

1 Introduction

1.1 **This AIP Supplement 14/2014 replaces AIP Supplement 38/2013, all MID SID coding tables have changed. The change is limited to the Speed Constraint column.**

1.2 The purpose of this AIP Supplement is to detail trial RNAV1 MID SID procedures for Heathrow Midhurst departures from Runway 09R and 09L. The trial will operate for a period of 6 months **commencing on Monday 16 December 2013**. For the participating airline, British Airways (BA), the RNAV 1 trial procedures are detailed in the Annexes below.

1.3 There are 4 MID SIDs, 2 per runway, and the purpose of the trial is to alternate the noise dispersion utilising offset tracks. Both easterly runways will have an inner and outer offset track either side of the current MID SIDs. The noise profiles will be monitored to determine any reduction in noise as a result of the offset tracks. Heathrow ATC GMP will issue the appropriate SID for the departure runway based on a weekly rotational schedule, this will be handled by NATS systems.

- Annex A - MID 1M - Runway 09R - Outer Offset;
- Annex B - MID 1N - Runway 09R - Inner Offset;
- Annex C - MID 1P - Runway 09L - Outer Offset;
- Annex D - MID 1Q - Runway 09L - Inner Offset.

The trial RNAV1 MID SIDs will be available, H24, from 0400 hrs Monday 16 December 2013. The trial will end at 0259 hrs on 15 June 2014 unless notified otherwise.

Notes:

- The end date of this trial may be subject to change due to data gathering requirements;
- The end date of this trial will be confirmed by NOTAM, following which this supplement and the associated procedures will be withdrawn.

1.4 Trial RNAV 1 procedures **have been introduced for use by BA only**. This has been agreed with NATS and approved by the CAA. BA participating aircraft are equipped and approved in accordance with the requirements of JAA TGL-10, or equivalent, and where the operator has been approved by their State of Registry for RNAV1 operations.

1.5 In addition, the trial RNAV1 MID SIDs are only available to those aircraft that are either GNSS equipped or that have a **DME/DME and INS/IRU with automatic runway updates**.

2 Purpose of the RNAV1 MID SID Trial

2.1 The purpose of the trial is to establish a proof of concept for noise dispersion and for predictable respite. A respite schedule is at Annex E.

3 Trial Procedures

3.1 The trial RNAV1 MID SIDs are detailed in Annexes A - D of this Supplement together with the associated navigation database coding tabulation.

3.2 The trial RNAV1 MID SIDs will be used by BA whenever Heathrow is operating on easterlies.

3.3 The trial SIDs are clearly identified and distinguishable from the conventional SIDs by use of a specific suffix.

3.4 **BA do not need to change the manner in which flight plans are filed for this trial** i.e. BA should flight plan as normal for the MID conventional SID. Adhering to Annex E, ATC systems will automatically assign the correct trial RNAV1 MID SID if the aircraft is suitably equipped. The SID assigned to crews will be confirmed through automated data link clearance or voice communication from ATC. If a BA aircraft is not suitably equipped, ATC systems will allocate a conventional MID 3J/3K SID.

3.5 Conventional SIDs, as notified in the UK AIP remain in force. All other operators will utilise the conventional MID 3J/3K SIDs.

3.6 Should a BA aircraft be unable to fly the trial SIDs, ATC must be informed as soon as possible, ATC will then issue appropriate instructions.

- 3.7 To enable data capture to facilitate robust analysis, where operationally achievable, aircraft will not be vectored until they are above the MID NPR.
- 3.8 Radio Communication Failure Procedures: Aircraft experiencing loss of communications having been cleared for a RNAV1 MID SID should continue in accordance with UK AIP ENR 1-1-3 General Flight Procedures, Paragraph 3.4.2.4.2 (b) (ii), which stipulates: 'If failure occurs when the aircraft is following a notified departure procedure such as a Standard Instrument Departure (SID) and clearance to climb, or re-routing instructions have not been given, the procedure should be flown in accordance with the published lateral track and vertical profile, including any stepped climbs, until the last position, fix, or waypoint, published for the procedure, has been reached. Then, for that part of the period of seven minutes that may remain, maintain the current speed and last assigned level or minimum safe altitude if this is higher.'

4 Air Navigation Order

- 4.1 For the Purpose of the trial, these procedures are hereby notified for the purposes of Articles 124(1) and 125(1) of the Air Navigation: The Order and the Regulations, CAP 393, Third edition incorporating amendments up to 1/2012.

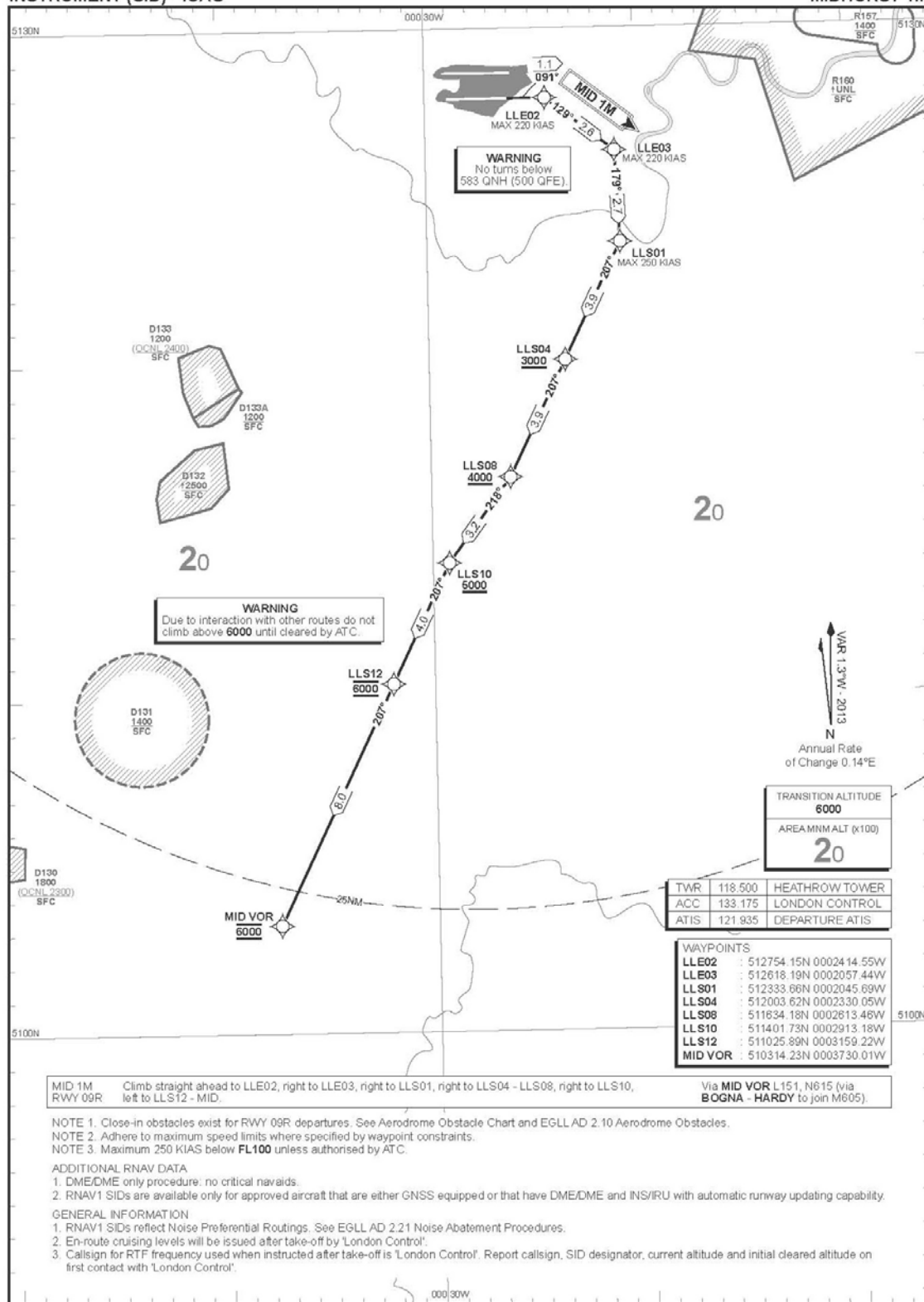
5 Trial Contact

- 5.1 Should further assistance be required please email Heathrow using the following address quoting this AIP Supplement: DD-FlightPerformance@heathrow.com

RNAV1 (DME/DME or GNSS) STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO

DISTANCES IN NAUTICAL MILES
TRACKS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET

**LONDON HEATHROW
RWY 09R
MIDHURST 1M**



2013-63_LONDON HEATHROW RNAV1 EGLL MID 1M RWY 09R 29 AUG 13

Standard Instrument Departure Coding Tables

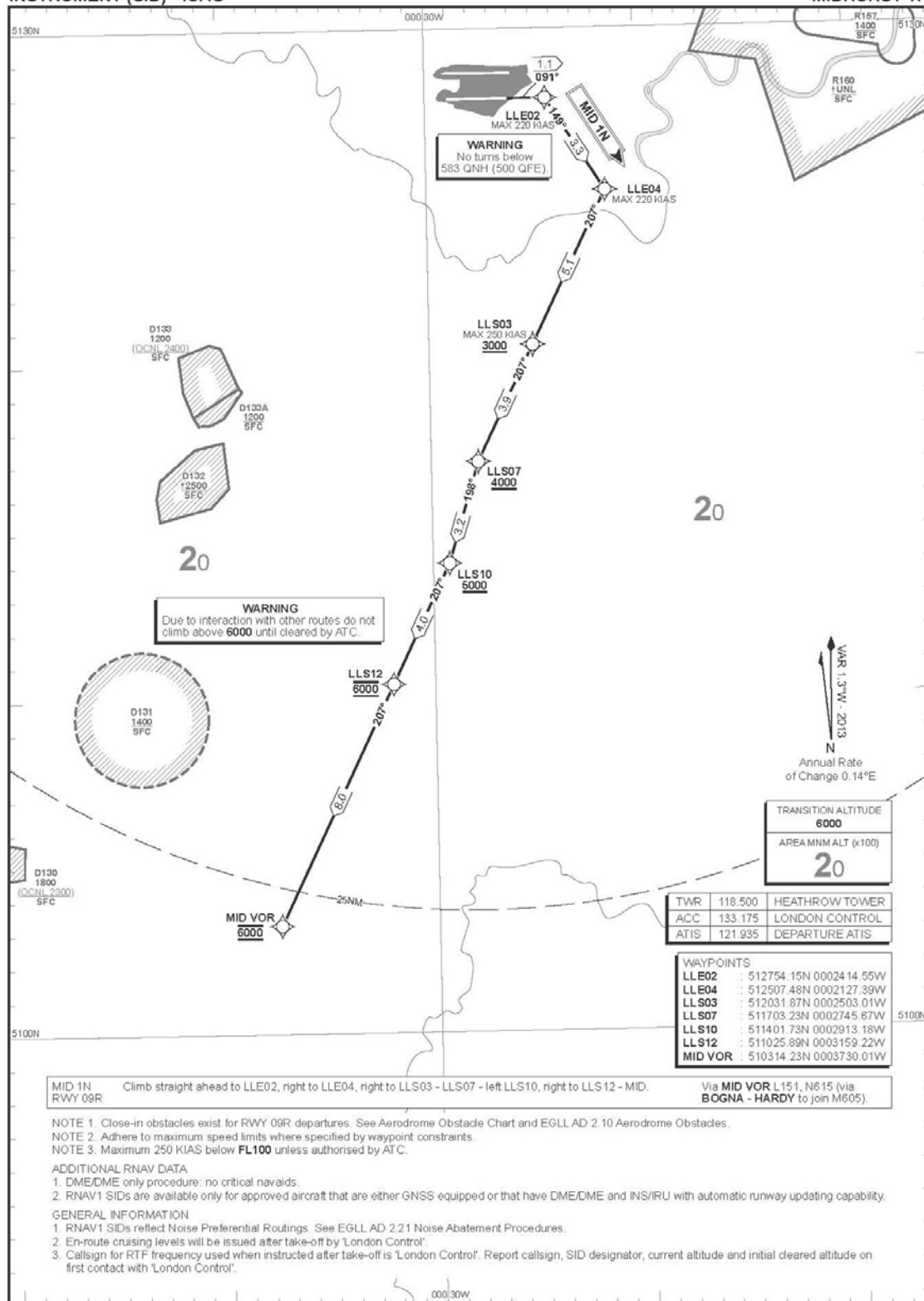
London Heathrow Runway 09R MID 1M

Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
MID 1M	001	CA	-	-	-	091° (089.7°)	-1.3	-	-	+583	-	RNAV1
MID 1M	002	CF	LLE02	512754.15N 0002414.55W	N	091° (089.7°)	-1.3	1.1	RIGHT	-	-220	RNAV1
MID 1M	003	TF	LLE03	512618.19N 0002057.44W	N	129° (127.9°)	-1.3	2.6	RIGHT	-	-220	RNAV1
MID 1M	004	TF	LLS01	512333.66N 0002045.69W	N	179° (177.4°)	-1.3	2.7	RIGHT	-	-250	RNAV1
MID 1M	005	TF	LLS04	512003.62N 0002330.05W	N	207° (206.1°)	-1.3	3.9	-	+3000	-	RNAV1
MID 1M	006	TF	LLS08	511634.18N 0002613.46W	N	207° (206.1°)	-1.3	3.9	RIGHT	+4000	-	RNAV1
MID 1M	007	TF	LLS10	511401.73N 0002913.18W	N	218° (216.5°)	-1.3	3.2	LEFT	+5000	-	RNAV1
MID 1M	008	TF	LLS12	511025.89N 0003159.22W	N	207° (205.8°)	-1.3	4.0	-	6000	-	RNAV1
MID 1M	009	TF	MID	510314.23N 0003730.01W	N	207° (205.8°)	-1.3	8.0	-	6000	-	RNAV1

2013-63_LONDON HEATHROW RNAV1 EGLL MID 1M RWY 09R CODING 14 FEB 14

**RNAV1 (DME/DME or GNSS)
STANDARD DEPARTURE CHART -
INSTRUMENT (SID) - ICAO**

 DISTANCES IN NAUTICAL MILES
TRACKS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET

**LONDON HEATHROW
RWY 09R
MIDHURST 1N**


2013-83_LONDON HEATHROW RNAV1 EGLL MID 1N RWY 09R 29 AUG 13

Standard Instrument Departure Coding Tables

London Heathrow Runway 09R MID 1N

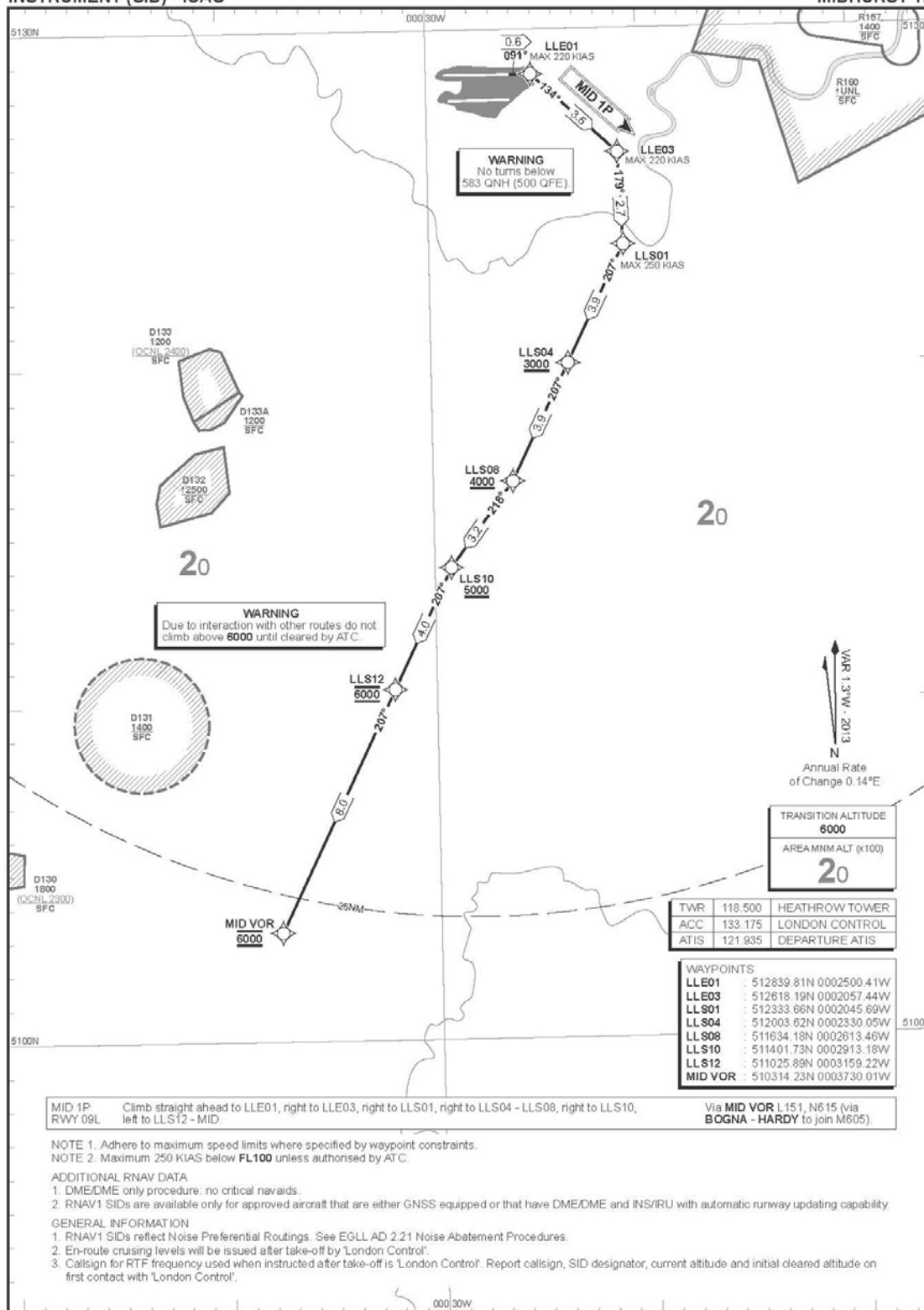
Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
MID 1N	001	CA	-	-	-	091° (089.7°)	-1.3	-	-	+583	-	RNAV1
MID 1N	002	CF	LLE02	512754.15N 0002414.55W	N	091° (089.7°)	-1.3	1.1	RIGHT	-	-220	RNAV1
MID 1N	003	TF	LLE04	512507.48N 0002127.39W	N	149° (147.9°)	-1.3	3.3	RIGHT	-	-220	RNAV1
MID 1N	004	TF	LLS03	512031.87N 0002503.01W	N	207° (206.1°)	-1.3	5.1	-	+3000	-250	RNAV1
MID 1N	005	TF	LLS07	511703.23N 0002745.67W	N	207° (206.1°)	-1.3	3.9	LEFT	+4000	-	RNAV1
MID 1N	006	TF	LLS10	511401.73N 0002913.18W	N	198° (196.8°)	-1.3	3.2	RIGHT	+5000	-	RNAV1
MID 1N	007	TF	LLS12	511025.89N 0003159.22W	N	207° (205.8°)	-1.3	4.0	-	6000	-	RNAV1
MID 1N	008	TF	MID	510314.23N 0003730.01W	N	207° (205.8°)	-1.3	8.0	-	6000	-	RNAV1

2013-63_LONDON HEATHROW RNAV1 EGLL MID 1N RWY 09R CODING 14 FEB 14

**RNAV1 (DME/DME or GNSS)
STANDARD DEPARTURE CHART -
INSTRUMENT (SID) - ICAO**

DISTANCES IN NAUTICAL MILES
TRACKS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET

**LONDON HEATHROW
RWY 09L
MIDHURST 1P**



2013-83_LONDON HEATHROW RNAV1 EGLL MID 1P RWY 09L 29 AUG 13

Standard Instrument Departure Coding Tables

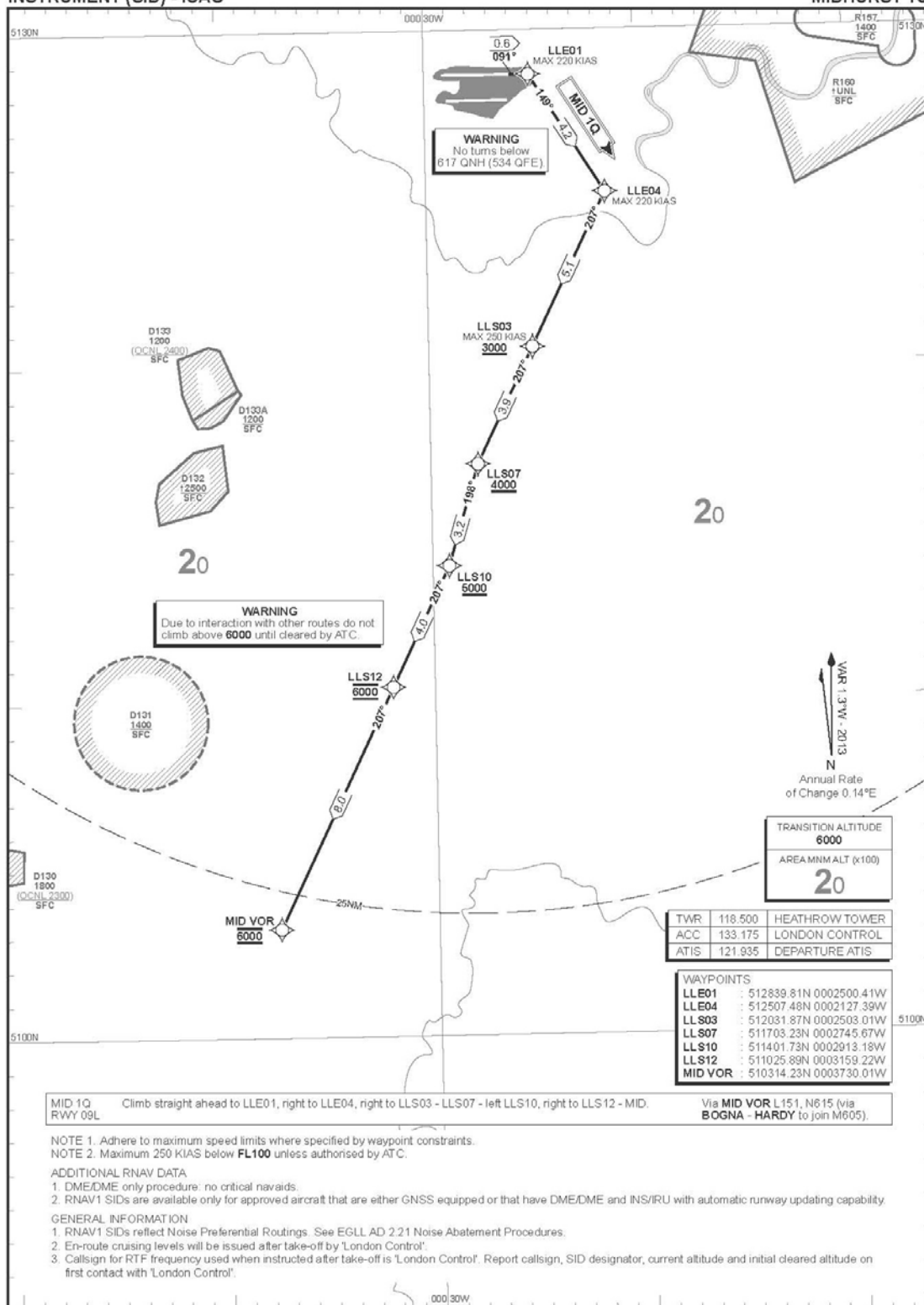
London Heathrow Runway 09L MID 1P

Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
MID 1P	001	CA	-	-	-	091° (089.7°)	-1.3	-	-	+583	-	RNAV1
MID 1P	002	CF	LLE01	512839.81N 0002500.41W	N	091° (089.7°)	-1.3	0.6	RIGHT	-	-220	RNAV1
MID 1P	003	TF	LLE03	512618.19N 0002057.44W	N	134° (133.0°)	-1.3	3.5	RIGHT	-	-220	RNAV1
MID 1P	004	TF	LLS01	512333.66N 0002045.69W	N	179° (177.4°)	-1.3	2.7	RIGHT	-	-250	RNAV1
MID 1P	005	TF	LLS04	512003.62N 0002330.05W	N	207° (206.1°)	-1.3	3.9	-	+3000	-	RNAV1
MID 1P	006	TF	LLS08	511634.18N 0002613.46W	N	207° (206.1°)	-1.3	3.9	RIGHT	+4000	-	RNAV1
MID 1P	007	TF	LLS10	511401.73N 0002913.18W	N	218° (216.5°)	-1.3	3.2	LEFT	+5000	-	RNAV1
MID 1P	008	TF	LLS12	511025.89N 0003159.22W	N	207° (205.8°)	-1.3	4.0	-	6000	-	RNAV1
MID 1P	009	TF	MID	510314.23N 0003730.01W	N	207° (205.8°)	-1.3	8.0	-	6000	-	RNAV1

2013-63_LONDON HEATHROW RNAV1 EGLL MID 1P RWY 09L CODING 14 FEB 14

**RNAV1 (DME/DME or GNSS)
STANDARD DEPARTURE CHART -
INSTRUMENT (SID) - ICAO**

 DISTANCES IN NAUTICAL MILES
 TRACKS ARE MAGNETIC
 ALTITUDES AND ELEVATIONS ARE IN FEET

**LONDON HEATHROW
RWY 09L
MIDHURST 1Q**


2013-63_LONDON HEATHROW RNAV1 EGLL MID 1Q RWY 09L 29 AUG 13

Standard Instrument Departure Coding Tables

London Heathrow Runway 09L MID 1Q

Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
MID 1Q	001	CA	-	-	-	091° (089.7°)	-1.3	-	-	+617	-	RNAV1
MID 1Q	002	CF	LLE01	512839.81N 0002500.41W	N	091° (089.7°)	-1.3	0.6	RIGHT	-	-220	RNAV1
MID 1Q	003	TF	LLE04	512507.48N 0002127.39W	N	149° (147.9°)	-1.3	4.2	RIGHT	-	-220	RNAV1
MID 1Q	004	TF	LLS03	512031.87N 0002503.01W	N	207° (206.1°)	-1.3	5.1	-	+3000	-250	RNAV1
MID 1Q	005	TF	LLS07	511703.23N 0002745.67W	N	207° (206.1°)	-1.3	3.9	LEFT	+4000	-	RNAV1
MID 1Q	006	TF	LLS10	511401.73N 0002913.18W	N	198° (196.8°)	-1.3	3.2	RIGHT	+5000	-	RNAV1
MID 1Q	007	TF	LLS12	511025.89N 0003159.22W	N	207° (205.8°)	-1.3	4.0	-	6000	-	RNAV1
MID 1Q	008	TF	MID	510314.23N 0003730.01W	N	207° (205.8°)	-1.3	8.0	-	6000	-	RNAV1

2013-63_LONDON HEATHROW RNAV1 EGLL MID 1Q RWY 09L CODING 14 FEB 14

NOISE RESPITE SCHEDULE RWY 09 MID DEPARTURES

Start	Finish	Trial SID for BA
16 Dec 13 (0400 hrs)	23 Dec 13 (0359 hrs)	MID 1P and 1M
23 Dec 13 (0400 hrs)	30 Dec 13 (0359 hrs)	MID 1Q and 1N
30 Dec 13 (0400 hrs)	6 Jan 14 (0359 hrs)	MID 1P and 1M
6 Jan 14 (0400 hrs)	13 Jan 14 (0359 hrs)	MID 1Q and 1N
13 Jan 14 (0400 hrs)	20 Jan 14 (0359 hrs)	MID 1P and 1M
20 Jan 14 (0400 hrs)	27 Jan 14 (0359 hrs)	MID 1Q and 1N
27 Jan 14 (0400 hrs)	3 Feb 14 (0359 hrs)	MID 1P and 1M
3 Feb 14 (0400 hrs)	10 Feb 14 (0359 hrs)	MID 1Q and 1N
10 Feb 14 (0400 hrs)	17 Feb 14 (0359 hrs)	MID 1P and 1M
17 Feb 14 (0400 hrs)	24 Feb 14 (0359 hrs)	MID 1Q and 1N
24 Feb 14 (0400 hrs)	3 Mar 14 (0359 hrs)	MID 1P and 1M
3 Mar 14 (0400 hrs)	10 Mar 14 (0359 hrs)	MID 1Q and 1N
10 Mar 14 (0400 hrs)	17 Mar 14 (0359 hrs)	MID 1P and 1M
17 Mar 14 (0400 hrs)	24 Mar 14 (0359 hrs)	MID 1Q and 1N
24 Mar 14 (0400 hrs)	31 Mar 14 (0359 hrs)	MID 1P and 1M
31 Mar 14 (0400 hrs)	7 Apr 14 (0359 hrs)	MID 1Q and 1N
7 Apr 14 (0400 hrs)	14 Apr 14 (0359 hrs)	MID 1P and 1M
14 Apr 14 (0400 hrs)	21 Apr 14 (0359 hrs)	MID 1Q and 1N
21 Apr 14 (0400 hrs)	28 Apr 14 (0359 hrs)	MID 1P and 1M
28 Apr 14 (0400 hrs)	5 May 14 (0359 hrs)	MID 1Q and 1N
5 May 14 (0400 hrs)	12 May 14 (0359 hrs)	MID 1P and 1M
12 May 14 (0400 hrs)	19 May 14 (0359 hrs)	MID 1Q and 1N
19 May 14 (0400 hrs)	26 May 14 (0359 hrs)	MID 1P and 1M
26 May 14 (0400 hrs)	2 Jun 14 (0359 hrs)	MID 1Q and 1N
2 Jun 14 (0400 hrs)	9 Jun 14 (0359 hrs)	MID 1P and 1M
9 Jun 14 (0400 hrs)	16 Jun 14 (0359 hrs)	MID 1Q and 1N

INTENTIONALLY BLANK

AIP SUPPLEMENT 19/2014

UNITED KINGDOM



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01489-612590 (Content - NATS/Future ATM Development)
0191-203 2329 (Distribution - Communisis UK)

Date Of Publication

15 May 2014

Notes

- (a) All times are UTC.
- (b) References are to the UK AIP.
- (c) Information, where applicable, should also be used to amend appropriate charts.



LONDON HEATHROW AIRPORT – RNAV1 EASTERLY SID TRIAL PHASE 1

1 Introduction

- 1.1 The purpose of this AIP Supplement is to detail the trial operation of multiple RNAV1 SIDs from London Heathrow Airport. **All Carriers that are RNAV1 equipped and currently route using MID, SAM and CPT departures from Heathrow must have the appropriate RNAV1 SIDs, as detailed within this document, coded and available for use when the trial commences on 28 July 2014.** The trial will finish on 26 January 2015. Carriers not suitably equipped for RNAV1 operations will be issued the conventional departures in line with current operations.
- 1.2 This SID trial package introduces replacements for six Easterly Heathrow SIDs: MID, SAM and CPT, with RNAV1 variants for suitably equipped aircraft and incorporate various procedural changes in order to assist the efficiency of Heathrow operations and add to a continuing programme of PBN data gathering.
- 1.3 The details of the SID plates can be found at Annexes A – F of this document. Below is a summary of the differences and changes that have been incorporated into the RNAV1 SID designs:
- MID – RNAV1 replication of the existing MID3J/3K SID.
- SAM – RNAV1 redesign of the existing SAM3J/3K SID with a change to the initial turn to mirror the MID SID in order to reduce the departure interval between SAM & MID departures and reduce the area overflown by departing aircraft. In addition, the latter stages of the SID are positioned more in line with current tactical behaviour.
- PIBUG – RNAV1 variant of the existing CPT SID designed to enable an end to the current CPT easterly departure trial and has also designed to be an operationally flyable SID that streamlines the coordination sequence between Heathrow Tower ATC and LTMA ATC and better reflects current tactical intent.
- 1.4 This trial will introduce the following RNAV1 SIDs:
- MID2N Runway 09R
 - MID2Q Runway 09L
 - SAM1N Runway 09R
 - SAM1Q Runway 09L
 - PIBUG1N Runway 09R
 - PIBUG1Q Runway 09L
- 1.5 The trial RNAV1 SIDs are available only to aircraft that are equipped and approved in accordance with the requirements of JAA TGL-10 or equivalent, and where the operator has been approved by their State of Registry for RNAV1 operations.
- 1.6 The trial RNAV1 SIDs are only available to those aircraft that are either GNSS equipped or have **DME/DME and INS/IRU with automatic runway updates.**
- 1.7 There are no critical nav aids associated with the RNAV1 SIDs assuming the use of GNSS or INS/IRU for initial guidance up to an altitude of 2000 ft.

2 Purpose of the London Heathrow RNAV1 Easterly SID Trial

- 2.1 The purpose of the trial is:
- (a) To continue to gain ATC and aircraft operator experience of RNAV1 operations within the UK;
 - (b) To assess track keeping accuracy of aircraft flying the trial RNAV1 SIDs;
 - (c) To provide information on interactions of different RNAV1 departures proximate to the aerodrome;
 - (d) To assess the suitability of design criteria for RNAV1 procedures;
 - (e) To confirm the flyability of the trial RNAV1 SID designs;
 - (f) To assess the feasibility of ending the CPT easterly operational procedure, started August 2009.

3 RNAV1 Trial Procedure

- 3.1 The trial RNAV1 SIDs are detailed in Annexes A – F of this supplement together with the appropriate navigation database coding tables.
- 3.2 The trial RNAV1 SIDs are available on a 24-hour basis (H24), unless notified otherwise.
- 3.3 The trial RNAV1 SIDs, as detailed in paragraph 1.4, will be clearly identified and be distinguishable from the conventional and other RNAV1 SIDs by using new waypoint names or runway designation letters as appropriate.
- 3.4 Crews of suitably equipped aircraft will be issued the appropriate trial RNAV1 SID clearance by Heathrow ATC GMP according to their flight planned route. **Aircraft which are not equipped to the appropriate standard will be issued the appropriate conventional SID clearance according to their flight plan.**
- 3.5 As part of the requirements for initial call on departure, participating flight crews are to advise ATC by stating the SID that they are flying, e.g.:
'(Callsign), PIBUG 1N, passing xxxx feet, climbing altitude xxxx feet'.
- 3.6 Where speed limits apply at specified waypoints, for track containment purposes, aircraft must adhere to the specified speeds when following this trial. If the specified speeds cannot be adhered to flight crew shall advise ATC of non-compliance as soon as it is safe to do so.
- 3.7 Aircraft flying the trial RNAV1 SIDs may receive radar vectors from ATC in keeping with operating procedures, although the purpose of the trial is to gather track-keeping data which should see the majority of aircraft remain on their own navigation for the initial portion of the SID.
- 3.8 Throughout the trial period of six months the conventional SIDs, as detailed in the UK AIP, will remain available. Conventional SIDs will be used by any aircraft not suitably equipped/certified for RNAV1 operations and for any other occasion when the trial RNAV1 SIDs cannot be issued.
- 3.9 Radio Communication Failure Procedures: Aircraft experiencing loss of communications having been cleared for one of the trial RNAV1 SIDs should continue in accordance with UK AIP ENR 1.1 3 General Flight Procedures, Paragraph 3.4.2.4.2 (b) in particular (ii), which stipulates: 'If failure occurs when the aircraft is following a notified departure procedure such as a Standard Instrument Departure (SID) and clearance to climb, or re-routing instructions have not been given, the procedure should be flown in accordance with the published lateral track and vertical profile, including any stepped climbs, until the last position, fix, or waypoint, published for the procedure, has been reached. Then, for that part of the period of seven minutes that may remain, maintain the current speed and last assigned level or minimum safe altitude if this is higher.'
- 3.10 If an Aircraft experiences an avionics failure, the flight crew shall make their intentions known to ATC as soon as possible and follow their standard procedures for such an occurrence.
- 3.11 In the event that the required navigation equipment fails, the flight crew shall advise ATC that they can no longer continue with the procedure, or are unable to accept the procedure, with the phraseology:
'(Callsign), unable RNAV due equipment.'
In such an event, ATC shall provide radar vectors and climb instructions in accordance with standard procedures.

4 Air Navigation Order

- 4.1 For the Purpose of the trial these procedures are hereby notified for the purposes of Articles 124(1) and 125(1) of the Air Navigation: The Order and the Regulations, CAP 393, Third edition incorporating amendments to 1/2012.

5 Flight Planning

- 5.1 For this trial all suitably equipped aircraft, as detailed in their flight plan, will be issued one of the corresponding trial RNAV1 SIDs when flight planning via MID, SAM or CPT and when Heathrow are on easterly operations. **Aircraft Operators do not need to change the manner in which they file flight plans for this trial.** Allocation of the appropriate SID will be handled by NATS Systems. However, operators can file the trial RNAV1 SIDs, as detailed in paragraph 1.4. It is important to note that correctly filed plans using the conventional or RNAV1 designators will not be rejected.
- 5.2 The existing onward routeing, as stipulated in the UK Standard Routeing Document, will remain the same for MID and SAM departures. PIBUG departures will onward route as per the existing conventional CPT departure, the PIBUG SID ends at CPT.

6 Trial Implementation Date

- 6.1 This trial will be effective from the 28 July 2014 at 0001 and end at 0001 on the 26 January 2015.

Note:

- The end of this trial may be subject to change due to data gathering requirements;
- The end date of this trial will be confirmed by NOTAM, following which this supplement and the associated procedures will be withdrawn.

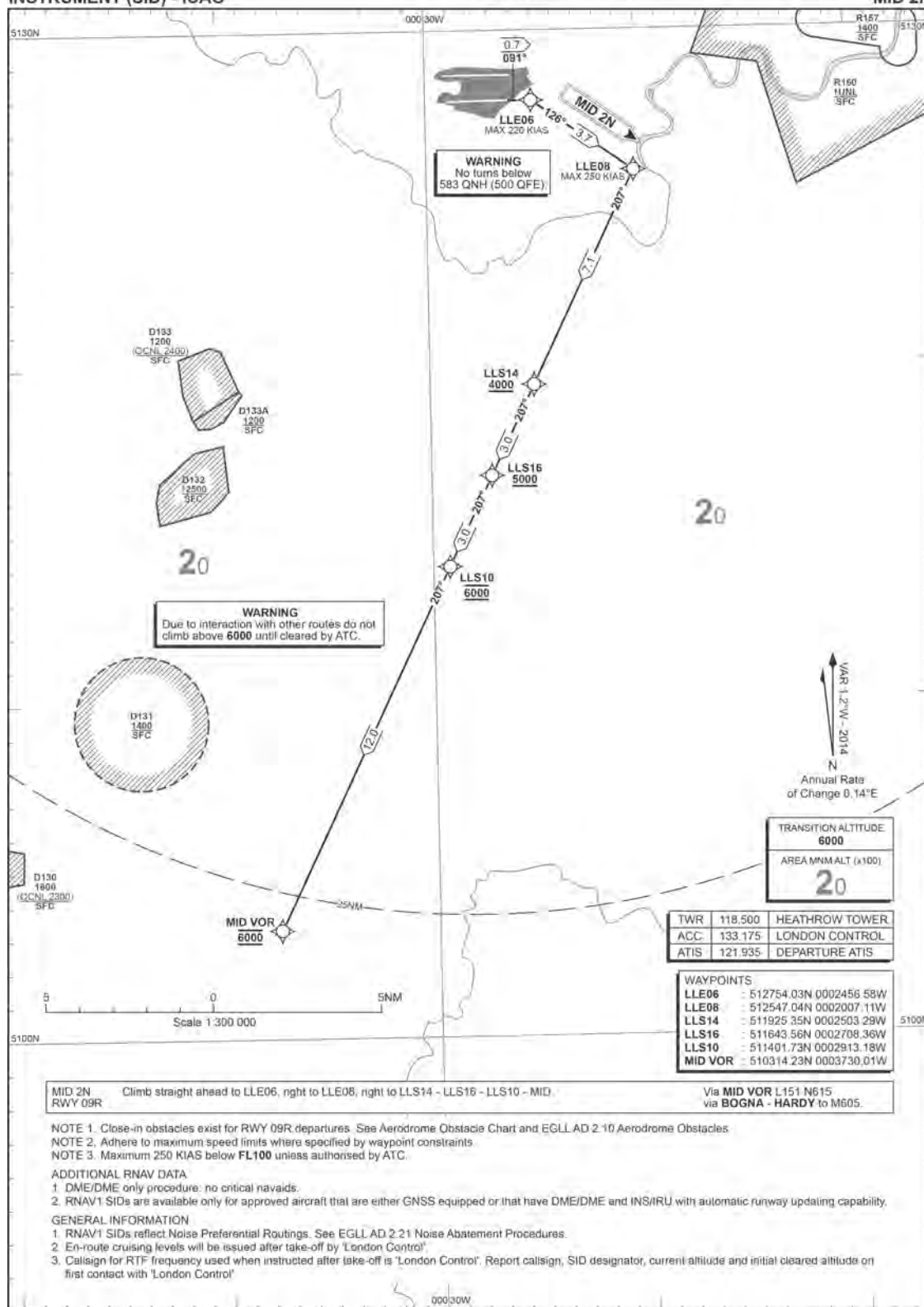
7 Trial Contact

- 7.1 Should any operator require further assistance please email NATS Customer Affairs and/or Heathrow Airport, Flight Performance at the following email addresses, quoting this AIP Supplement:
Help.CUSTOMERHelp@nats.co.uk
and
DD-flightperformance@heathrow.com.

**RNAV1 (DME/DME or GNSS)
STANDARD DEPARTURE CHART -
INSTRUMENT (SID) - ICAO**

DISTANCES IN NAUTICAL MILES
TRACKS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET

**LONDON HEATHROW
RWY 09R
MID 2N**



Standard Instrument Departure Coding Tables

London Heathrow Runway 09R MID 2N

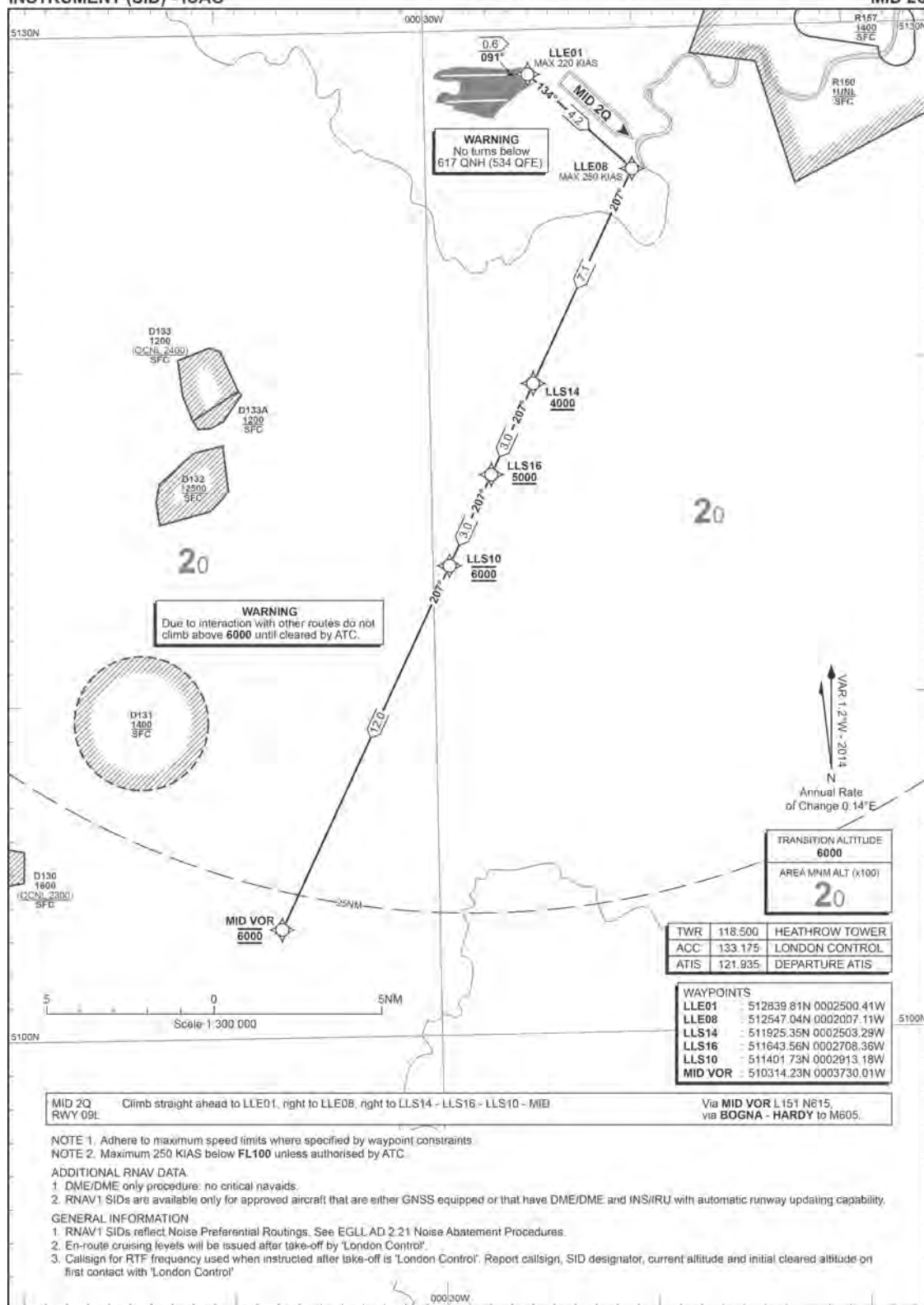
Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
MID 2N	001	CA	-	-	-	091° (089.7°)	-1.2	-	-	+583	-	RNAV1
MID 2N	002	CF	LLE06	512754.03N 0002456.58W	N	091° (089.7°)	-1.2	0.7	RIGHT	-	-220	RNAV1
MID 2N	003	TF	LLE08	512547.04N 0002007.11W	N	126° (125.0°)	-1.2	3.7	RIGHT	-	-250	RNAV1
MID 2N	004	TF	LLS14	511925.35N 0002503.29W	N	207° (205.9°)	-1.2	7.1	-	+4000	-	RNAV1
MID 2N	005	TF	LLS16	511643.56N 0002708.36W	N	207° (205.9°)	-1.2	3.0	-	+5000	-	RNAV1
MID 2N	006	TF	LLS10	511401.73N 0002913.18W	N	207° (205.8°)	-1.2	3.0	-	6000	-	RNAV1
MID 2N	007	TF	MID	510314.23N 0003730.01W	N	207° (205.8°)	-1.2	12.0	-	6000	-	RNAV1

2014 38 LONDON HEATHROW RNAV1 EGLL MID 2N RWY 09R CODING 2 APR 14

**RNAV1 (DME/DME or GNSS)
STANDARD DEPARTURE CHART -
INSTRUMENT (SID) - ICAO**

DISTANCES IN NAUTICAL MILES
TRACKS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET

**LONDON HEATHROW
RWY 09L
MID 2Q**



2014-38_LONDON HEATHROW RNAV1 EGLL MID 2Q RWY 09L 14 APR 14

Standard Instrument Departure Coding Tables

London Heathrow Runway 09L MID 2Q

Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
MID 2Q	001	CA	-	-	-	091° (089.7°)	-1.2	-	-	+617	-	RNAV1
MID 2Q	002	CF	LLE01	512839.81N 0002500.41W	N	091° (089.7°)	-1.2	0.6	RIGHT	-	-220	RNAV1
MID 2Q	003	TF	LLE08	512547.04N 0002007.11W	N	134° (133.3°)	-1.2	4.2	RIGHT	-	-250	RNAV1
MID 2Q	004	TF	LLS14	511925.35N 0002503.29W	N	207° (205.9°)	-1.2	7.1	-	+4000	-	RNAV1
MID 2Q	005	TF	LLS16	511643.56N 0002708.36W	N	207° (205.9°)	-1.2	3.0	-	+5000	-	RNAV1
MID 2Q	006	TF	LLS10	511401.73N 0002913.18W	N	207° (205.8°)	-1.2	3.0	-	6000	-	RNAV1
MID 2Q	007	TF	MID	510314.23N 0003730.01W	N	207° (205.8°)	-1.2	12.0	-	6000	-	RNAV1

2014 38 LONDON HEATHROW RNAV1 EGLL MID 2Q RWY 09L CODING 14 APR 14

Standard Instrument Departure Coding Tables

London Heathrow Runway 09R SAM 1N

Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
SAM 1N	001	CA	-	-	-	091° (089.7°)	-1.2	-	-	+583	-	RNAV1
SAM 1N	002	CF	LLE06	512754.03N 0002456.58W	N	091° (089.7°)	-1.2	0.7	RIGHT	-	-220	RNAV1
SAM 1N	003	TF	LLE08	512547.04N 0002007.11W	N	126° (125.0°)	-1.2	3.7	RIGHT	-	-250	RNAV1
SAM 1N	004	TF	LLS14	511925.35N 0002503.29W	N	207° (205.9°)	-1.2	7.1	RIGHT	+4000	-	RNAV1
SAM 1N	005	TF	LLS15	511750.26N 0002906.74W	N	239° (238.1°)	-1.2	3.0	-	+5000	-	RNAV1
SAM 1N	006	TF	LLS17	511615.02N 0003309.90W	N	239° (238.0°)	-1.2	3.0	-	6000	-	RNAV1
SAM 1N	007	TF	SAM	505718.90N 0012042.20W	N	239° (238.0°)	-1.2	35.5	-	6000	-	RNAV1

2014 38 LONDON HEATHROW RNAV1 EGLL SAM 1N RWY 09R CODING 3 APR 14

Standard Instrument Departure Coding Tables

London Heathrow Runway 09L SAM 1Q

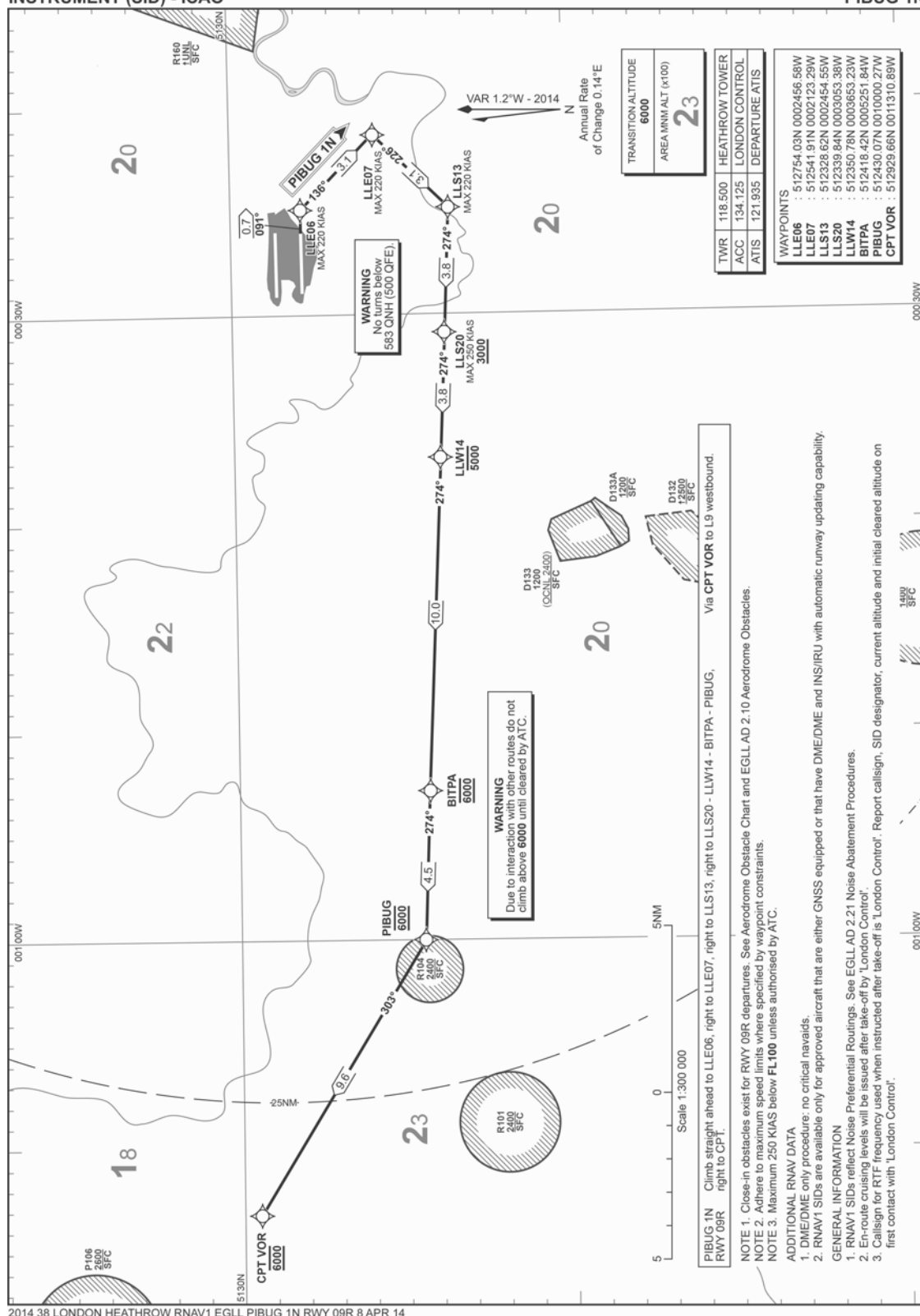
Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
SAM 1Q	001	CA	-	-	-	091° (089.7°)	-1.2	-	-	+617	-	RNAV1
SAM 1Q	002	CF	LLE01	512839.81N 0002500.41W	N	091° (089.7°)	-1.2	0.6	RIGHT	-	-220	RNAV1
SAM 1Q	003	TF	LLE08	512547.04N 0002007.11W	N	134° (133.3°)	-1.2	4.2	RIGHT	-	-250	RNAV1
SAM 1Q	004	TF	LLS14	511925.35N 0002503.29W	N	207° (205.9°)	-1.2	7.1	RIGHT	+4000	-	RNAV1
SAM 1Q	005	TF	LLS15	511750.26N 0002906.74W	N	239° (238.1°)	-1.2	3.0	-	+5000	-	RNAV1
SAM 1Q	006	TF	LLS17	511615.02N 0003309.90W	N	239° (238.0°)	-1.2	3.0	-	6000	-	RNAV1
SAM 1Q	007	TF	SAM	505718.90N 0012042.20W	N	239° (238.0°)	-1.2	35.5	-	6000	-	RNAV1

2014 38 LONDON HEATHROW RNAV1 EGLL SAM 1Q RWY 09L CODING 14 APR 14

RNAV1 (DME/DME or GNSS) STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO

DISTANCES IN NAUTICAL MILES
TRACKS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET

LONDON HEATHROW
RWY 09R
PIBUG 1N



2014 38 LONDON HEATHROW RNAV1 EGLL PIBUG 1N RWY 09R 8 APR 14

Standard Instrument Departure Coding Tables

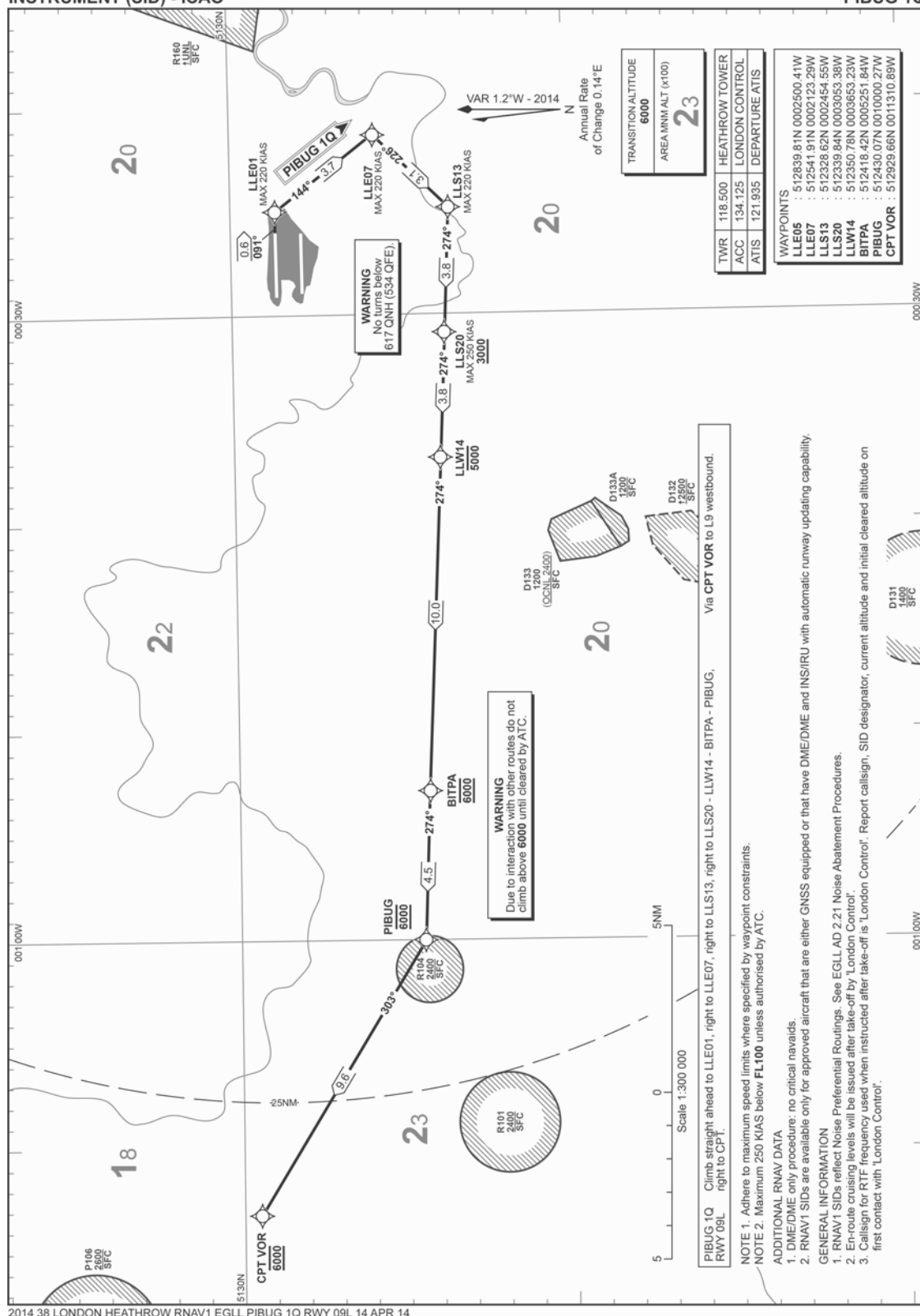
London Heathrow Runway 09R PIBUG 1N

Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
PIBUG 1N	001	CA	-	-	-	091° (089.7°)	-1.2	-	-	+583	-	RNAV1
PIBUG 1N	002	CF	LLE06	512754.03N 0002456.58W	N	091° (089.7°)	-1.2	0.7	RIGHT	-	-220	RNAV1
PIBUG 1N	003	TF	LLE07	512541.91N 0002123.29W	N	136° (134.7°)	-1.2	3.1	RIGHT	-	-220	RNAV1
PIBUG 1N	004	TF	LLS13	512328.62N 0002454.55W	N	226° (224.8°)	-1.2	3.1	RIGHT	-	-220	RNAV1
PIBUG 1N	005	TF	LLS20	512339.84N 0003053.38W	N	274° (272.9°)	-1.2	3.8	-	+3000	-250	RNAV1
PIBUG 1N	006	TF	LLW14	512350.78N 0003653.23W	N	274° (272.8°)	-1.2	3.8	-	-5000	-	RNAV1
PIBUG 1N	007	TF	BITPA	512418.42N 0005251.84W	N	274° (272.7°)	-1.2	10.0	-	6000	-	RNAV1
PIBUG 1N	008	TF	PIBUG	512430.07N 0010000.27W	N	274° (272.5°)	-1.2	4.5	RIGHT	6000	-	RNAV1
PIBUG 1N	009	TF	CPT	512929.66N 0011310.89W	N	303° (301.3°)	-1.2	9.6	-	6000	-	RNAV1

2014 38 LONDON HEATHROW RNAV1 EGLL PIBUG 1N RWY 09R CODING 11 JUN 14

DISTANCES IN NAUTICAL MILES
TRACKS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET

LONDON HEATHROW
RWY 09L
PIBUG 1Q



Standard Instrument Departure Coding Tables

London Heathrow Runway 09L PIBUG 1Q

Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
PIBUG 1Q	001	CA	-	-	-	091° (089.7°)	-1.2	-	-	+617	-	RNAV1
PIBUG 1Q	002	CF	LLE01	512839.81N 0002500.41W	N	091° (089.7°)	-1.2	0.6	RIGHT	-	-220	RNAV1
PIBUG 1Q	003	TF	LLE07	512541.91N 0002123.29W	N	144° (142.7°)	-1.2	3.7	RIGHT	-	-220	RNAV1
PIBUG 1Q	004	TF	LLS13	512328.62N 0002454.55W	N	226° (224.8°)	-1.2	3.1	RIGHT	-	-220	RNAV1
PIBUG 1Q	005	TF	LLS20	512339.84N 0003053.38W	N	274° (272.9°)	-1.2	3.8	-	+3000	-250	RNAV1
PIBUG 1Q	006	TF	LLW14	512350.78N 0003653.23W	N	274° (272.8°)	-1.2	3.8	-	-5000	-	RNAV1
PIBUG 1Q	007	TF	BITPA	512418.42N 0005251.84W	N	274° (272.7°)	-1.2	10.0	-	6000	-	RNAV1
PIBUG 1Q	008	TF	PIBUG	512430.07N 0010000.27W	N	274° (272.5°)	-1.2	4.5	RIGHT	6000	-	RNAV1
PIBUG 1Q	009	TF	CPT	512929.66N 0011310.89W	N	303° (301.3°)	-1.2	9.6	-	6000	-	RNAV1

2014 38 LONDON HEATHROW RNAV1 EGLL PIBUG 1Q RWY 09L CODING 14 APR 14

AIP SUPPLEMENT 24/2014

UNITED KINGDOM



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Date Of Publication

12 June 2014

Notes

- (a) All times are UTC.
- (b) References are to the UK AIP.
- (c) Information, where applicable, should also be used to amend appropriate charts.



LONDON HEATHROW AIRPORT – RNAV1 WESTERLY SID TRIAL PHASE 1

1 Introduction

- 1.1 The purpose of this AIP Supplement is to detail the trial operation of multiple RNAV1 SIDs from London Heathrow Airport. **All Carriers that are RNAV1 equipped and currently route using MID (DOKEN), SAM and CPT SIDs from Heathrow must have the appropriate RNAV1 SIDs, as detailed within this document, coded and available for use when the trial commences on 25 August 2014.** The trial will finish on 26 January 2015. Carriers not suitably equipped for RNAV1 operations will be issued the conventional departures in line with current operations.
- 1.2 This SID Trial package introduces six westerly SIDs, with the intention of investigating reducing the angle of divergence between RNAV1 SID tracks for one minute departure intervals. Currently a one minute departure interval would require an angle between SID tracks of 45° or more, however it is hoped that data gathered by this trial may lead to a reduction of the angle to between 10° and 30°.
- 1.3 The RNAV1 SIDs for each runway are: DOKEN, CPT and SAM. The SID's initial departure tracks are configured differently for each runway. This is to investigate the effects of various RNAV1 construction methods and also to accommodate, as far as the SID design will allow, noise respite for the local community.
- 1.4 The details of the SID plates can be found in Annexes A – F of this document. Below is a summary of the differences and changes that have been incorporated into the RNAV1 SID designs:
- DOKEN – An iteration of the DOKEN 1A/1C SIDs, introduced by AIP SUP 013/2014, the initial track has been constructed to provide a 10° divergence from the trial SAM SID before turning to join the track of the DOKEN 1A/1C.
- SAM – RNAV1 SID with an initial track position to enable a 10° divergence from the DOKEN SID and a 15° divergence from the CPT SID in their initial phases to then intercept the WOD to SAM track.
- CPT – RNAV1 SID with an initial track position to enable a 15° divergence from the trial SAM SID before intercepting the WOD to CPT track.
- 1.5 This trial will introduce the following RNAV1 SIDs:
- DOKEN2A Runway 27R
 - DOKEN2B Runway 27L
 - SAM1A Runway 27R
 - SAM1B Runway 27L
 - CPT1A Runway 27R
 - CPT1B Runway 27L
- 1.6 The trial RNAV1 SIDs are available only to aircraft that are equipped and approved in accordance with the requirements of JAA TGL-10, or equivalent, and where the operator has been approved by their State of Registry for RNAV1 operations.
- 1.7 The trial RNAV1 SIDs are only available to those aircraft that are either GNSS equipped or that have a **DME/DME and INS/IRU with automatic runway updates.**
- 1.8 There are no critical nav aids associated with the RNAV1 SIDs assuming the use of GNSS or INS/IRU for initial guidance up to an altitude of 2000 ft.

2 Purpose of the RNAV1 Heathrow Westerly SID Trial

- 2.1 The purpose of the trial is:
- (a) To continue to gain ATC and aircraft operator experience of RNAV1 operations within the UK;
 - (b) To assess track keeping accuracy of aircraft flying the trial RNAV1 SIDs;
 - (c) To provide information on interactions of different RNAV1 departures proximate to the aerodrome;
 - (d) To investigate the angle of divergence and departure intervals between adjacent SIDs;

- (e) To assess the suitability of design criteria for RNAV1 procedures;
- (f) To confirm the flyability of the trial RNAV1 SID designs;
- (g) To assess the application of runway respite.

3 RNAV1 Trial Procedure

- 3.1 The trial RNAV1 SIDs are detailed in Annexes A - F of this supplement together with the appropriate navigation database coding tables.
- 3.2 The trial RNAV1 SIDs are available on a 24-hour basis (H24), unless notified otherwise.
- 3.3 The trial RNAV1 SIDs, as detailed in paragraph 1.5, will be clearly identified and be distinguishable from the conventional and other RNAV1 SIDs by using new waypoint names or runway designation letters as appropriate.
- 3.4 Crews of suitably equipped aircraft will be issued the appropriate trial RNAV1 SID clearance by Heathrow Clearance Delivery according to their flight planned route. **Aircraft which are not equipped to the appropriate standard will be issued the appropriate conventional SID clearance according to their flight plan.**
- 3.5 As part of the requirements for initial call on departure, participating flight crews are to advise ATC by stating the SID that they are flying, e.g.:
- '(Callsign), (DOKEN 2A), passing xxxx feet, climbing altitude xxxx feet.'**
- 3.6 Where speed limits apply at specified waypoints for track containment purposes, aircraft must adhere to the specified speeds when following this trial. If the specified speeds cannot be adhered to flight crew shall advise ATC of non-compliance as soon as it is safe to do so.
- 3.7 Aircraft flying the trial RNAV1 SIDs may receive radar vectors from ATC in keeping with operating procedures, although the purpose of the trial is to gather track-keeping data which should see the majority of aircraft left on their own navigation for the initial phase of the SID.
- 3.8 Throughout the trial period of five months the conventional SIDs, as detailed in the UK AIP, will remain available. Conventional SIDs will be used by any aircraft not suitably equipped/certified for RNAV1 operations and for any other occasion when the trial RNAV1 SIDs cannot be issued.
- 3.9 Radio Communication Failure Procedures: Aircraft experiencing loss of communications having been cleared for one of the trial RNAV1 SIDs should continue in accordance with UK AIP ENR 1.11 3 General Flight Procedures, Paragraph 3.4.2.4.2 (b) in particular (ii), which stipulates: 'If failure occurs when the aircraft is following a notified departure procedure such as a Standard Instrument Departure (SID) and clearance to climb, or re-routing instructions have not been given, the procedure should be flown in accordance with the published lateral track and vertical profile, including any stepped climbs, until the last position, fix, or waypoint, published for the procedure, has been reached. Then, for that part of the period of seven minutes that may remain, maintain the current speed and last assigned level or minimum safe altitude if this is higher.'
- 3.10 If an Aircraft experiences an avionics failure, the flight crew shall make their intentions known to ATC as soon as possible and follow their standard procedures for such an occurrence.
- 3.11 In the event that the required navigation equipment fails, the flight crew shall advise ATC that they can no longer continue with the procedure, or are unable to accept the procedure, with the phraseology:
- '(Callsign), unable RNAV due equipment.'**
- In such an event, ATC shall provide radar vectors and climb instructions in accordance with standard procedures.

4 Air Navigation Order

- 4.1 For the Purpose of the trial these procedures are hereby notified for the purposes of Articles 124(1) and 125(1) of the Air Navigation: The Order and the Regulations, CAP 393, Third edition incorporating amendments to 1/2012.

5 Flight Planning

- 5.1 For this trial all suitably equipped aircraft, as detailed in their flight plan, will be issued one of the trial RNAV1 SIDs when flight planning via DOKEN, MID, SAM or CPT and when Heathrow are on westerly operations. **Aircraft Operators do not need to change the manner in which they file flight plans for this trial.** Allocation of the appropriate SID will be handled by NATS Systems. However, operators can file the trial RNAV1 SIDs, as detailed in paragraph 1.5. It is important to note that correctly filed plans using the conventional or RNAV1 designators will not be rejected.
- 5.2 The existing onward routeing, as stipulated in the UK Standard Routeing Document, will remain the same for CPT and SAM departures. **However for the trial DOKEN departure upon reaching the end of the SID, and according to the airway that has been flight planned, carriers must route and/or plan as follows:**

DOKEN	DCT	DRAKE	DCT	OSPOL	M189
DOKEN	DCT	DRAKE	L151		
DOKEN	DCT	BENBO	N615		
DOKEN	DCT	HARDY	M605		

6 Trial Implementation Date

6.1 This trial will be effective from the 25 August 2014 at 0001 and end at 0001 26 January 2015

Note:

- The end of this trial may be subject to change due to data gathering requirements;
- The end date of this trial will be confirmed by NOTAM, following which this supplement and the associated procedures will be withdrawn.

7 Trial Contact

7.1 Should any operator require further assistance please email NATS Customer Affairs and/or Heathrow Airport, Flight Performance at the following email addresses, quoting this AIP Supplement:

Help.CUSTOMERHelp@nats.co.uk

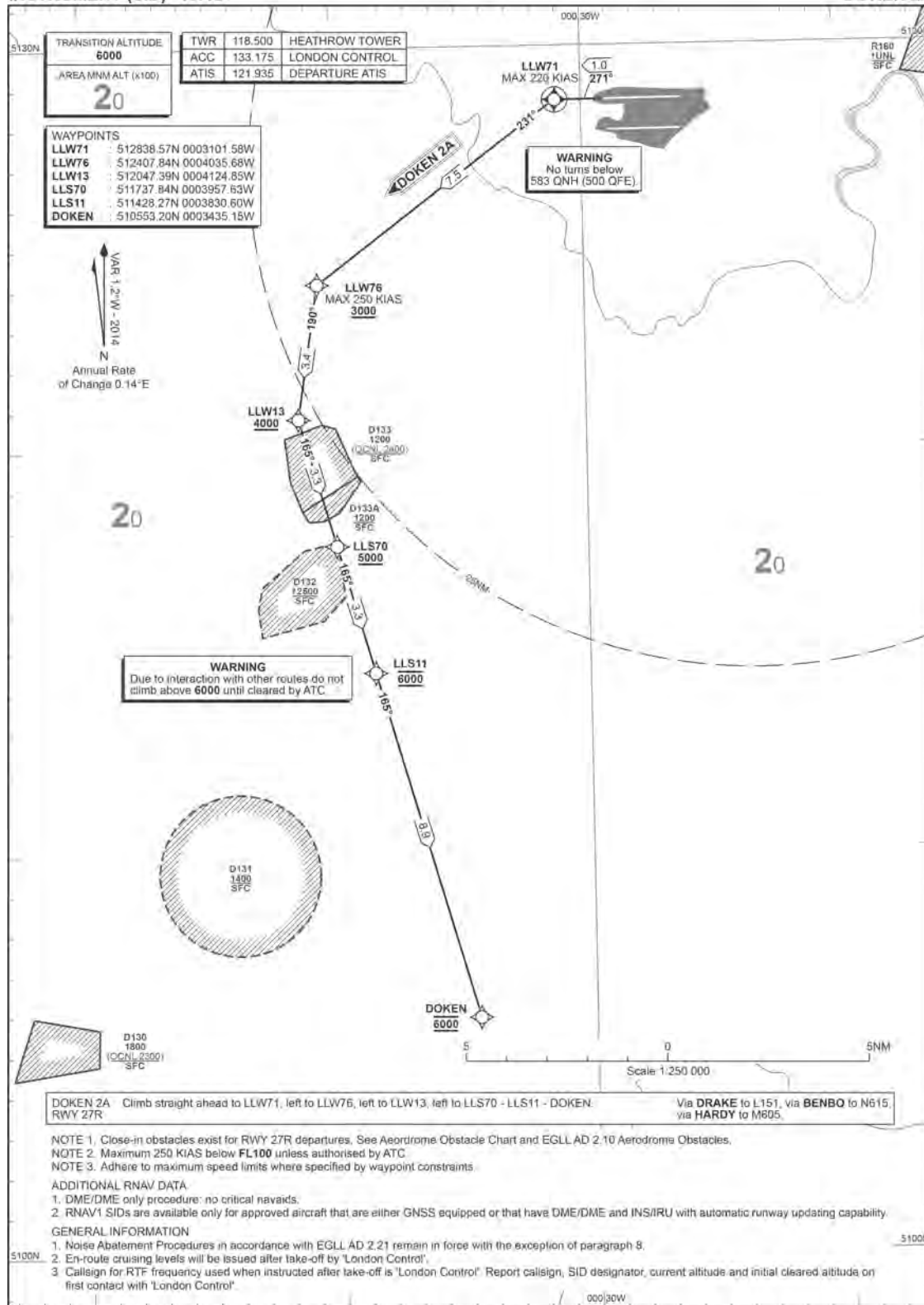
and

DD-flightperformance@heathrow.com.

RNAV1 (DME/DME or GNSS) STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO

DISTANCES IN NAUTICAL MILES
TRACKS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET

LONDON HEATHROW
RWY 27R
DOKEN 2A



2014 50 LONDON HEATHROW RNAV1 EGLL DOKEN 2A RWY 27R 06 MAY 14

Standard Instrument Departure Coding Tables

London Heathrow Runway 27R DOKEN 2A

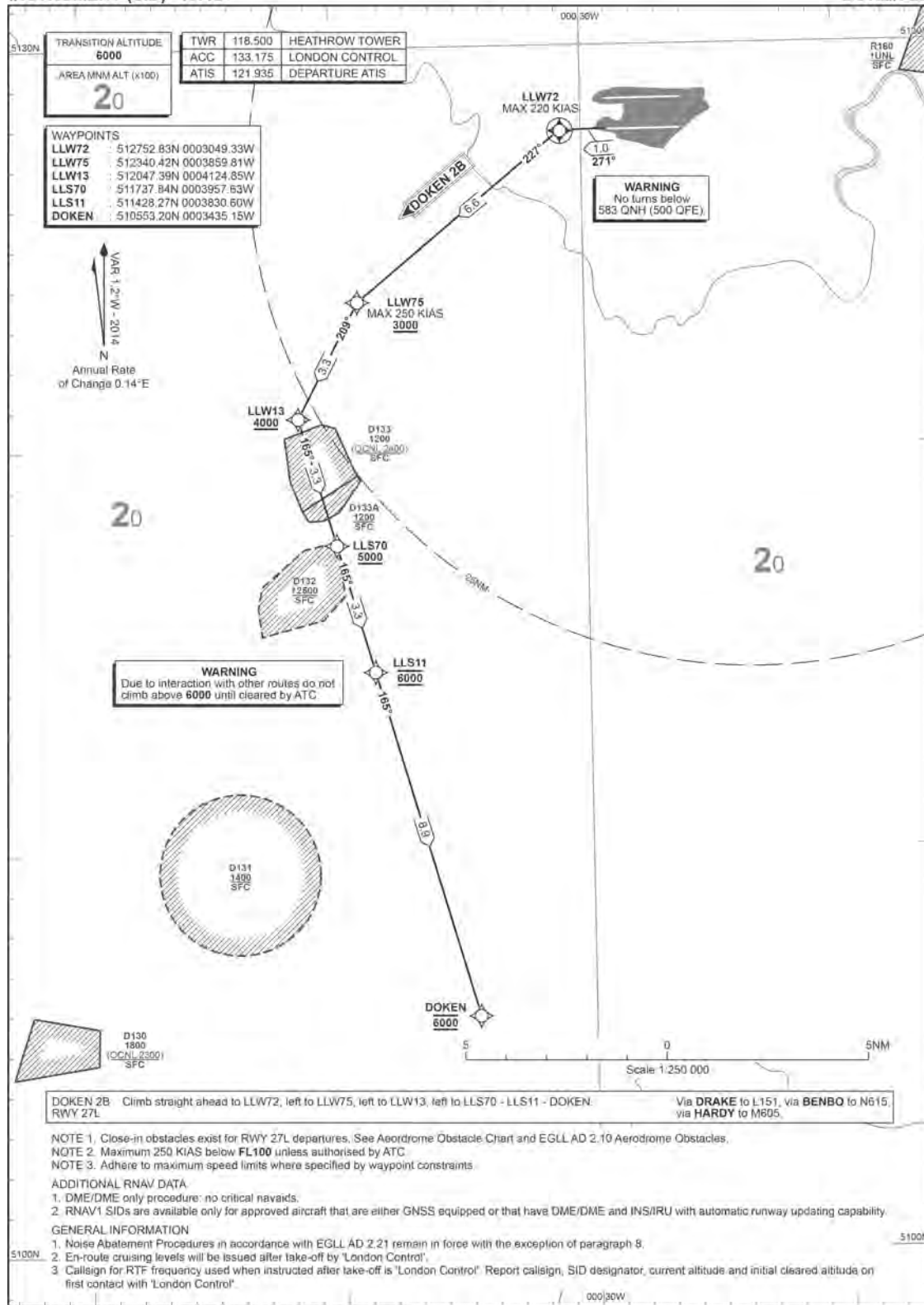
Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
DOKEN 2A	001	CA	-	-	-	271° (269.7°)	-1.2	-	-	+583	-	RNAV1
DOKEN 2A	002	CF	LLW71	512838.57N 0003101.58W	Y	271° (269.7°)	-1.2	1.0	LEFT	-	-220	RNAV1
DOKEN 2A	003	CF	LLW76	512407.84N 0004035.68W	N	231° (229.6°)	-1.2	7.5	LEFT	+3000	-250	RNAV1
DOKEN 2A	004	TF	LLW13	512047.39N 0004124.85W	N	190° (188.7°)	-1.2	3.4	LEFT	+4000	-	RNAV1
DOKEN 2A	005	TF	LLS70	511737.84N 0003957.63W	N	165° (163.9°)	-1.2	3.3	-	+5000	-	RNAV1
DOKEN 2A	006	TF	LLS11	511428.27N 0003830.60W	N	165° (163.9°)	-1.2	3.3	-	6000	-	RNAV1
DOKEN 2A	007	TF	DOKEN	510553.20N 0003435.15W	N	165° (163.9°)	-1.2	8.9	-	6000	-	RNAV1

2014 50 LONDON HEATHROW RNAV1 EGLL DOKEN 2A RWY 27R CODING 02 MAY 14

RNAV1 (DME/DME or GNSS)
STANDARD DEPARTURE CHART -
INSTRUMENT (SID) - ICAO

DISTANCES IN NAUTICAL MILES
TRACKS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET

LONDON HEATHROW
RWY 27L
DOKEN 2B



Standard Instrument Departure Coding Tables

London Heathrow Runway 27L DOKEN 2B

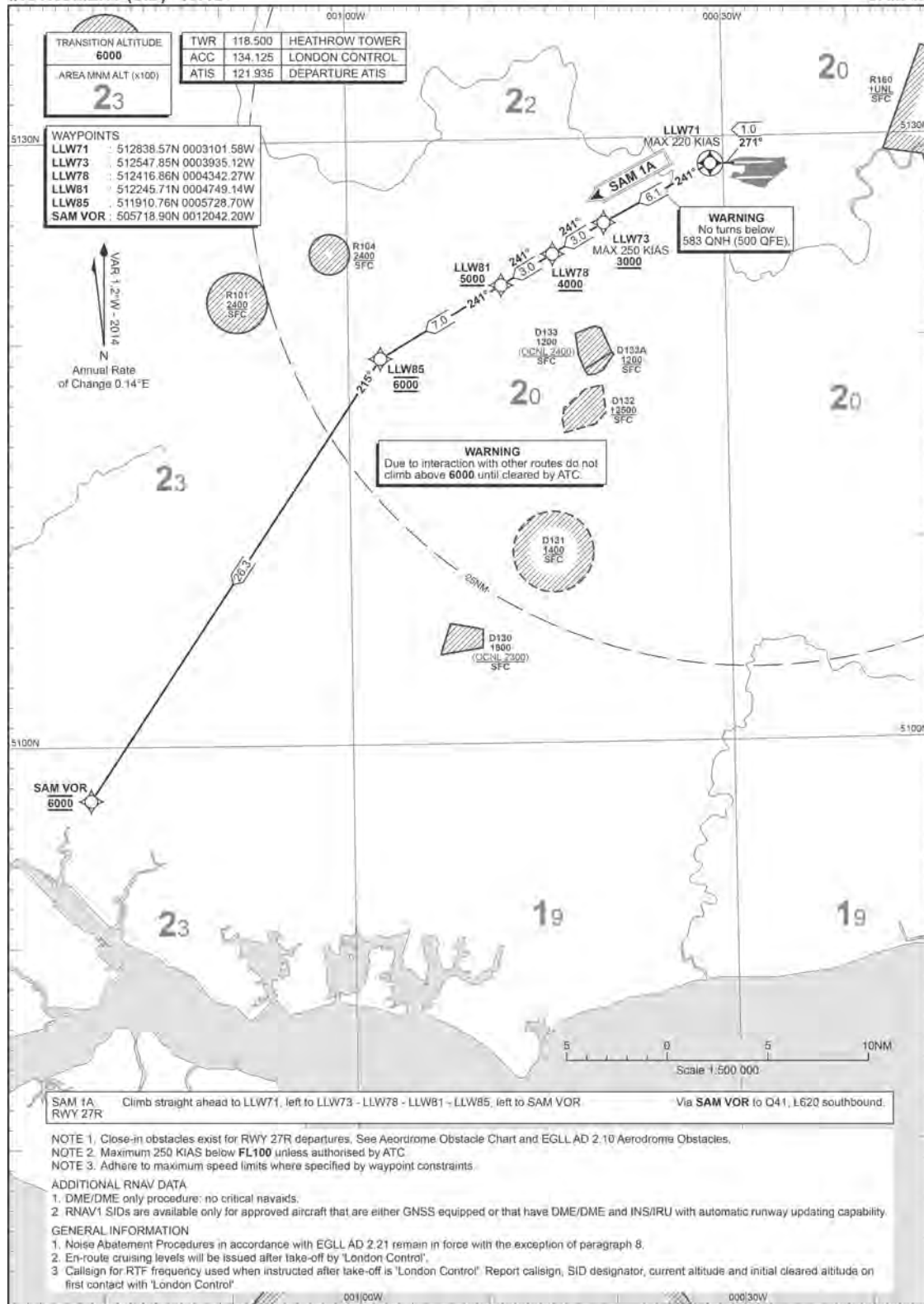
Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
DOKEN 2B	001	CA	-	-	-	271° (269.7°)	-1.2	-	-	+583	-	RNAV1
DOKEN 2B	002	CF	LLW72	512752.83N 0003049.33W	Y	271° (269.7°)	-1.2	1.0	LEFT	-	-220	RNAV1
DOKEN 2B	003	CF	LLW75	512340.42N 0003859.81W	N	227° (226.1°)	-1.2	6.6	LEFT	+3000	-250	RNAV1
DOKEN 2B	004	TF	LLW13	512047.39N 0004124.85W	N	209° (207.7°)	-1.2	3.3	LEFT	+4000	-	RNAV1
DOKEN 2B	005	TF	LLS70	511737.84N 0003957.63W	N	165° (163.9°)	-1.2	3.3	-	+5000	-	RNAV1
DOKEN 2B	006	TF	LLS11	511428.27N 0003830.60W	N	165° (163.9°)	-1.2	3.3	-	6000	-	RNAV1
DOKEN 2B	007	TF	DOKEN	510553.20N 0003435.15W	N	165° (163.9°)	-1.2	8.9	-	6000	-	RNAV1

2014 50 LONDON HEATHROW RNAV1 EGLL DOKEN 2B RWY 27L CODING 02 MAY14

**RNAV1 (DME/DME or GNSS)
STANDARD DEPARTURE CHART -
INSTRUMENT (SID) - ICAO**

DISTANCES IN NAUTICAL MILES
TRACKS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET

**LONDON HEATHROW
RWY 27R
SAM 1A**



2014 50 LONDON HEATHROW RNAV1 EGLL SAM 1A RWY 27R 14 MAY 14

Standard Instrument Departure Coding Tables

London Heathrow Runway 27R SAM 1A

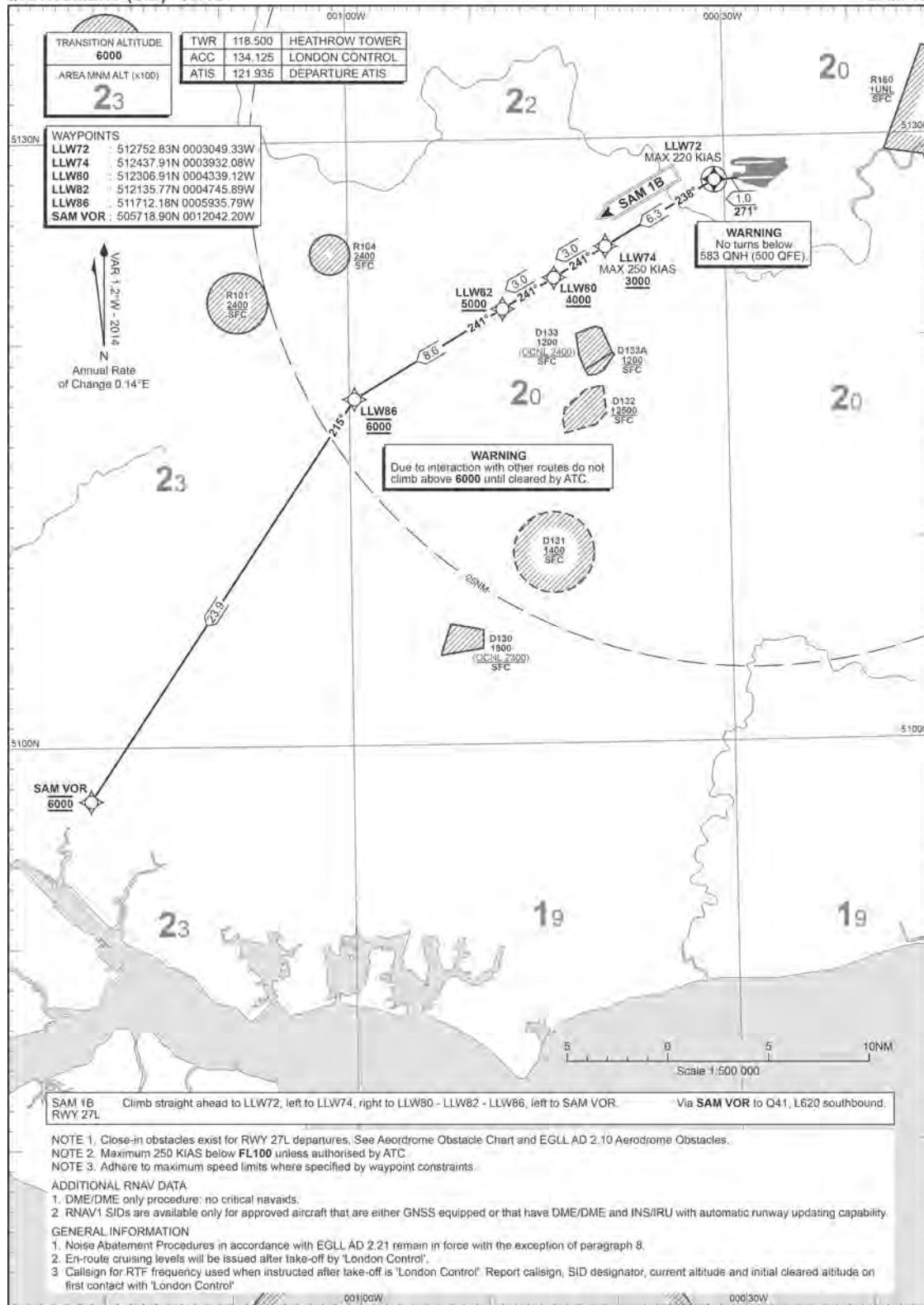
Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
SAM 1A	001	CA	-	-	-	271° (269.7°)	-1.2	-	-	+583	-	RNAV1
SAM 1A	002	CF	LLW71	512838.57N 0003101.58W	Y	271° (269.7°)	-1.2	1.0	LEFT	-	-220	RNAV1
SAM 1A	003	CF	LLW73	512547.85N 0003935.12W	N	241° (239.6°)	-1.2	6.1	-	+3000	-250	RNAV1
SAM 1A	004	TF	LLW78	512416.86N 0004342.27W	N	241° (239.5°)	-1.2	3.0	-	+4000	-	RNAV1
SAM 1A	005	TF	LLW81	512245.71N 0004749.14W	N	241° (239.5°)	-1.2	3.0	-	+5000	-	RNAV1
SAM 1A	006	TF	LLW85	511910.76N 0005728.70W	N	241° (239.4°)	-1.2	7.0	LEFT	6000	-	RNAV1
SAM 1A	007	TF	SAM	505718.90N 0012042.20W	N	215° (213.9°)	-1.2	26.3	-	6000	-	RNAV1

2014 50 LONDON HEATHROW RNAV1 EGLL SAM 1A RWY 27R CODING 02 MAY 14

RNAV1 (DME/DME or GNSS) STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO

DISTANCES IN NAUTICAL MILES
TRACKS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET

LONDON HEATHROW
RWY 27L
SAM 1B

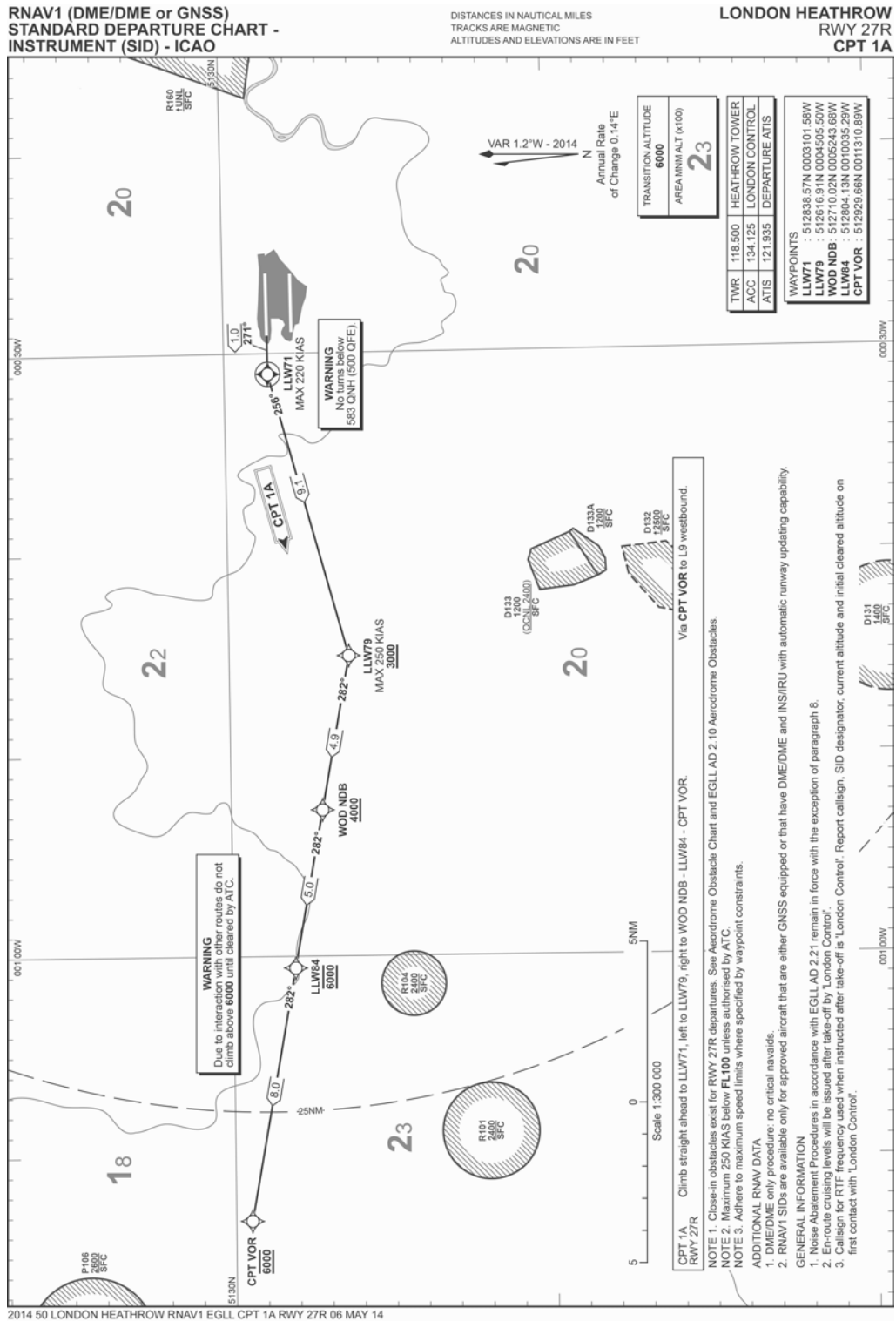


Standard Instrument Departure Coding Tables

London Heathrow Runway 27L SAM 1B

Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
SAM 1B	001	CA	-	-	-	271° (269.7°)	-1.2	-	-	+583	-	RNAV1
SAM 1B	002	CF	LLW72	512752.83N 0003049.33W	Y	271° (269.7°)	-1.2	1.0	LEFT	-	-220	RNAV1
SAM 1B	003	CF	LLW74	512437.91N 0003932.08W	N	238° (236.4°)	-1.2	6.3	RIGHT	+3000	-250	RNAV1
SAM 1B	004	TF	LLW80	512306.91N 0004339.12W	N	241° (239.5°)	-1.2	3.0	-	+4000	-	RNAV1
SAM 1B	005	TF	LLW82	512135.77N 0004745.89W	N	241° (239.5°)	-1.2	3.0	-	+5000	-	RNAV1
SAM 1B	006	TF	LLW86	511712.18N 0005935.79W	N	241° (239.4°)	-1.2	8.6	LEFT	6000	-	RNAV1
SAM 1B	007	TF	SAM	505718.90N 0012042.20W	N	215° (213.9°)	-1.2	23.9	-	6000	-	RNAV1

2014 50 LONDON HEATHROW RNAV1 EGLL SAM 1B RWY 27L CODING 02 MAY 14



Standard Instrument Departure Coding Tables

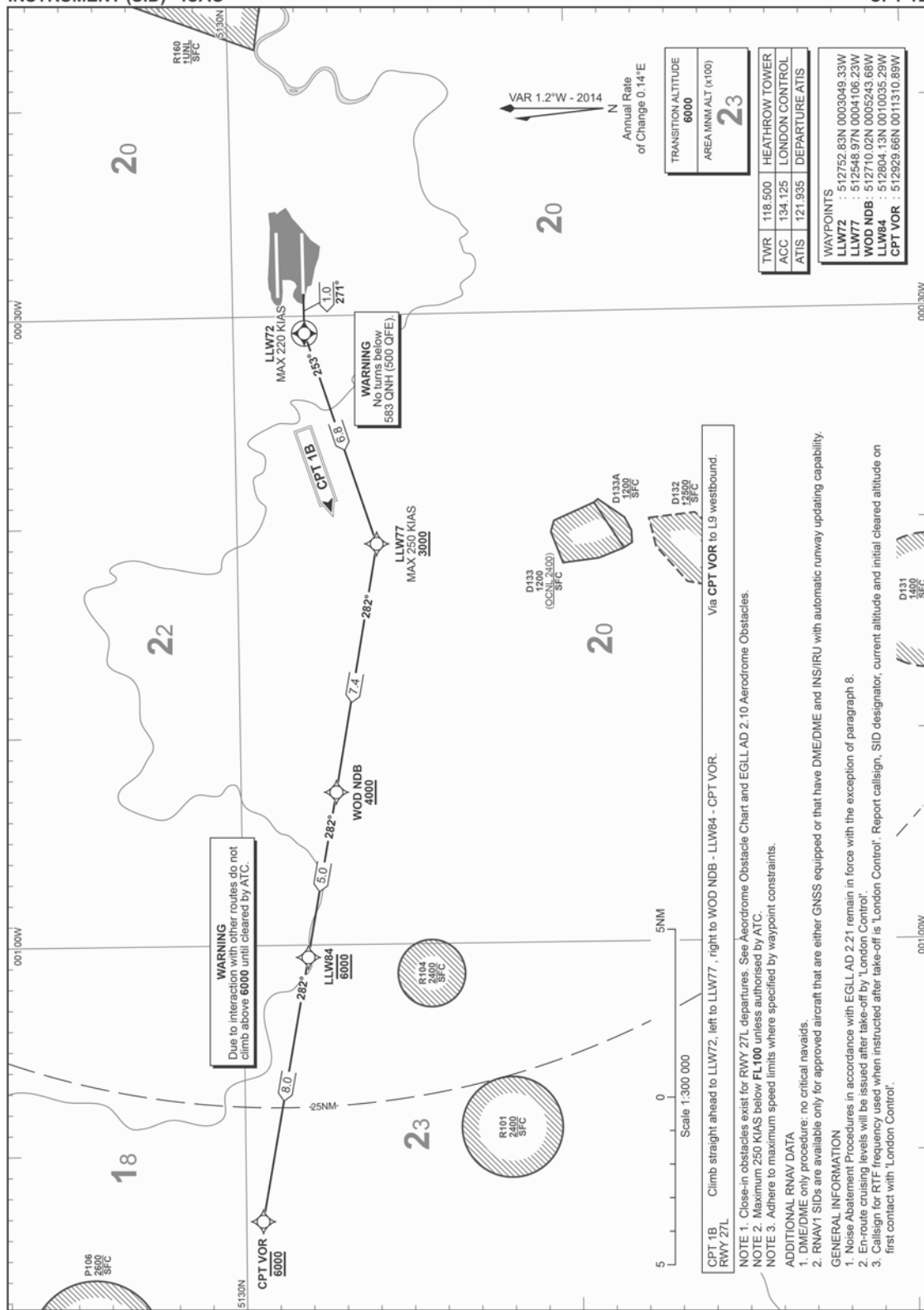
London Heathrow Runway 27R CPT 1A

Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
CPT 1A	001	CA	-	-	-	271° (269.7°)	-1.2	-	-	+583	-	RNAV1
CPT 1A	002	CF	LLW71	512838.57N 0003101.58W	Y	271° (269.7°)	-1.2	1.0	LEFT	-	-220	RNAV1
CPT 1A	003	CF	LLW79	512616.91N 0004505.50W	N	256° (254.6°)	-1.2	9.1	RIGHT	+3000	-250	RNAV1
CPT 1A	004	TF	WOD	512710.02N 0005243.68W	N	282° (280.6°)	-1.2	4.9	-	+4000	-	RNAV1
CPT 1A	005	TF	LLW84	512804.13N 0010035.29W	N	282° (280.5°)	-1.2	5.0	-	6000	-	RNAV1
CPT 1A	006	TF	CPT	512929.66N 0011310.89W	N	282° (280.4°)	-1.2	8.0	-	6000	-	RNAV1

2014 50 LONDON HEATHROW RNAV1 EGLL CPT 1A RWY 27R CODING 02 MAY 14

**RNAV1 (DME/DME or GNSS)
STANDARD DEPARTURE CHART -
INSTRUMENT (SID) - ICAO**

 DISTANCES IN NAUTICAL MILES
 TRACKS ARE MAGNETIC
 ALTITUDES AND ELEVATIONS ARE IN FEET

**LONDON HEATHROW
RWY 27L
CPT 1B**


2014 50 LONDON HEATHROW RNAV1 EGLL CPT 1B RWY 27L 06 MAY 14

Standard Instrument Departure Coding Tables

London Heathrow Runway 27L CPT 1B

Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
CPT 1B	001	CA	-	-	-	271° (269.7°)	-1.2	-	-	+583	-	RNAV1
CPT 1B	002	CF	LLW72	512752.83N 0003049.33W	Y	271° (269.7°)	-1.2	1.0	LEFT	-	-220	RNAV1
CPT 1B	003	CF	LLW77	512548.97N 0004106.23W	N	253° (251.4°)	-1.2	6.8	RIGHT	+3000	-250	RNAV1
CPT 1B	004	TF	WOD	512710.02N 0005243.68W	N	282° (280.6°)	-1.2	7.4	-	+4000	-	RNAV1
CPT 1B	005	TF	LLW84	512804.13N 0010035.29W	N	282° (280.5°)	-1.2	5.0	-	6000	-	RNAV1
CPT 1B	006	TF	CPT	512929.66N 0011310.89W	N	282° (280.4°)	-1.2	8.0	-	6000	-	RNAV1

2014 50 LONDON HEATHROW RNAV1 EGLL CPT 1B RWY 27L CODING 02 MAY 14

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AIP SUPPLEMENT 031/2014

UNITED KINGDOM



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<http://www.ais.org.uk>
01489-612590 (Content - NATS/Future ATM Development)
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7 August 2014

Notes

- (a) All times are UTC.
- (b) References are to the UK AIP.
- (c) Information, where applicable, should also be used to amend appropriate charts.



LONDON HEATHROW AIRPORT – RNAV1 WESTERLY SID TRIAL PHASE 2

1 Introduction

- 1.1 The purpose of this AIP Supplement is to detail the trial operation and incorporation of RNAV1 SIDs into the RNAV1 Westerly SID Trial from London Heathrow Airport which began in August 2014. **All Carriers that are RNAV1 equipped and use DET, WOBUN and BPK departures from Heathrow must have the RNAV1 SIDs, detailed within this document, coded and available for use when incorporated into the trial on 20 October 2014.** The trial will finish on 26 January 2015. Carriers not suitably equipped for RNAV1 operations will be issued the conventional departures as listed above.
- 1.2 The Heathrow Westerly Package Phase 2 adds three SID pairs to the Heathrow Westerly SID trial which began 20 August 2014; AIP SUP 024/2014 refers.
- 1.3 The RNAV1 SIDs to be incorporated into the trial are: DET, WOBUN and BPK. The SIDs initial departure tracks are configured differently from each runway. This has been done to incorporate noise respite into the trial SID design; the initial legs for the SID pairs, from each runway, are parallel and separated between 0.7 to 1.0 NM.
- 1.4 The details of the SID plates can be found at Annexes A - F of this document. Below is a summary of the differences and changes that have been incorporated into this package of RNAV1 SID designs:
- DET – RNAV1 SID will turn left towards EPM NDB and remain approximately 1.0 NM apart to facilitate noise respite through runway alternation, as far as the design will allow, before joining and replicating the current conventional route to DET.
 - WOBUN – RNAV1 SID will turn right towards BUR NDB and remain approximately 1.0 NM apart to facilitate noise respite through runway alternation, as far as the design will allow, before joining and replicating the current conventional route to WOBUN.
 - BPK – RNAV1 SID will turn right towards BUR NDB and remain approximately 1.0 NM apart to facilitate noise respite through runway alternation, as far as the design will allow, before joining and replicating the current conventional route to WOBUN.
- 1.5 This trial will introduce the following RNAV1 SIDs:
- DET1A Runway 27R
 - DET1B Runway 27L
 - WOBUN1A Runway 27R
 - WOBUN1B Runway 27L
 - BPK1A Runway 27R
 - BPK1B Runway 27L
- 1.6 The trial RNAV1 SIDs are available only to aircraft that are equipped and approved in accordance with the requirements of JAA TGL-10 or equivalent, and where the operator has been approved by their State of Registry for RNAV1 operations.
- 1.7 The trial RNAV1 SIDs are only available to those aircraft that are either GNSS equipped or that have a **DME/DME and INS/IRU with automatic runway updates.**
- 1.8 There are no critical nav aids associated with the RNAV1 SIDs assuming the use of GNSS or INS/IRU for initial guidance up to an altitude of 2000 ft.

2 Purpose of the RNAV1 Heathrow Westerly SIDs Trial

- 2.1 The purpose of the trial is:
- (a) To continue to gain ATC and aircraft operator experience of RNAV1 operations within the UK;
 - (b) To assess track keeping accuracy of aircraft flying the trial RNAV1 SIDs;
 - (c) To provide information on interactions of different RNAV1 departures proximate to the aerodrome;
 - (d) To investigate the angle of divergence and departure intervals between adjacent SIDs;

- (e) To assess the suitability of design criteria for RNAV1 procedures;
- (f) To confirm the flyability of the trial RNAV1 SID designs.

3 RNAV1 Trial Procedure

- 3.1 The trial RNAV1 SIDs are detailed in Annexes A – F to this supplement together with the appropriate navigation database coding tables.
- 3.2 The trial RNAV1 SIDs must be used on a 24-hour basis (H24), unless notified otherwise.
- 3.3 The trial RNAV1 SIDs, as detailed in paragraph 1.5, will be clearly identified and be distinguishable from the conventional and other RNAV1 SIDs by using new waypoint names or runway designation letters as appropriate.
- 3.4 Crews of suitably equipped aircraft will be issued the appropriate trial RNAV1 SID clearance by Heathrow ATC Clearance Delivery according to their flight planned route. **Aircraft which are not equipped to the appropriate standard will be issued the appropriate conventional SID clearance according to their flight plan.**
- 3.5 As part of the requirements for initial call on departure, participating flight crews are to advise ATC by stating the SID that they are flying, e.g.:
'(Callsign), (BPK 1A), passing xxxx feet, climbing altitude xxxx feet'.
- 3.6 Where speed limits apply at specified waypoints, for track containment purposes, aircraft must adhere to the specified speeds when following this trial. If the specified speeds cannot be adhered to flight crew shall advise ATC of non-compliance as soon as it is safe to do so.
- 3.7 Aircraft flying the trial RNAV1 SIDs may receive radar vectors from ATC in keeping with operating procedures, although the purpose of the trial is to gather track-keeping data which should see the majority of aircraft left on their own navigation for the initial portion of the SID.
- 3.8 Throughout the trial period the conventional SIDs, as detailed in the UK AIP, will remain available. Conventional SIDs will be used by any aircraft not suitably equipped/certified for RNAV1 operations and for any other occasion when the trial RNAV1 SIDs cannot be issued.
- 3.9 Radio Communication Failure Procedures: Aircraft experiencing loss of communications having been cleared for one of the trial RNAV1 SIDs should continue in accordance with UK AIP ENR 1.11 General Rules, 3 General Flight Procedures, Paragraph 3.4.2.4.2 (b) in particular (ii), which stipulates: 'If failure occurs when the aircraft is following a notified departure procedure such as a Standard Instrument Departure (SID) and clearance to climb, or re-routing instructions have not been given, the procedure should be flown in accordance with the published lateral track and vertical profile, including any stepped climbs, until the last position, fix, or waypoint, published for the procedure, has been reached. Then, for that part of the period of seven minutes that may remain, maintain the current speed and last assigned level or minimum safe altitude if this is higher.'
- 3.10 If an Aircraft experiences an avionics failure, the flight crew shall make their intentions known to ATC as soon as possible and follow their standard procedures for such an occurrence.
- 3.11 In the event that the required navigation equipment fails, the flight crew shall advise ATC that they can no longer continue with the procedure, or are unable to accept the procedure, with the phraseology:
'(Callsign), unable RNAV due equipment.'
In such an event, ATC shall provide radar vectors and climb instructions in accordance with standard procedures.

4 Air Navigation Order

- 4.1 For the Purpose of the trial these procedures are hereby notified for the purposes of Articles 124(1) and 125(1) of the Air Navigation: The Order and the Regulations, CAP 393, Third edition incorporating amendments up to 1/2012.

5 Flight Planning

- 5.1 For this trial all suitably equipped aircraft, as detailed in their flight plan, will be issued one of the trial RNAV1 SIDs when flight planning via DET, WOBUN or BPK and when Heathrow are on westerly operations. **Aircraft Operators do not need to change the manner in which they file flight plans for this trial.** Allocation of the appropriate SID will be handled by NATS Systems. However, operators can file the trial RNAV1 SIDs, as detailed in paragraph 1.5. It is important to note that correctly filed plans using the conventional or RNAV1 designators will not be rejected.

6 Trial Implementation Date

- 6.1 This trial will be effective from 0001 UTC 20 October 2014 and end at 0001 UTC 26 January 2015.

Note:

- The end of this trial may be subject to change due to data gathering requirements.
- The end date of this trial will be confirmed by NOTAM, following which this supplement and the associated procedures will be withdrawn.

7 Trial Contact

- 7.1 Should any operator require further assistance please email NATS Customer Affairs and/or Heathrow Airport, Flight Performance at the following email addresses, quoting this AIP Supplement:

Help.CUSTOMERHelp@nats.co.uk

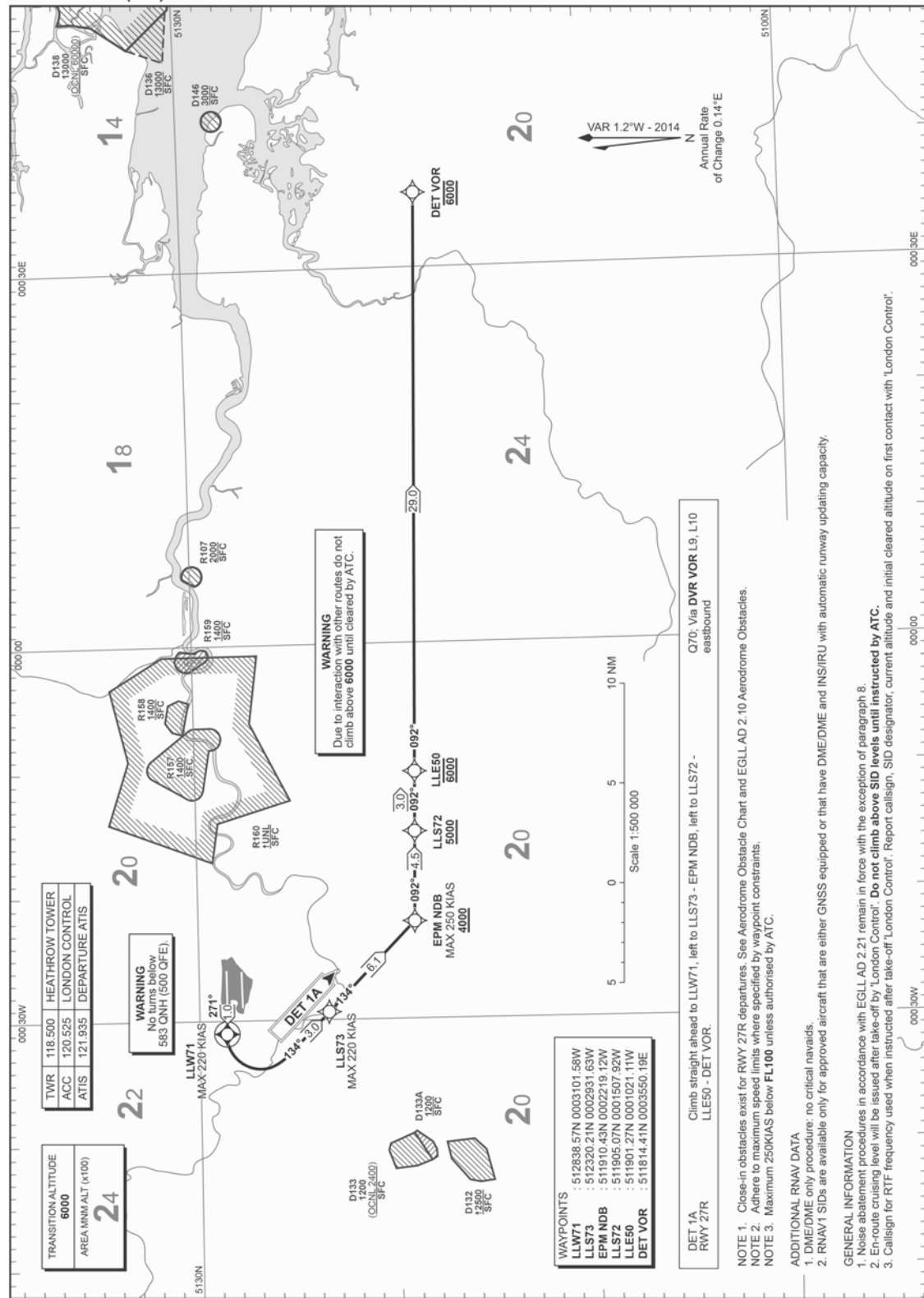
and

DD-flightperformance@heathrow.com

RNAV1 (DME/DME or GNSS) STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO

DISTANCES IN NAUTICAL MILES
TRACKS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET

LONDON HEATHROW
RWY 27R
DET 1A



2014 79 LONDON HEATHROW RNAV1 EGLL DET 1A RWY 27R 02 JUL 14

Standard Instrument Departure Coding Tables

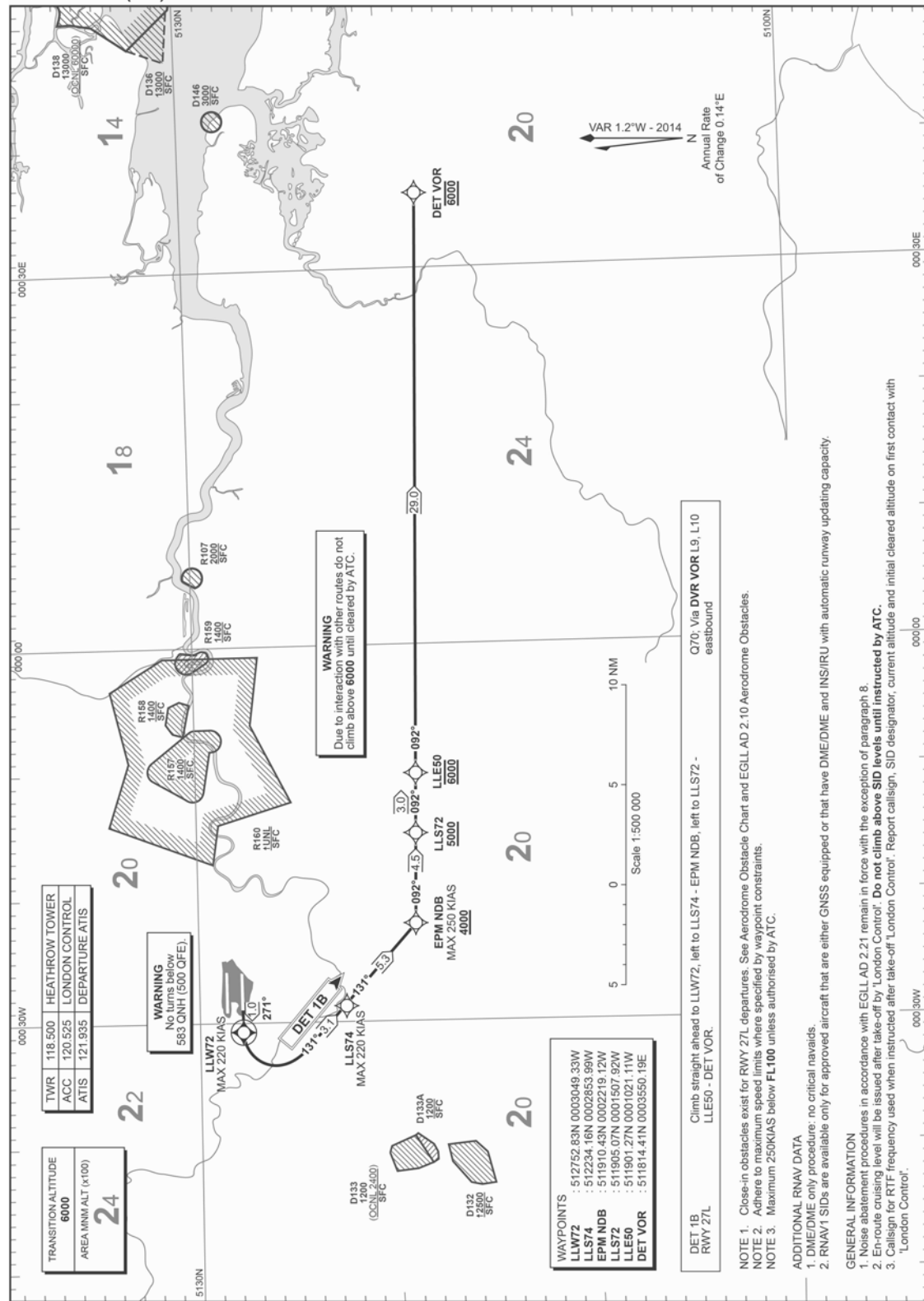
London Heathrow Runway 27R DET 1A

Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
DET 1A	001	CA	-	-	-	271° (269.7°)	-1.2	-	-	+583	-	RNAV1
DET 1A	002	CF	LLW71	512838.57N 0003101.58W	Y	271° (269.7°)	-1.2	1.0	LEFT	-	-220	RNAV1
DET 1A	003	CF	LLS73	512320.21N 0002931.63W	N	134° (132.6°)	-1.2	3.0	-	-	-220	RNAV1
DET 1A	004	TF	EPM	511910.43N 0002219.12W	N	134° (132.6°)	-1.2	6.1	LEFT	+4000	-250	RNAV1
DET 1A	005	TF	LLS72	511905.07N 0001507.92W	N	092° (091.1°)	-1.2	4.5	-	+5000	-	RNAV1
DET 1A	006	TF	LLE50	511901.27N 0001021.11W	N	092° (091.2°)	-1.2	3.0	-	6000	-	RNAV1
DET 1A	007	TF	DET	511814.41N 0003550.19E	N	092° (091.2°)	-1.2	29.0	-	6000	-	RNAV1

2014_79 LONDON HEATHROW RNAV 1 EGLL DET 1A RWY 27L CODING TABLE 30 JUN 14

**RNAV1 (DME/DME or GNSS)
STANDARD DEPARTURE CHART -
INSTRUMENT (SID) - ICAO**

 DISTANCES IN NAUTICAL MILES
TRACKS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET

**LONDON HEATHROW
RWY 27L
DET 1B**


2014 79 LONDON HEATHROW RNAV1 EGLL DET 1B RWY 27L 02 JUL 14

Standard Instrument Departure Coding Tables

London Heathrow Runway 27L DET 1B

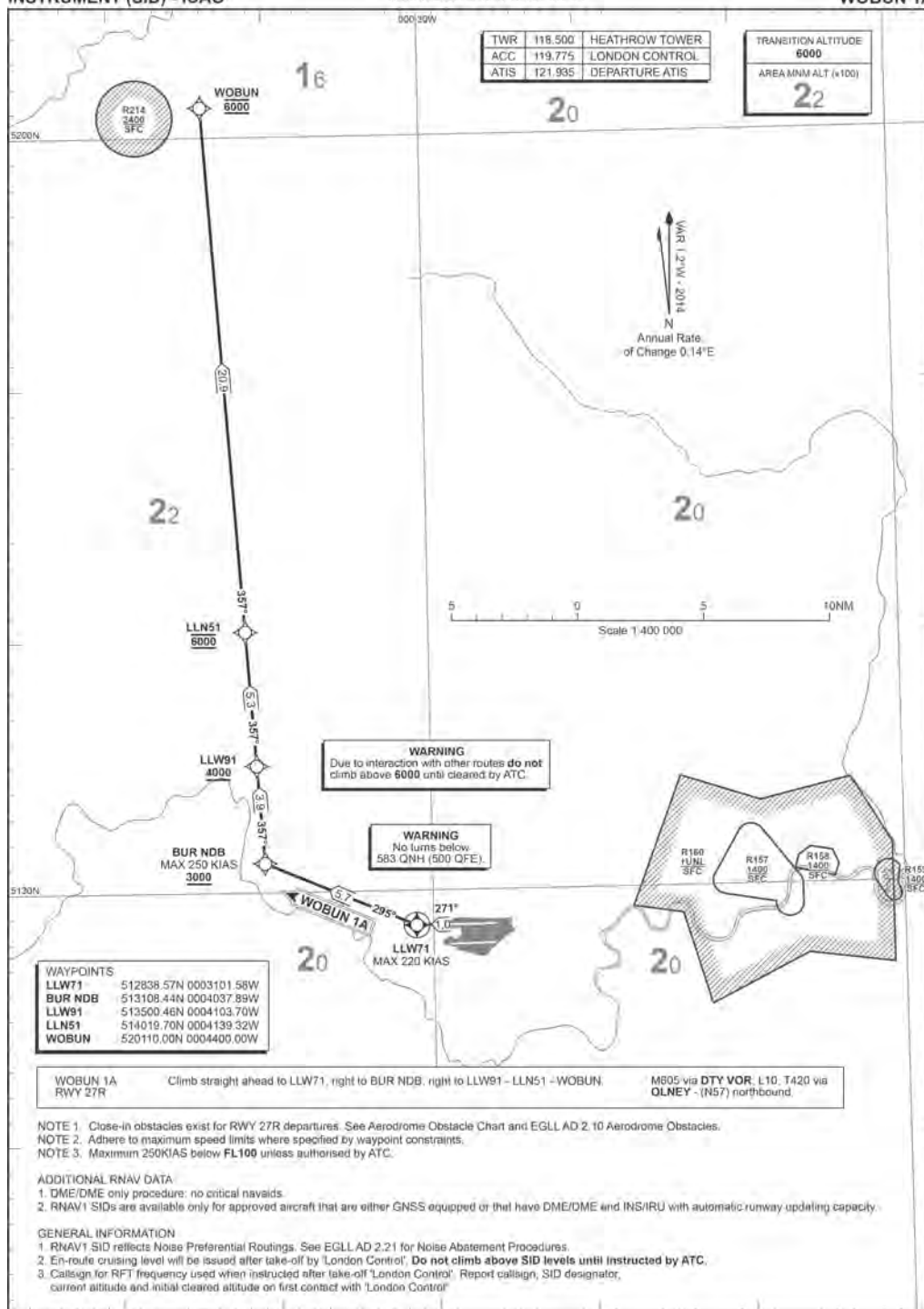
Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
DET 1B	001	CA	-	-	-	271° (269.7°)	-1.2	-	-	+583	-	RNAV1
DET 1B	002	CF	LLW72	512752.83N 0003049.33W	Y	271° (269.7°)	-1.2	1.0	LEFT	-	-220	RNAV1
DET 1B	003	CF	LLS74	512234.16N 0002853.99W	N	131° (129.4°)	-1.2	3.1	-	-	-220	RNAV1
DET 1B	004	TF	EPM	511910.43N 0002219.12W	N	131° (129.4°)	-1.2	5.3	LEFT	+4000	-250	RNAV1
DET 1B	005	TF	LLS72	511905.07N 0001507.92W	N	092° (091.1°)	-1.2	4.5	-	+5000	-	RNAV1
DET 1B	006	TF	LLE50	511901.27N 0001021.11W	N	092° (091.2°)	-1.2	3.0	-	6000	-	RNAV1
DET 1B	007	TF	DET	511814.41N 0003550.19E	N	092° (091.2°)	-1.2	29.0	-	6000	-	RNAV1

2014_79 LONDON HEATHROW RNAV 1 EGLL DET 1B RWY 27L CODING TABLE 30 JUN 14

**RNAV1 (DME/DME or GNSS)
STANDARD DEPARTURE CHART -
INSTRUMENT (SID) - ICAO**

DISTANCES IN NAUTICAL MILES
TRACKS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET

**LONDON HEATHROW
RWY 27R
WOBUN 1A**



2014 79 LONDON HEATHROW RNAV1 EGLL WOBUN 1A RWY 27R 02 JUL 14

Standard Instrument Departure Coding Tables

London Heathrow Runway 27R WOBUN 1A

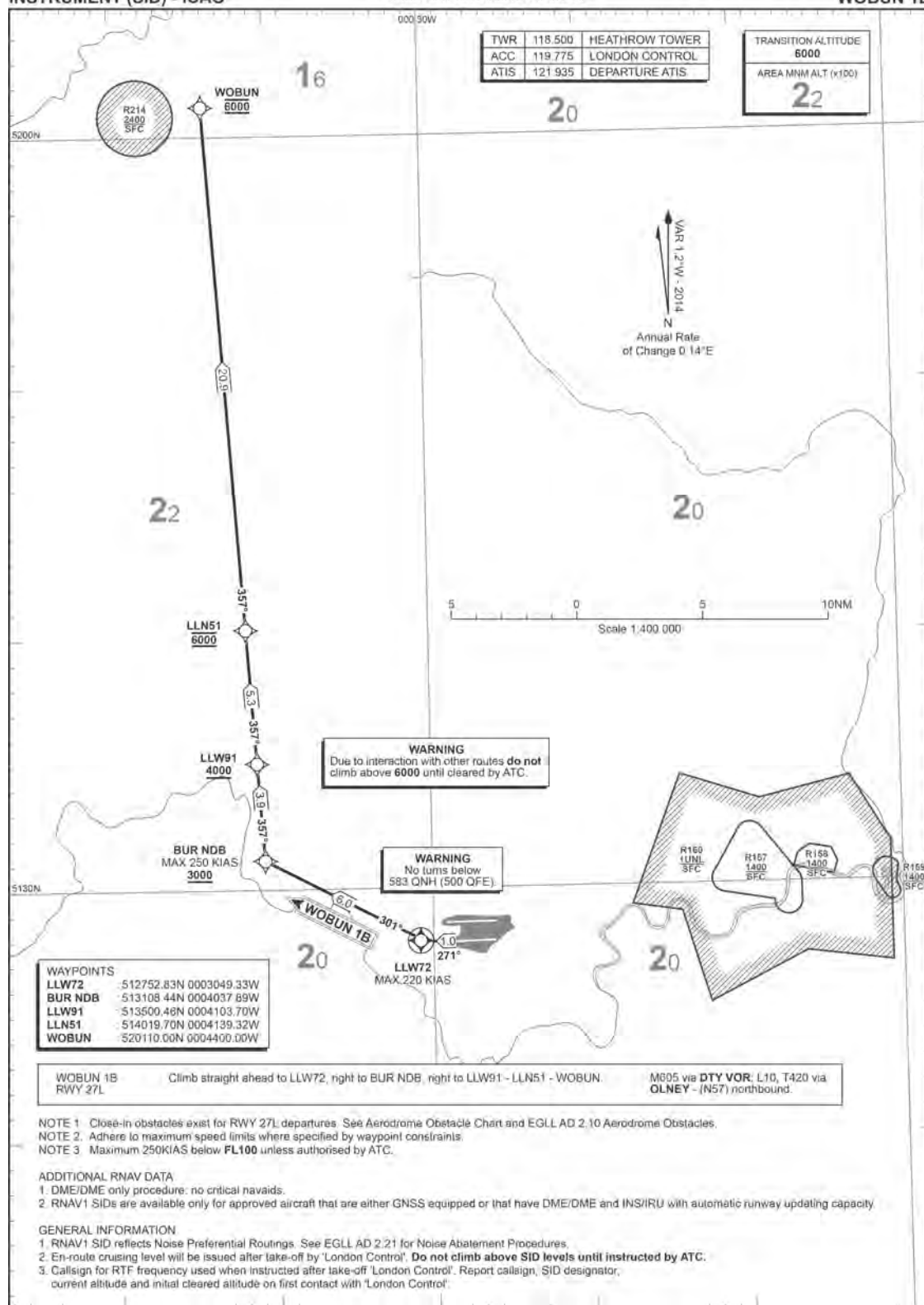
Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
WOBUN 1A	001	CA	-	-	-	271° (269.7°)	-1.2	-	-	+583	-	RNAV1
WOBUN 1A	002	CF	LLW71	512838.57N 0003101.58W	Y	271° (269.7°)	-1.2	1.0	RIGHT	-	-220	RNAV1
WOBUN 1A	003	CF	BUR	513108.44N 0004037.89W	N	295° (294.2°)	-1.2	5.7	RIGHT	+3000	-250	RNAV1
WOBUN 1A	004	TF	LLW91	513500.46N 0004103.70W	N	357° (356.0°)	-1.2	3.9	-	+4000	-	RNAV1
WOBUN 1A	005	TF	LLN51	514019.70N 0004139.32W	N	357° (356.0°)	-1.2	5.3	-	6000	-	RNAV1
WOBUN 1A	006	TF	WOBUN	520110.00N 0004400.00W	N	357° (356.0°)	-1.2	29.0	-	6000	-	RNAV1

2014_79 LONDON HEATHROW RNAV 1 EGLL WOBUN 1A RWY 27R CODING TABLE 30 JUN 14

**RNAV1 (DME/DME or GNSS)
STANDARD DEPARTURE CHART -
INSTRUMENT (SID) - ICAO**

DISTANCES IN NAUTICAL MILES
TRACKS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET

**LONDON HEATHROW
RWY 27L
WOBUN 1B**



2014 79 LONDON HEATHROW RNAV1 EGLL WOBUN 1B RWY 27L 02 JUL 14

Standard Instrument Departure Coding Tables

London Heathrow Runway 27L WOBUN 1B

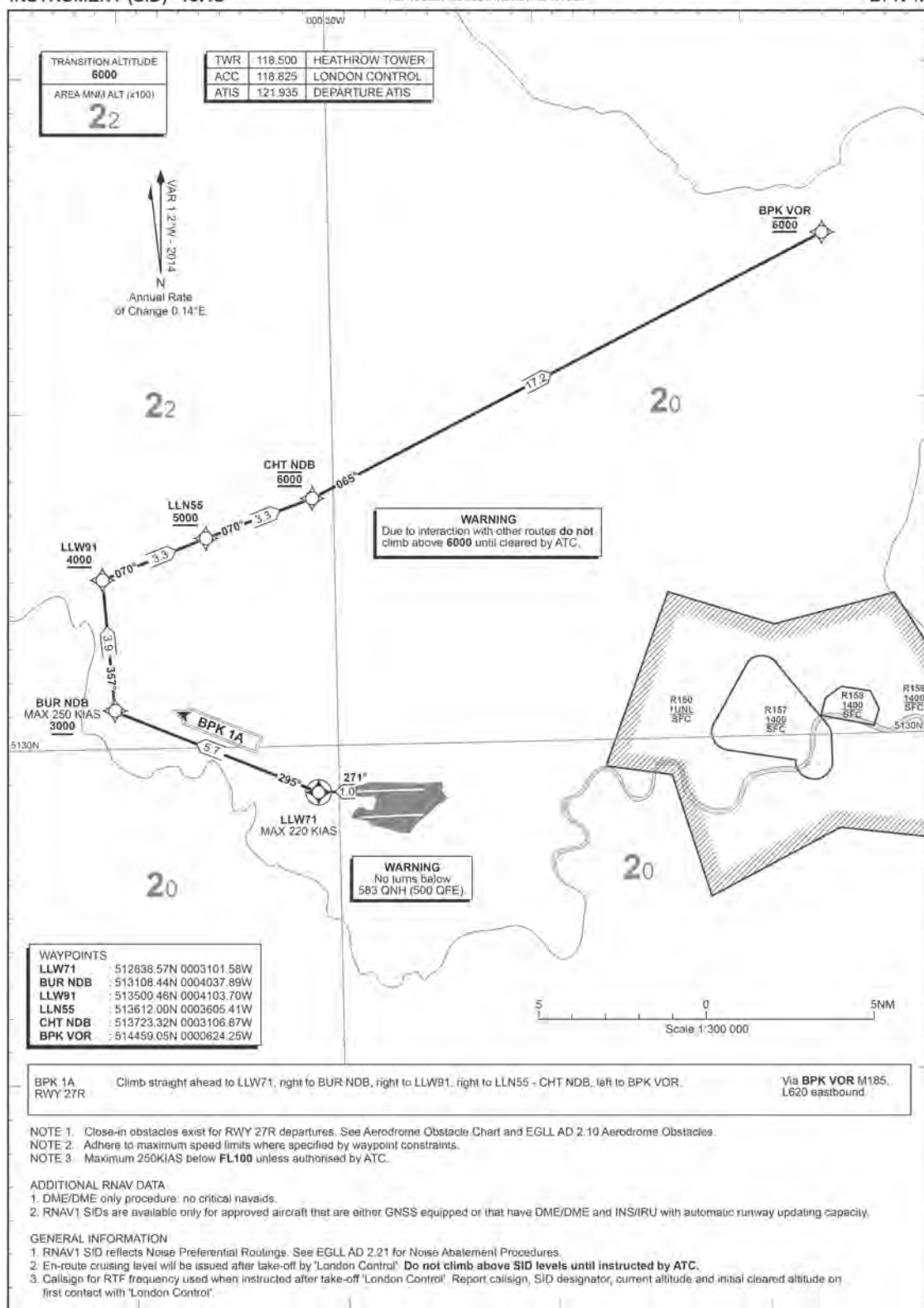
Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
WOBUN 1B	001	CA	-	-	-	271° (269.7°)	-1.2	-	-	+583	-	RNAV1
WOBUN 1B	002	CF	LLW72	512752.83N 0003049.33W	Y	271° (269.7°)	-1.2	1.0	RIGHT	-	-220	RNAV1
WOBUN 1B	003	CF	BUR	513108.44N 0004037.89W	N	301° (300.2°)	-1.2	6.0	RIGHT	+3000	-250	RNAV1
WOBUN 1B	004	TF	LLW91	513500.46N 0004103.70W	N	357° (356.0°)	-1.2	3.9	-	+4000	-	RNAV1
WOBUN 1B	005	TF	LLN51	514019.70N 0004139.32W	N	357° (356.0°)	-1.2	5.3	-	6000	-	RNAV1
WOBUN 1B	006	TF	WOBUN	520110.00N 0004400.00W	N	357° (356.0°)	-1.2	29.0	-	6000	-	RNAV1

2014_79 LONDON HEATHROW RNAV 1 EGLL WOBUN 1B RWY 27L CODING TABLE 02 JUL 14

RNAV1 (DME/DME or GNSS) STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO

DISTANCES IN NAUTICAL MILES
TRACKS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET

**LONDON HEATHROW
RWY 27R
BPK 1A**



2014 79 LONDON HEATHROW RNAV1 EGLL BPK 1A RWY 27R 02 JUL 14

Standard Instrument Departure Coding Tables

London Heathrow Runway 27R BPK 1A

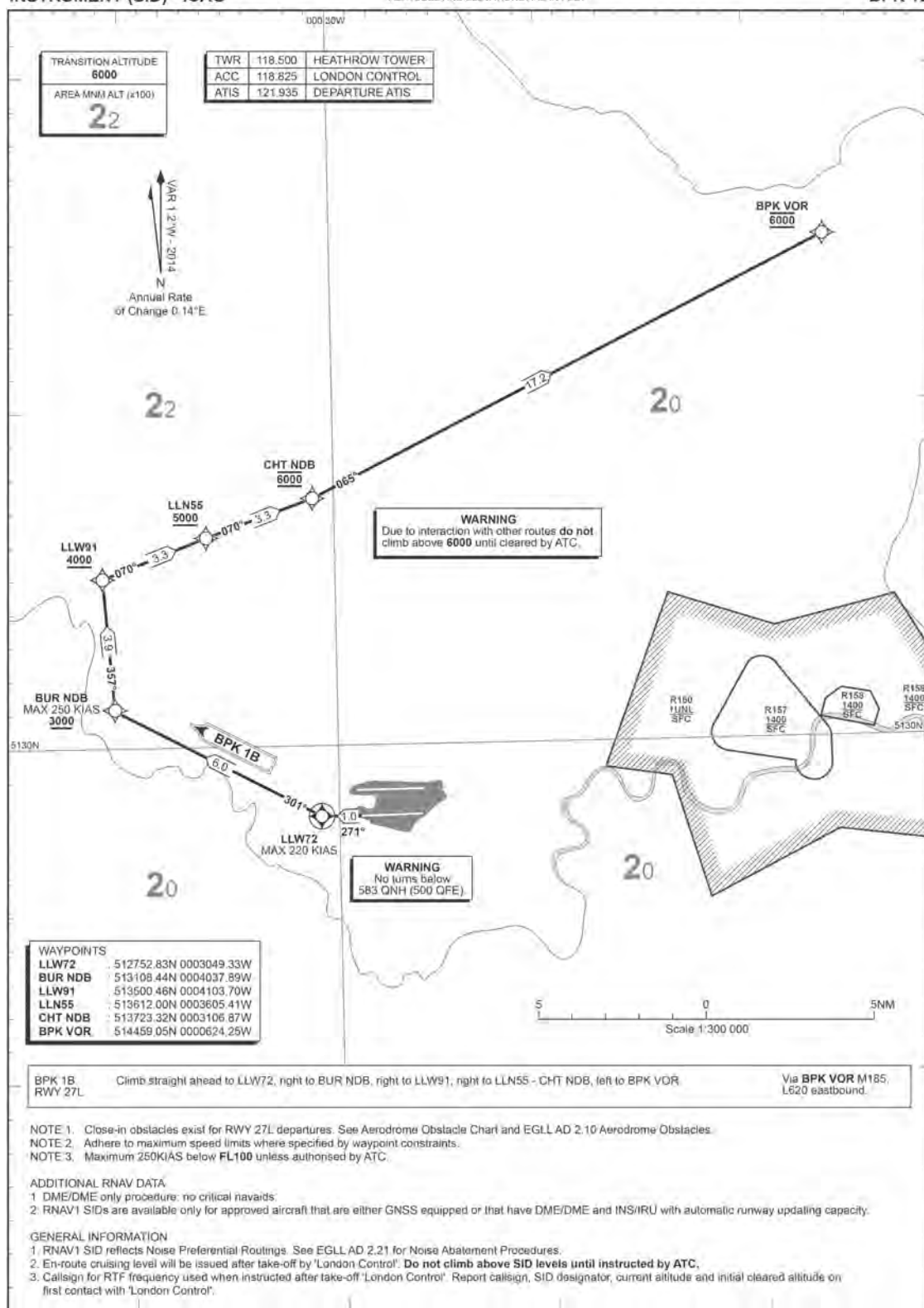
Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
BPK 1A	001	CA	-	-	-	271° (269.7°)	-1.2	-	-	+583	-	RNAV1
BPK 1A	002	CF	LLW71	512838.57N 0003101.58W	Y	271° (269.7°)	-1.2	1.0	RIGHT	-	-220	RNAV1
BPK 1A	003	CF	BUR	513108.44N 0004037.89W	N	295° (294.2°)	-1.2	5.7	RIGHT	+3000	-250	RNAV1
BPK 1A	004	TF	LLW91	513500.46N 0004103.70W	N	357° (356.0°)	-1.2	3.9	RIGHT	+4000	-	RNAV1
BPK 1A	005	TF	LLN55	513612.00N 0003605.41W	N	070° (068.9°)	-1.2	3.3	-	+5000	-	RNAV1
BPK 1A	006	TF	CHT	513723.32N 0003106.87W	N	070° (069.0°)	-1.2	3.3	LEFT	6000	-	RNAV1
BPK 1A	007	TF	BPK	514459.05N 0000624.25W	N	065° (063.5°)	-1.2	17.2	-	6000	-	RNAV1

2014_79 LONDON HEATHROW RNAV 1 EGLL BPK 1A RWY 27R CODING TABLE 30 JUN 14

RNAV1 (DME/DME or GNSS) STANDARD DEPARTURE CHART - INSTRUMENT (SID) - ICAO

DISTANCES IN NAUTICAL MILES
TRACKS ARE MAGNETIC
ALTITUDES AND ELEVATIONS ARE IN FEET

LONDON HEATHROW
RWY 27L
BPK 1B



2014 79 LONDON HEATHROW RNAV1 EGLL BPK 1B RWY 27L 02 JUL 14

Standard Instrument Departure Coding Tables

London Heathrow Runway 27L BPK 1B

Designator	Sequence Number	Path Terminator	Waypoint Name	Waypoint Co-ordinates	Fly-over	Course/Track °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Level Constraint	Speed Constraint	Navigation Performance
BPK 1B	001	CA	-	-	-	271° (269.7°)	-1.2	-	-	+583	-	RNAV1
BPK 1B	002	CF	LLW72	512752.83N 0003049.33W	Y	271° (269.7°)	-1.2	1.0	RIGHT	-	-220	RNAV1
BPK 1B	003	CF	BUR	513108.44N 0004037.89W	N	301° (300.2°)	-1.2	6.0	RIGHT	+3000	-250	RNAV1
BPK 1B	004	TF	LLW91	513500.46N 0004103.70W	N	357° (356.0°)	-1.2	3.9	RIGHT	+4000	-	RNAV1
BPK 1B	005	TF	LLN55	513612.00N 0003605.41W	N	070° (068.9°)	-1.2	3.3	-	+5000	-	RNAV1
BPK 1B	006	TF	CHT	513723.32N 0003106.87W	N	070° (069.0°)	-1.2	3.3	LEFT	6000	-	RNAV1
BPK 1B	007	TF	BPK	514459.05N 0000624.25W	N	065° (063.5°)	-1.2	17.2	-	6000	-	RNAV1

2014_79 LONDON HEATHROW RNAV 1 EGLL BPK 1B RWY 27L CODING TABLE 30 JUN 14