

LONDON HEATHROW VMATS PART 2

EGLL

REVISION 2023/13 - EFFECTIVE 28 DECEMBER 2023

DISTRIBUTION AND SCOPE

This manual is for controllers of Heathrow Aerodrome and TC Heathrow positions, containing specific and local procedures relevant to these positions. Controllers must be familiar with controlling procedures in the UK; this manual should be read in conjunction with CAP 493 (MATS Part 1) and guidance on standard UK Radiotelephony phraseology, detailed in CAP 413.

EXCLUSION OF LIABILITY

This manual is for use on the VATSIM Network only and should never be adopted for real world use.

The information published by VATSIM UK within this document is made available without warranty of any kind; the Organisation accepts no responsibility or liability whether direct or indirect, as to the currency, accuracy or quality of the information, nor for any consequence of its use. Several procedures have been adapted or created using content published in the AIS (published and maintained by NATS). Any information in this document does not constitute as a real-world replacement for any official procedure / documentation set out on the AIS website, and any similar procedures set out here or influenced by NATS' content is written under the Limited License provided by the AIS.

ACKNOWLEDGEMENTS

This document has been written and proofread by a huge wealth of people, without which the development of this document would not have been possible. On behalf of all VATSIM UK's members, this acts as an acknowledgement and thanks for their work.

DEFINITIONS

The key words "SHALL", "IS TO", "ARE TO", "MUST", "SHOULD", "MAY" are to be interpreted as described in MATS Part 1 (CAP 493).

MARKED CHANGES

Changes made since the last release are marked with a black bar, as indicated, in the left-hand margin. The changes are also described briefly in the table below.

AMENDMENT HISTORY

Revision	Effective Date	Notes
2023/13	28 Dec 2023	Removed Mention of MAY SID (ADC 1.6.3); Corrected GMC standing agreements (ADC 2.4); Incorporation of Concorde Oceanic and Domestic Procedures (ADC 1.5 , ADC 1.5.1 , ADC 1.5.2); Changes to the Division of GMC of Areas of Responsibility (ADC 2.1.1 , ADC 2.1.2); Added TC Midlands (TCM) to handoff priority order (ADC 3.14.2); Updated frequencies to 8.33 channel spacing (GEN 3.2); Corrected EGKK repositioning delay absorption coordination to TC SW (not TC SE) (ADC 1.5.3)
2023/09	07 Sep 2023	Added inbound courses and updated column headers to the Holding Procedures table (APC 3.3); Added first contact procedures for inbound aircraft (APC 3.1). Updated flight level capping with AIRAC (ADC 1.2.1). Addition of reference to UKCP Go Around alarm (ADC 4.7.1)
2023/03	23 Mar 2023	Updated CPT Gate figure to reflect TC NW/SW boundary change and new ATS routes west of CPT (APC 5.3.2); Removal of BEDEK1H/1Z STARs and replaced by SIRIC 1H/1Z (APC 3.1). Update of delay absorption procedures (ADC 1.5). Corrected MSL Table (GEN 1.1.1)
2022/04	21 Apr 2022	DET-DET departure MDI reduced to 2 minutes (ADC 3.12.4) and wording re-ordered for clarity in following paragraphs; RECAT-EU category labels corrected; Minor formatting corrections
2021/12	2 Dec 2021	Acknowledgements added; Definitions updated; Minor formatting corrections; ASR updated (GEN 1.1.6); All Weather Operations updated (GEN Chapter 2); ATC communication facilities updated with removal of old relief callsigns, clarified responsibility for ADC supervision, clarified responsibility for TC SVFR position (LC DIR permanent bandbox) (GEN 3.2); Change of Runway Configuration procedure added (GEN 4.3); TEAM procedures updated (GEN 4.4); Non-TEAM use of the non-duty runway procedures added (GEN 4.5); Land after procedures matched to MATS Part 1 requirements only (GEN 4.6); Use of the ATM updated (GEN Chapter 5); ADC GMP section reorganised; Updated table of flight level capping (ADC 1.2.1); PDC updated (ADC 1.3); London TMA flights section expanded (ADC 1.5); Terminal 4 Departures during Runway 27L TEAM clarified (ADC 1.7); Split GMP Operations updated (ADC 1.9); Stand Allocation updated (ADC 1.10); Helicopter Clearances updated (ADC 1.11); ADC 2.1 reworded for clarity; GMC standing agreements updated (ADC 2.4); Taxiway restrictions updated (ADC 2.5); AIR Departures and Arrivals responsibilities documented (ADC 3.1 & 4.1); ADC Air Departures reorganised; Added AC Daventry (LM) to handoff priority order (ADC 3.14.2); RECAT-EU tables updated (ADC 3.11); Aerodrome helicopter procedures documented in ADC 4.8 ; APC Chapter 2 reformatted and updated; Defined SODVU Box separation requirements (APC 3.3.4); Heathrow LAM early releases updated (APC 3.6.1); Updated APC missed approach procedures (APC 4.7); RNP Y becomes permanent RNP procedure

		(APC 4.8); Northolt Procedures updated (APC Chapter 6); Low level procedures harmonised with TC Thames vMATS (Section LOW); Section EMG (Emergencies) removed.
2020/13	3 Dec 2020	Corrected Transition Level/Minimum Stack Level table and added note regarding classification of 1013hPa (GEN 1.1.5); Updated STAR tables to reflect new RNAV5 STARs (APC 3.1)
2020/12	5 Nov 2020	Added table of flight level capping (ADC 1.2.1); inverted RECAT-EU tables (ADC 3.12.3, APC 2.6.3); RNAV approaches renamed RNP and new RNP Approaches section added (APC 4.8); Removed climb restriction against London CTR southern boundary for LL CPTs on easterlies (APC 5.3.2); Updated SSR Code Allocations (HLL 2.1).
2020/07	17 Jun 2020	Adds RECAT-EU separation; Added standing agreements for GMC; New Westerly RMA; Added a refreshed APC section

This document includes material from the – now defunct – Heathrow ADC vMATS Revision 1, published 15 September 2016.

INTRODUCTION AND STRUCTURE

The Heathrow virtual Manual of Air Traffic Services (vMATS) Part 2 is complementary to the MATS Part 1 (CAP 493). Together, these two documents provide comprehensive instructions and information for Heathrow ATS controllers within VATSIM UK.

This vMATS has been divided into separate sections for ease of reference, each with its own three letter identification code.

Page Abbreviation	Section
PRE	Preface
GEN	General Operating Instructions
ADC	Aerodrome Control
APC	Approach Control
LOW	Low Level Procedures (VFR & SVFR including Helicopter Procedures)

TIME REFERENCES

All time references within this document are Coordinated Universal Time (UTC), or Zulu time, unless otherwise specified.

The UK observes daylight saving time in the summer months (British Summer Time, or BST), so the clocks shift forwards by one (1) hour. In summer therefore, UK local time is one hour ahead of UTC/Zulu time.

LIST OF FIGURES

Figure 1 - Division of GMC Areas of Responsibility - Landing 27R	25
Figure 2 - Division of GMC Areas of Responsibility - Landing 27L	25
Figure 3 - Division of GMC Areas of Responsibility - Landing 09L	26
Figure 4 - SODVU Box	51
Figure 5 - Heathrow RMA – Westerly Operations.....	53
Figure 6 - Heathrow RMA – Easterly Operations	54
Figure 7 - Compton (CPT) Gate.....	63
Figure 8 - Northolt RMA	64
Figure 9 - London CTR and London City CTR/CTA with airspace details	67
Figure 10 - London City "Coordination Area"	77
Figure 11 - Altitude and Single-Engine Fixed Wing Restrictions.....	78
Figure 12 - Helicopter Routes and Standard Operating Altitudes.....	80

CONTENTS

Distribution and Scope	2
Exclusion of Liability	2
Acknowledgements	2
Definitions	2
Marked Changes	3
Amendment History	3
Introduction and Structure	5
Time References	5
List of Figures	5
Contents	6
GEN General Operating Instructions	10
Chapter 1 Altimeter Setting Procedures	10
1.1 Altimeter Setting Procedures	10
Chapter 2 All Weather Operations.....	11
2.1 Low Visibility Procedures (LVP)	11
2.2 Warnings.....	11
Chapter 3 Description of Airfield.....	12
3.1 Aerodrome Geographical Data.....	12
3.2 ATC Communication Facilities	12
3.3 Logon Order.....	13
3.4 Radio Navigation and Landing Aids	13
Chapter 4 Use of Runways	14
4.1 Preferential Runway System	14
4.2 Runway Alternation.....	14
4.3 Change of Runway Configuration.....	14
4.4 Tactical Enhanced Arrival Mode (TEAM).....	14
4.5 Use of the Non-Duty Runway	15
4.6 Land After Procedures.....	15
Chapter 5 Use of Aerodrome Traffic Monitor	16
ADC Aerodrome Control	17
Chapter 1 Ground Movement Planner (GMP)	17
1.1 Introduction.....	17
1.2 Issuing Clearances	17
1.3 Pre-Departure Clearance (PDC).....	19
1.4 Issuing of Standard Heading to CPT Departures	19
1.5 Concorde Departures	20
1.6 Flight to London TMA Airfields	20

1.7	Flow Restrictions	22
1.8	Terminal 4 Departures during Runway 27L TEAM	23
1.9	Transfer to GMC	23
1.10	Split GMP Operations (Heathrow Planner)	23
1.11	Stand Allocation.....	24
1.12	Helicopter Clearances.....	24
Chapter 2	Ground Movement Control (GMC).....	25
2.1	Areas of Responsibility (AoR)	25
2.2	Hold Short Instructions.....	26
2.3	Runway Crossings	26
2.4	Standing Agreements	27
2.5	Taxiway Restrictions	28
Chapter 3	Air Control (AIR) - Departures	29
3.1	Area of Responsibility	29
3.2	Line Up Procedures.....	29
3.3	Take-off Clearances from the Holding Point	29
3.4	Full Length Holding Points	30
3.5	Runway Crossing and Entry Clearances.....	30
3.6	Conditionals.....	30
3.7	Read Backs.....	30
3.8	Landings on the Departure Runway	30
3.9	Flights to London TMA Airfields	31
3.10	Minimum Noise Routings	31
3.11	Wake Separation	31
3.12	Departure Intervals.....	32
3.13	Application of RSIVA	35
3.14	Transfer of Control and Communication.....	35
3.15	CPT Easterly Departures	35
3.16	Stopping a Departure	36
3.17	Missed Approaches	36
Chapter 4	Air Control (AIR) - Arrivals	37
4.1	Area of Responsibility.....	37
4.2	Aircraft on Approach	37
4.3	Landing Clearance	37
4.4	Arrival Spacing.....	37
4.5	Minimum Radar Separation	37
4.6	Dependent Parallel Approaches.....	38
4.7	Missed Approaches	38
4.8	Aerodrome Helicopter Procedures	39
APC Approach Control	42
Chapter 1	Area of Responsibility and Sector Organisation	42
1.1	General	42

1.2	Function.....	42
1.3	TC Heathrow Bandbox/Splitting Procedures.....	43
Chapter 2	Radar Directors – General Operational Procedures.....	44
2.1	General Procedures.....	44
2.2	Inbound Releases.....	44
2.3	Transfer of Data and Control between Directors.....	45
2.4	Identification and SSR Validation and Verification Procedures.....	45
2.5	Separation Requirements for TC Heathrow.....	46
2.6	Terrain and Obstacle Clearance.....	47
2.7	Change to MSL Procedure.....	47
Chapter 3	Inbound Procedures.....	48
3.1	Information to Arriving Aircraft.....	48
3.2	Standard Arrival Routes.....	48
3.3	Holding Procedures.....	49
3.4	Level Allocation.....	50
3.5	Release Points.....	51
3.6	Transfer of Communication Procedures.....	52
3.7	Descent before Release Point.....	52
Chapter 4	Procedures for Intermediate and Final Approach.....	53
4.1	Radar Manoeuvring Area (RMA).....	53
4.2	Change of Runway Configuration.....	55
4.3	Continuous Descent Approach Procedure (CDA).....	55
4.4	Procedures for Intermediate Approach.....	56
4.5	Procedures for Aircraft on Final Approach.....	57
4.6	Procedures to Ensure Correct Runway.....	59
4.7	Action in the Event of a Missed Approach.....	59
4.8	RNP Approaches.....	60
Chapter 5	Outbound Procedures.....	62
5.1	General Procedures.....	62
5.2	Identification of Departing Traffic.....	62
5.3	Procedures for Outbound Traffic – Easterly Operations.....	62
Chapter 6	Northolt Procedures.....	64
6.1	General.....	64
6.2	Northolt Radar Manoeuvring Area (RMA).....	64
6.3	Runway Usage.....	65
6.4	Altimeter Setting.....	65
6.5	Northolt Inbounds.....	65
6.6	Northolt Outbounds.....	65
6.7	Actions When No Northolt ATC is Online.....	65
LOW Low Level Operations	66
Chapter 1	General Principles.....	66
1.1	Provision of Air Traffic Services.....	66

1.2	Coordination	66
Chapter 2	Airspace	66
2.1	Classification	66
2.2	Transponder Mandatory Zone	67
2.3	Local Flying Areas	67
2.4	Visual Reference Points (VRPs).....	68
2.5	Other Aerodromes in the Vicinity.....	69
Chapter 3	VFR and SVFR Operations.....	70
3.1	VFR and Special VFR Minima	70
3.2	SSR Code Allocations	70
3.3	Single-Engine and Airspace Restrictions.....	71
3.4	Geographical Deemed Separations	72
3.5	London CTR Procedures.....	73
3.6	London City CTR Procedures	76
Chapter 4	Helicopter Operations	80
4.1	Helicopter Routes	80
4.2	Off-Route Operations and Uncontrolled Sites	81
4.3	Separation from Heathrow IFR Traffic.....	81
4.4	Restrictions during Heathrow Easterly Operations.....	82
4.5	Heathrow Crossing Procedures	83
4.6	London Heliport Procedures.....	84
4.7	SVFR Procedures and Separations.....	86
4.8	IFR Clearances to Helicopters	87
Chapter 5	UK Flight Information Services (FIS)	88
Appendix A RECAT-EU Categorisation	89
Glossary	90

GEN | GENERAL OPERATING INSTRUCTIONS

Chapter 1 Altimeter Setting Procedures

1.1 Altimeter Setting Procedures

1.1.1 Departing Aircraft

Departing aircraft should state the QNH on first contact with GMP, otherwise it should be issued by the GMP controller. Aircraft should be informed of any subsequent change to the QNH at the earliest opportunity.

1.1.2 Arriving / Transiting Aircraft

At or below the Transition Altitude, an aircraft's vertical position will be controlled by reference to the Heathrow QNH. Aircraft will be issued the QNH once cleared to descend to an altitude by TC Heathrow, or with clearance to enter the London Control Zone. Aircraft should be informed of any subsequent change to the QNH at the earliest opportunity.

1.1.3 QFE Threshold

The QFE for all runway thresholds is 3 hPa less than the Heathrow QNH.

1.1.4 Transition Altitude

The Transition Altitude (in the London TMA) is 6000 feet AMSL.

Note: From here on, unless otherwise specified, vertical references measured in feet (ft) are to be assumed as altitudes AMSL.

1.1.5 Transition Level and Minimum Stack Level

The Transition Level (TL) and Minimum Stack Level (MSL) for the London TMA are determined by reference to the following table:

Heathrow QNH (hPa)	Transition Level (TL)	Minimum Stack Level (MSL)
1050 – 1060	FL60	FL70
1032 – 1049	FL65	FL70
1013 – 1031	FL70	FL70
995 – 1012	FL75	FL80
977 – 994	FL80	FL80
959 – 976	FL85	FL90
940 – 958	FL90	FL90

Note: The classification of 1013 hPa as 'high pressure' in the above table differs from MATS Part 1.

1.1.6 Altimeter Setting Region (ASR)

Heathrow is situated within the Chatham ASR however, the LTMA overlies the majority of the Chatham ASR and aircraft operating under the LTMA shall be passed the London QNH.

Chapter 2 All Weather Operations

2.1 Low Visibility Procedures (LVP)

2.1.1 Enforcement

Pilots will be informed when these procedures are in operation by ATIS or by RT.

ATC Low Visibility Procedures must be applied when the RVR is less than 600 m.

The cloud ceiling is not to be used as an automatic trigger for the instigation of LVP at Heathrow; however, when the cloud ceiling is below 200 ft and LVP are not in effect, ATC should remind arriving flight crews that only Category I approaches are in operation.

2.1.2 Runway Visual Range (RVR)

The RVR is measured at three points along each runway: at the touchdown zone, mid-point, and stop-end. The minimum RVR that can be measured is 50 m and the maximum is 1500 m.

Only the touchdown zone RVR value is published in METARs, thus the remaining two RVR values are 'unknown' to VATSIM network controllers. When LVP is in force, pilots should be informed of the reported RVR and any subsequent updates.

2.1.3 Category II/III Holding Points

During LVP the ILS signal must be protected to safely permit Category II/III approaches which is achieved through the use of Category II/III holding points.

During LVP controllers shall use Category II/III holding points for both the arrival and departure runway without exception.

2.2 Warnings

Pilots should be warned, when landing on Runway 09L/27R in strong southerly/south westerly winds, of the possibility of building-induced turbulence and large wind shear effects.

Similarly, Runway 09R/27L arrivals should also be warned of these hazards when winds with a strong northerly component are present.

Building-induced turbulence may be also experienced at the mid sections of both runways from winds with a strong southerly, or strong northerly component.

Chapter 3 Description of Airfield

3.1 Aerodrome Geographical Data

ICAO Code	EGLL
Aerodrome Reference Point (ARP)	Lat: 512839NM Long: 0002741W Midpoint of Runway 09L/27R
Elevation	83 ft AMSL
Transition Altitude	6000 ft AMSL
Safety Altitude	2200 ft AMSL (NW)

3.2 ATC Communication Facilities

Aerodrome Control (ADC)

Callsign	Logon Callsign	Abbreviation	Frequency (MHz)
Heathrow Information	EGLL_ATIS	ATIS	128.080
Heathrow Delivery	EGLL_DEL	GMP	121.980
Heathrow Ground	EGLL_1_GND	GMC 1	121.905
Heathrow Ground	EGLL_2_GND	GMC 2	121.705
Heathrow Ground	EGLL_3_GND	GMC 3	121.855
Heathrow Tower	EGLL_S_TWR	AIR South	118.505
Heathrow Tower	EGLL_N_TWR	AIR North	118.705

Note: When AIR is split (and in the absence of an ADC Supervisor), AIR South shall operate as the ADC Supervisor and is responsible for overall aerodrome operations and executive coordination with external units.

Approach Control (APC)

Callsign	Logon Callsign	Abbreviation	Frequency (MHz)
Heathrow Director	EGLL_N_APP	INT North	119.730
Heathrow Director	EGLL_S_APP	INT South	134.980
Heathrow Director	EGLL_F_APP	FIN	120.400

Note 1: The combined APC units may be referred to in coordination as 'TC Heathrow'

Note 2: Heathrow Radar (TC SVFR) is permanently banded with TC Thames (LC DIR) on VATSIM.

3.3 Logon Order

3.3.1 Aerodrome Control

GMP may be staffed at any time.

GMC 2 or GMC 1 (depending on the direction of operation) is the first ground position to be staffed, covering all GMC areas of responsibility (AoR) (detailed in [ADC 2.1](#)). Before GMC is split, GMP must be online.

- During **Westerly** operations, GMC 2 is the first ground position to be staffed, covering all AoR. GMC 3 is the second position to be opened, followed by GMC 1.
- During **Easterly** operations, GMC 1 is the first ground position to be staffed, covering all AoR. GMC 3 is the second position to be opened, followed by GMC 2.

AIR South is the primary tower and should be opened in the first instance. Before AIR is split, GMC must be open. During night single runway operations, the controller may switch to the callsign most appropriate to the selected runway in operation.

3.3.2 Approach Control

INT North may be staffed at any time.

AIR must be opened before TC Heathrow positions are split.

FIN must be opened before INT North and South are split.

3.4 Radio Navigation and Landing Aids

Type	Identifier	Frequency (MHz)	Remarks
ILS 09L	I-AA	110.300	LLZ/DME. 3°GP
ILS 09R	I-BB	109.500	LLZ/DME. 3°GP
ILS 27L	I-LL	109.500	LLZ/DME. 3°GP
ILS 27R	I-RR	110.300	LLZ/DME. 3°GP

Chapter 4 Use of Runways

4.1 Preferential Runway System

Runways 27L and 27R are preferred during the daytime when the tailwind component is no greater than 5 knots, provided the runway surface is dry. At night, the preferred runway is that which is set out in the runway alternation program as being the preferred runway for each specific week.

4.2 Runway Alternation

Runway selection on westerlies and at night should be based off the Runway Alternation Programme which is published for each year by Heathrow Airport Limited and is freely available on the internet.

4.2.1 Day Time

Heathrow operates a runway alternation program for departures and arrivals when the aerodrome is in the Westerly configuration to provide respite for residents in the vicinity of the approach paths. The runway change on westerlies should occur at 1500 local time.

When operating an Easterly configuration, the landing runway will always be Runway 09L.

4.2.2 Night-time

There is no set time for the switch to night-time single runway operations on VATSIM, though it should be noted this typically occurs around 2300 local real world, after the last scheduled departure.

4.3 Change of Runway Configuration

When there is a change from Easterly to Westerly operations, or vice versa, AIR South shall initiate coordination with INT North to agree a last arrival and time for the runway change. INT North will coordinate with INT South and FIN as required.

Based on this time, AIR South should then coordinate with GMP/GMC as to the last departure. GMP/GMC will re-clear any previously cleared aircraft that will now depart on the new runway.

AIR South must then inform INT North of the intended last 3 (if appropriate) departures before, and the first departure after, the runway change (callsign and routing). INT North will inform AIR of the first arrival after the runway change at this time.

The AIR South controller will inform INT North when the runway change is completed.

4.4 Tactical Enhanced Arrival Mode (TEAM)

If the inbound delay for the next 2 hours is forecast to be more than 20 minutes, Heathrow is approved to undertake Tactical Enhanced Arrival Mode (TEAM).

Using TEAM allows up to 6 aircraft per hour to land on the departure runway. Care should be taken to select aircraft based on wake turbulence separation (selecting traffic that, as a wake turbulence “leader” would increase separation) and arrival terminal to reduce the arrival delay. The runways operate independently regarding wake turbulence requirements.

Once the use of TEAM has been approved by AIR, APC will select the appropriate aircraft and inform the AIR Departures controller. Pilots should be informed on first contact by APC if they will be landing on the departure runway.

If TEAM is approved when Runway 27L is the departure runway AIR shall inform GMP who is responsible for confirming if Terminal 4 departures can accept S3/SB3 for departure or whether they require full length in which case they will need to cross Runway 27L (see [ADC 1.8](#)).

4.5 Use of the Non-Duty Runway

Aircraft can land on the departure runway if technical or safety reasons preclude using the nominated arrival runway or to try and avoid a missed approach.

Additionally, as there are no arrival noise restrictions on easterlies, AIR Departures can offer any spare capacity to APC and take ad-hoc arrivals, e.g. arrivals to Terminal 4 or A380s to reduce wake turbulence separation.

Opposite direction departures and approaches are not permitted except in an emergency.

4.6 Land After Procedures

Normally only one aircraft is permitted to land or take-off on the runway in use at any one time. When the traffic sequence is two successive landing aircraft, the second aircraft may be allowed to land before the first one has cleared the runway, in accordance with the requirements of CAP 493 that:

1. The runway is long enough to allow safe separation between the two aircraft and there is no evidence to indicate that braking may be adversely affected,
2. It is during daylight hours,
3. The preceding landing aircraft is not required to backtrack in order to vacate the runway,
4. The controller is satisfied that the landing aircraft will be able to see the preceding aircraft which has landed, clearly and continuously, until it has vacated the runway, and
5. The pilot of the following aircraft is warned.

The AIR controller will provide said warning by issuing the second aircraft with the following instruction:

“ABC123 Runway 27L, land after the A319, surface wind 270 degrees 9 knots”

Responsibility for ensuring adequate separation between the two aircraft rests with the pilot of the second aircraft.

Chapter 5 Use of Aerodrome Traffic Monitor

An Aerodrome Traffic Monitor (ATM) is available for advanced use and the information derived from the ATM may be used by all Heathrow endorsed controllers regardless of rating to:

- Determine the landing order, spacing and distance from touchdown of arriving aircraft.
- Assist in applying longitudinal separation for departing aircraft.
- Enable controllers to confirm that the initial track of departing aircraft conforms with the clearance issued.
- Provide information to aircraft on the position of other aircraft in the circuit or carrying out an instrument approach.
- Following identification, validate SSR codes of departing aircraft and verify associated mode C read-outs.
- Monitor the progress of overflying aircraft identified by Approach Radar Control to ensure that they do not conflict with the tracks of arriving or departing aircraft.
- Establish separation between departing aircraft.
- Pass traffic information.
- Establish separation in the event of a missed approach.
- Assist in taking initial corrective action when the separation between arriving aircraft becomes less than the prescribed minima.

Unless otherwise notified by means of coordination, it is safe to assume that any Mode C altitude readout of traffic which is operating in the vicinity of the aerodrome (not limited to but including coordinated helicopters and traffic performing an approach) has had its readout verified. The exceptions to this assumption would include departures which are yet to have their readout verified.

ADC | AERODROME CONTROL

Chapter 1 Ground Movement Planner (GMP)

1.1 Introduction

Ground Movement Planner (GMP) is responsible for the checking of flight plans, the obtaining of aircraft details, the issuing of clearances, and departure flow management of the airfield. The position is also responsible for the allocation of stands for arriving aircraft.

1.2 Issuing Clearances

It is the responsibility of GMP to issue clearances. Pilots should report the following information when requesting clearance:

1. their stand number;
2. their aircraft type;
3. the ATIS information letter they are in receipt of;
4. the current Heathrow QNH.

GMP should ensure that both the stand number and aircraft type are confirmed by the pilot before issuing a clearance. If the ATIS letter and/or QNH are not reported by the pilot, they should be issued in the clearance.

An IFR clearance should follow the format:

1. Callsign
2. (ATIS letter)
3. Destination
4. Standard Instrument Departure
5. Squawk Code
6. (QNH)

GMP must obtain a full read back of the given clearance. On transfer to GMC, it is assumed that the aircraft has been informed of any changes to their clearance and has been issued the latest QNH.

1.2.1 Flight Level Capping

Flights to certain destinations are capped, generally due to operational reasons. Controllers shall ensure adherence with this table, informing the pilot of necessary changes whilst being careful to prevent the pilot from misinterpreting the change as an initial climb. Controllers may inform pilots that, in some cases, it will be possible to obtain a higher climb from area controllers – but this shall not be coordinated on the ground.

Destination	Maximum FL
EGBB/BE/NX	FL180
EGCC/GP/NR/NH/NJ/NM/NO	FL180
EGNT/NV	FL340
Belfast Group	FL340 via LIPGO
EH** except EHBK, Haamstede Group (incl. EHRD) and EHAM	FL230 via VABIK/REDF FL210 FL290 via REDFA
Brussels Group	FL230
LSZH/MD, Lyon Group, Saint Yan Group, Strasbourg Group, Chambery Group, Basel Group, LFLX	FL290 <i>except</i> via KONAN
LFOB/OP, Roissy Group	FL250
Lille Group, EBOS/FN/KT	FL170
LFRR FIR	FL290
LFBB FIR, LFLC, LESO	FL350
LFBI/BL/BU/LX/OT	FL270

Group	Includes (most popular destinations emboldened)
Belfast Group	EGAA , EGAC, EGAD, EGAE, EGAL
Haamstede Group	EHBD, EHEH, EHGR, EHMZ, EHRD , EHSE, EHVK, EHWO
Brussels Group	EBAW, EBBR , EBCI, EBCV, EBMB
Lyon Group	LFHJ, LFHS, LFHV, LFHW, LFKL, LFKY, LFLG, LFL , LFLM, LFLS, LFLU, LFLY, LFMH, LFXA
Saint Yan Group	LFGM, LFGN, LFHY, LFLN, LFLO, LFQF
Strasbourg Group	LFGC, LFQP, LFST, EDSB, EDSK, EDSW, EDTB, EDTL, EDTO
Chambery Group	LFHM, LFHU, LFKA, LFKX, LFLB, LFLE, LFLJ, LFLP
Basel Group	LFGA, LFGB, LFSB , LFSM
Roissy Group	LFPB, LFPG , LFPT
Lille Group	LFAC, LFAQ, LFAT, LFAV, LFAY, LFQQ, LFQO, LFQT

1.3 Pre-Departure Clearance (PDC)

When both the controller and pilot are suitably equipped, a PDC may be offered in order to clear pilots electronically. The operation of the controller PDC clients is explained in operations guides for the separate options for hosting this facility – the TopSky plugin, vStrips, vSMR and Hoppie’s ATC ACARS client host instructions as to how to use their programs on their respective websites.

We do not prohibit alternate methods of PDC that are accepted within VATSIM UK.

1.3.1 Availability of PDC

PDC clearances will **not** be available (and should **not** be issued) in the following circumstances:

- For aircraft requesting clearance via CPT on Easterly operations. The standard heading clearance should be issued by voice by the GMP controller.
- When the route of an aircraft’s flight plan needs to be changed, or for expedition during a flow restriction on a particular routing.
- Up to half an hour before a runway change, to prevent the incorrect issuing of a SID. The actual availability of PDC will be at the GMP controller’s discretion.

***Note:** Should the GMP controller elect to continue issuing PDC clearances within the 30-minute period before a runway change they shall only issue manual PDC clearances and deactivate auto-PDC. This is to prevent the inadvertent issue of an auto-PDC clearance with an incorrect SID without the GMP controller noticing.*

In all the above cases, the pilot should be advised by ACARS message to call the controller handling clearances by voice in order to obtain ATC clearance.

1.4 Issuing of Standard Heading to CPT Departures

When the airfield is on Easterly operations, an agreement is in place to clear aircraft via Compton to a standard heading to assist INT South in the handling of these departures against arrival traffic. Unless informed otherwise by TC Heathrow, clearance delivery is to issue the following after departures instruction:

- passing London (LON) DME 2 (DME 1.5 on 09L), turn right heading 220 degrees;
- climb to altitude 6000 feet.

***Example:** “CPT220 cleared to Dublin via Compton. After departure runway 09R climb straight ahead until London DME 2 then turn right heading 220 degrees. Climb to altitude 6000 feet. Squawk 2240.”*

TC Heathrow may at any time amend this agreed heading to an alternative one which will be communicated to ADC. GMP may then have to relay this new clearance to aircraft that have already been issued to aircraft.

***Note:** CPT standard headings should always be issued via the voice frequency, and never by electronic clearance means (e.g. PDC).*

1.5 Concorde Departures

1.5.1 Oceanic Clearance

Oceanic clearance for Concorde aircraft departing London Heathrow on the standard oceanic Concorde tracks (Tracks SM, SO and SP) are coordinated by the controller covering the Heathrow GMP function (when online). Heathrow GMP will clear the Concorde from the duty runway and will then provide the controller covering Shanwick clearances an estimate for 15W (1443W for Track SP). Heathrow shall calculate this time as EOBT + 50 minutes; plus an additional 10 minutes if there are sequential Concorde departments.

Heathrow GMP will then pass this estimate for 15W to Shanwick. Heathrow GMP is not passing on 15W to request clearance, but instead to advise Shanwick clearance has been given. Shanwick will reply with any delay required, and the delay will be absorbed on the ground. The Concorde will be informed of their new EOBT (which will be 50 minutes prior to the 15W restriction).

*Example: EGLL_DEL: "BAW1, Concorde, Track SM, Estimating 15W at 1110"
EGGX_DEL: "BAW1, Track SM, cross 15W not before time 1120"*

Note: Concorde aircraft that have been coordinated by Heathrow have received an oceanic clearance and are not required to obtain an oceanic clearance directly from Shanwick. The first direct contact with Shanwick will be at 15W for a position report.

1.5.2 'Round the Bay' and 'North Sea Loop' Flights

Two standard routings are published for pilots to fly a domestic flight within the London and Scottish FIRs starting and ending at Heathrow airport.

The 'Round the Bay' flight routes over Lands' End. Heathrow GMP shall pre-note AC West when this flight is planned.

The 'North Sea Loop' departs to the north east, and routes through AC Clacton, AC North Sea and ScAC South sectors, typically to land in Edinburgh. Heathrow GMP shall pre-note AC Clacton, AC North Sea, and Scottish South (Scottish East when combined) when this flight is starting.

Example: "Pre-note, BAW1, Concorde, Starting for North Sea Loop, Destination Edinburgh"

1.6 Flight to London TMA Airfields

1.6.1 Delay Absorption

Whenever a clearance to an airport in the London TMA (including Southampton (EGHI) and Bournemouth (EGHH)) is issued, then GMP shall initiate coordination with the receiving TC departure sector to determine whether any delay on stand will be required. This coordination shall include the callsign, destination, aircraft type and RFL. The TC sector should respond with any delay (a response without specifying a delay may be interpreted as no delay).

GMP shall take the following actions depending upon the delay:

1. Less than 10 minutes: inform the pilot of the delay. No further coordination required.
2. 10 to 20 minutes: inform the pilot of the delay. Send a courtesy message to the receiving London TC sector when the delay is absorbed and the pilot is starting. (“GABCD starting for EGKK”), no response required from the TC Sector.
3. Greater than 20 minutes: TC to specify “greater than 20 minutes” or “delay not determined”. GMP to inform pilot of “delay not determined, at least 20 minutes” and ask whether they wish to proceed. GMP to re-coordinate at 20 minutes with LTC.

In the event the relevant London TC sector is offline, coordination shall be with the receiving APC unit.

In most situations, this coordination should ideally take place via text communication.

1.6.2 Flights to the Thames Group

Flight Plan Routing:

EGLC/KB: DET DCT GODLU DCT ELMIV DCT RAVSA

EGMC/EGTO: DET DCT

Flights positioning to an airport within the Thames Group (Biggin Hill – EGKB, Southend – EGMC, and Rochester – EGTO) shall be cleared on a DET departure.

Departures position to an airport within the Thames Group shall have the delay absorption procedure followed with TC South East, or in their absence with TC Thames (TMS DIR).

The requested flight level (RFL) shall be between 6000 ft and MSL.

1.6.3 Flights to Gatwick

Flight Plan Routing: MAXIT/MODMI DCT MID DCT HOLLY DCT WILLO DCT

Departures positioning to Gatwick (EGKK) shall have the delay absorption procedure followed with TC South West, or in their absence with TC Gatwick (INT).

The requested flight level (RFL) shall be between 6000 ft and MSL.

1.6.4 Flights to the Essex Group

Flight Plan Routing (EGSS & EGSC): BPK DCT BKY DCT BUSTA DCT LOREL DCT

Flight Plan Routing (EGGW): BPK DCT MATCH DCT LOFFO

Departures positioning to an airport within the Essex Group (Stansted – EGSS, Luton – EGGW and Cambridge – EGSC) shall have the delay absorption procedure followed with TC North East, or in their absence TC Essex (SS INT).

The requested flight level (RFL) shall be MSL.

1.6.5 Flights to Farnborough and the Wessex Group

Flight Plan Routing: CPT (CPT 1V)

Departures positioning to Farnborough (EGLF) or an airport within the Wessex Group (Blackbushe – EGLK, Dunsfold – EGTD, Fairoaks – EGTF, Lasham – EGHL, and RAF Odiham – EGVO) shall have the delay absorption procedure followed with TC South West or in their absence Farnborough APC.

The requested flight level (RFL) shall be MSL.

***Note:** Departures may request to route low level to Farnborough/the Wessex Group – any such traffic shall be coordinated with TC Thames (or INT North in their absence) and does not require coordination with TC South West.*

1.6.6 Flights to the Solent Group

Flight Plan Routing: GASGU/GOGSI DCT SAM

Departures positioning to the Solent Group (Southampton – EGHI and Bournemouth – EGHH) shall have the delay absorption procedure followed with TC South West or in their absence Southampton APC (Solent RAD).

The requested flight level (RFL) shall be MSL.

1.7 Flow Restrictions

1.7.1 Slots (CTOT)

A Calculated Take-Off Time (CTOT), sometimes referred to as a 'slot', is issued to a sequence of departures as a long-term flow management system when there is a significant excess of aircraft wishing to depart the aerodrome. CTOTs will usually only be employed as a method of flow control on VATSIM during particularly busy events where the GMP responsibilities have also been split (see [ADC 1.10](#)).

On VATSIM, the adherence to slot times is clearly not as important as the real world, and a deviation of 5 minutes before or, 10 minutes after is typically required during events. Since CTOTs are generally locally assigned, instead of being based on restrictions in Europe, adherence rules as strict as this do not tend to be employed, although it may be deemed acceptable to delay aircraft who have not met a reasonable CTOT.

GMP controllers should retain aircraft on stand until a reasonable time to facilitate the meeting of a slot time in order to prevent RT congestion on ground frequencies and the blocking of taxiways. The time for pushback and taxi distance should therefore be considered when determining a suitable time to transfer the aircraft to GMC.

1.7.2 Minimum Departure Intervals (MDI)

During periods of congestion in the London TMA, TC may impose a Minimum Departure Interval (MDI) between specified departures. The maximum validity of this MDI may be 30 minutes, at which point if further restrictions are required, TC will inform Heathrow ADC of a new MDI. The MDI may of course be removed at any point.

1.7.3 Airfield Reasonable Departure Spacing (ARDS)

It is as much the responsibility of GMP to monitor the number of departures at the holding point as it is AIR's. There is no formal flow restriction associated with the concept of ARDS, but GMP must consider how factors such as the meteorological conditions will affect AIR's ability to maintain a reasonable departure rate.

1.8 Terminal 4 Departures during Runway 27L TEAM

Traffic lining up via S1 infringes upon the Runway 27L ILS glidepath critical area and this prevents the use of S1 for departures when there is consecutive landing traffic on Runway 27L (i.e. during Runway 27L TEAM). Traffic may still depart from SB3/S3 or the holding points north of the runway which are clear of the ILS critical area.

During Runway 27L TEAM, AIR shall notify GMP and GMP shall then confirm whether outbound traffic from Terminal 4 can accept departure from SB3/S3. In the event that traffic requires the full-length it will be required to cross to the north-side via SB3/S3. GMP shall notify GMC who shall notify AIR (this may be communicated via the scratchpad; vStrips users shall apply "Cross Highlight" for crossing traffic).

1.9 Transfer to GMC

GMP should use the following phraseology when transferring to GMC:
"ABC123, hold position. Contact Heathrow Ground 121.855"

When a pilot has requested to start an engine on stand they should still be instructed to hold position and contact GMC with the request. GMP is not to issue permission for engine start on stand.

When GMC is operating in a split configuration it is the responsibility of GMC 2 to keep GMP informed of the current configuration and any changes to the active GMC controllers.

See [ADC 2.1](#) for the GMC Areas of Responsibility.

1.10 Split GMP Operations (Heathrow Planner)

It is possible to split the operation of GMP into separate positions to enable departure flow management to be planned and managed by a separate controller.

Responsibilities for the Planner controller are to ensure that those of the delivery controller can be fulfilled during busier periods of workload. Specifically, the Planner controller is to ensure:

- The forward planning of the departure flow to maintain airfield reasonable departure spacing (ARDS) and to achieve all flow restrictions.
- The updating of slot sequence numbers and informing pilots of delays.
- The transfer of aircraft to GMC in accordance with assigned slots.

Planner may only be opened:

- During periods of significant outbound delay, and
- Only once ADC has been split to the GMP/GMC/AIR level, and
- Only with the agreement of the GMP and GMC controllers.

Callsign	Logon Callsign	Abbreviation	Frequency (MHz)
Heathrow Planner	EGLL_P_GND	PLN	124.475

Note: Although a split of GMP, Planner shall connect with an _GND logon to prevent pilots from inadvertently calling Planner instead of GMP for clearance.

1.11 Stand Allocation

Stand allocation with normally be performed automatically by UKCP.

In the event of a UKCP failure it is the responsibility of the GMP controller to assign stands to aircraft based off any available UKCP data. GMP should avoid amending the assigned stand after the aircraft has landed.

1.12 Helicopter Clearances

For outbound helicopter traffic GMP shall request clearance from TC Thames (see [LOW 1.1](#)).

GMP shall obtain and provide the following information to TC Thames with the clearance request:

- Callsign
- Aircraft type
- Destination
- Route
- CTR exit point (if leaving the CTR)
- Requested flight rules (VFR or SVFR).

TC Thames shall pass a clearance, any non-standard level/route restrictions, an SSR code and will confirm the approved flight rules.

Once TC Thames has issued a clearance, it is the responsibility of GMP to pass this clearance (in full) to the pilot.

Example: “GZIPE cleared to leave the London CTR via Northwood, routing H9 northbound, standard operating altitudes, VFR, squawk 7030.”

Example: “GZIPE cleared to London Heliport routing H9 southbound, H3 eastbound to Barnes, standard operating altitudes, VFR, squawk 7030.”

Once clearance has been issued, the helicopter should be handed to GMC if it requires manoeuvring to reach the T4 helipad, or to AIR South if it is parked on the helipad. GMP should inform AIR of the clearance the helicopter has been given so they can plan the departure and its direction accordingly.

Chapter 2 Ground Movement Control (GMC)

2.1 Areas of Responsibility (AoR)

2.1.1 AoR Map

Figure 1 - Division of GMC Areas of Responsibility - Landing 27R

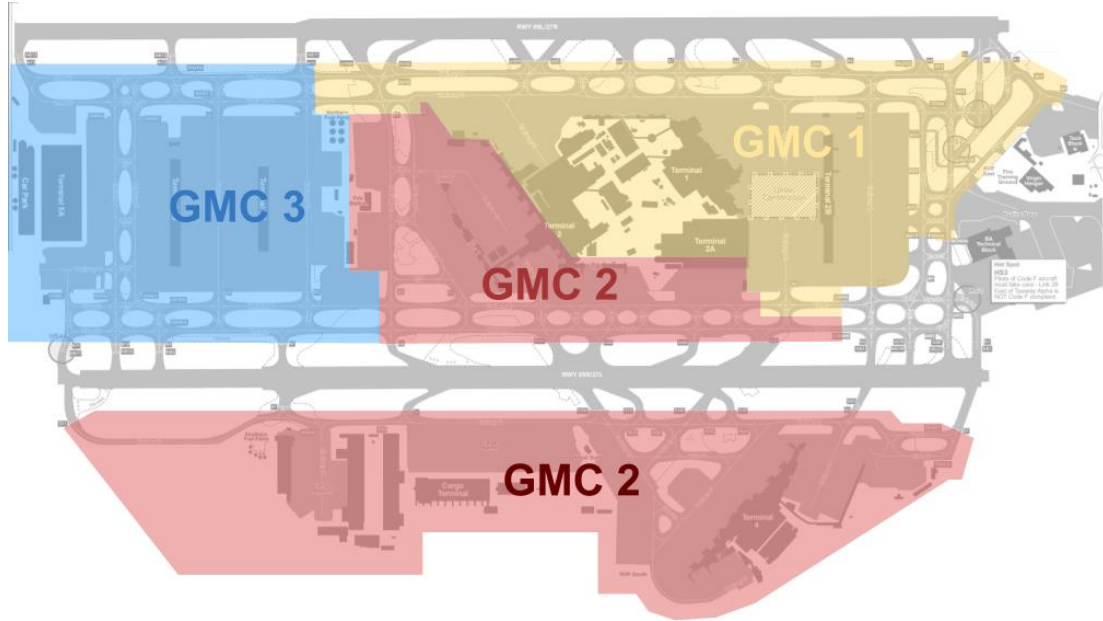


Figure 2 - Division of GMC Areas of Responsibility - Landing 27L

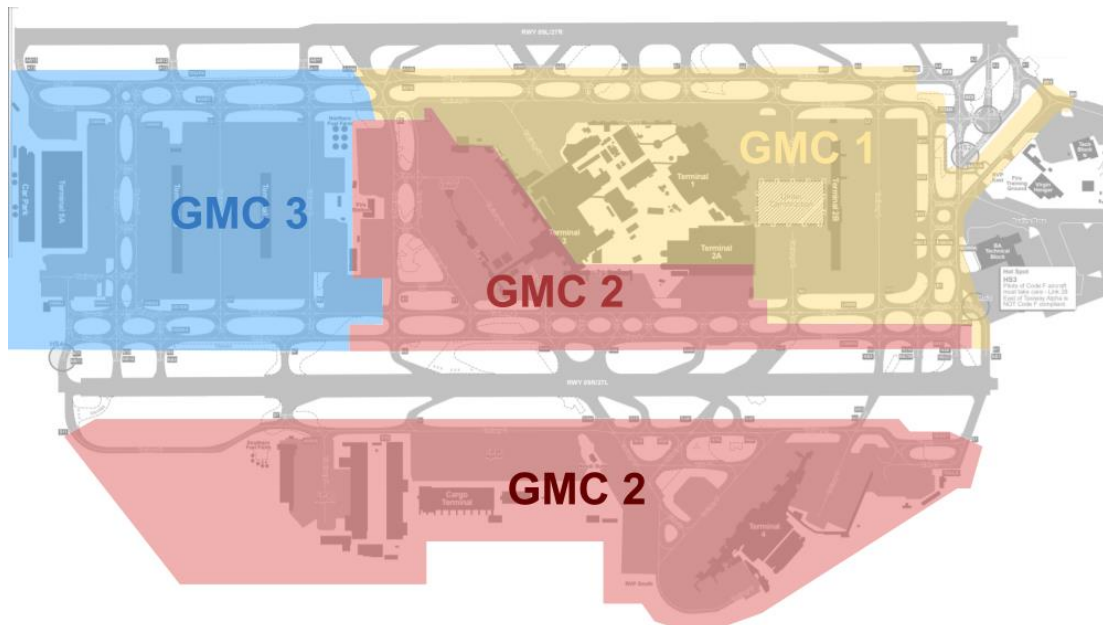
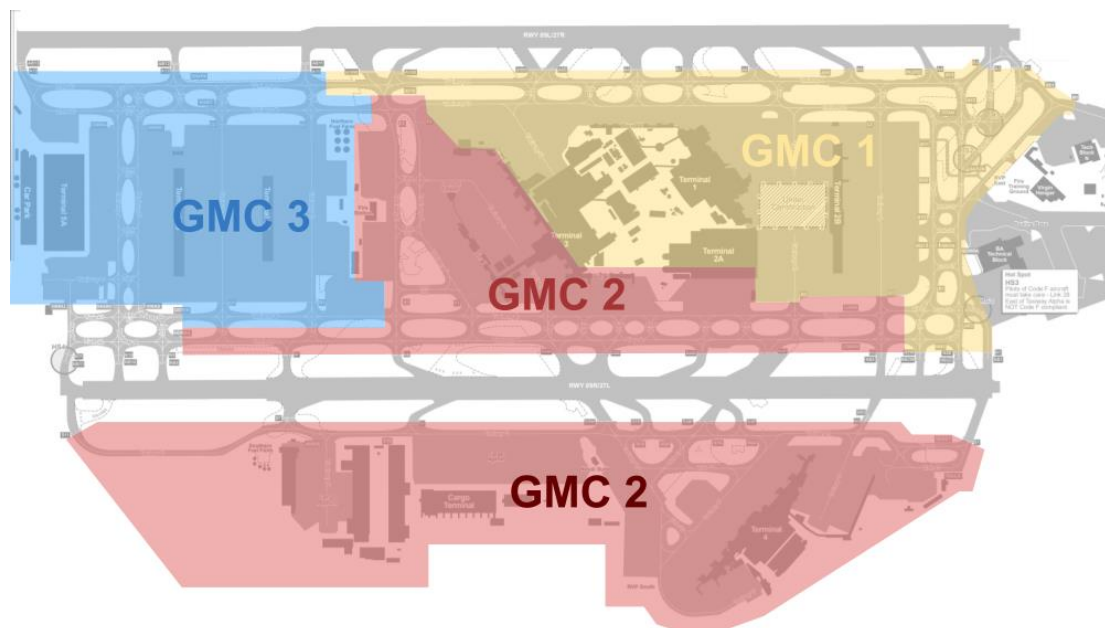


Figure 3 - Division of GMC Areas of Responsibility - Landing 09L



2.1.2 Runway Dependent Area of Responsibility

EuroScope will automatically switch between the AoRs, based on selected runway configuration. However, due to sectorfile limitations, GMC/AIR boundaries are unable to be reflected within EuroScope for the westerly configuration. Care should be taken by GMC controllers to ensure they understand their interface with AIR Departures for the active runway configuration.

2.1.3 Logon Order

GMC controllers shall follow the convention in [GEN 3.3](#) when logging-on to a position.

2.1.4 Dual GMC Split - Area of Responsibility Ownership

When GMC is split between two controllers opening GMC 1/2 and GMC 3, the GMC 1/2 controller is responsible for the combined GMC 1/2 AoR.

2.2 Hold Short Instructions

When aircraft are required to hold short of a runway prior to crossing, GMC shall append “*hold short runway XXX*”, even though an instruction to hold at a holding point may have already been issued.

Example: “CRO55ER taxi via Alpha hold at N5W, hold short Runway 27L.”

Additionally, GMC must reiterate the hold short instruction when handing the aircraft to AIR:

Example: “CRO55ER hold short of Runway 27L contact Heathrow Tower 118.505.”

2.3 Runway Crossings

GMC may not cross traffic across an open runway. Crossing clearances must be issued by AIR on an AIR frequency, following the hand off procedure detailed above. AIR will agree a

suitable taxi instruction and frequency for the traffic to be handed back to, though in some cases (Runway 09R departures crossing to the north side) the traffic may be suitably kept on the AIR frequency.

2.4 Standing Agreements

When GMC is split between two or more controllers these agreements are to be followed when transferring traffic between GMC positions:

From GMC 1 to GMC 2

On Taxiway L (southbound), holding short L1

On Taxiway B (south-side), holding short of Taxiway K (to continue on B westbound)

On Taxiway A (south-side), holding short of Taxiway L (to continue on A westbound)

On Taxiway A (north-side), holding short of Taxiway E (to continue E southbound)

On Taxiway B (north-side), holding short of Taxiway F (to continue on E or F southbound)

Note: When 09R is the departure runway, GMC 1 controls inbound aircraft until N1, N2E/W or N3 before handing to AIR South for crossing.

From GMC 2 to GMC 1

On Taxiway A (south-side), holding short of Link 28 (to continue A northbound)

On Taxiway B (south-side), holding short of Taxiway L (to continue on L or B northbound)

On Taxiway E (northbound), holding short of E2

On Taxiway F (northbound), holding short of F2

From GMC 1 to GMC 3

On Taxiway A (north-side), hold short of Taxiway D

On Taxiway B (north-side), hold short of Taxiway D

Note: When landing on 27R, AIR North will instruct aircraft vacating at A10E to taxi west on Alpha and hold short of Delta before handing to GMC 3.

From GMC 3 to GMC 1

On Taxiway A or B (north-side) holding short of Taxiway E

From GMC 2 to GMC 3

On Taxiway A or B (south-side), holding short of Taxiway D

On Taxiway E (southbound), holding short of E1

Note 1: When landing on 27L, AIR South will instruct aircraft vacating at N6 to taxi west on Alpha and hold short Delta before handing to GMC 3.

Note 2: Aircraft taxiing northbound on Echo and Foxtrot will hold at E2/F2. Coordination with GMC 1 must take place for the aircraft to taxi through their AoR.

From GMC 3 to GMC 2

On Taxiway A or B (south-side), holding short of Taxiway E

Note: Aircraft taxiing westbound/eastbound on Alpha and Bravo (North side) will hold short of Echo. Coordination will take place with GMC 1 for GMC 2 to taxi the aircraft through their AoR.

2.5 Taxiway Restrictions

For A380/B747-8 (Code F) compatible taxiways, see **AD 2-EGLL-2-3**.

2.5.1 General Restrictions

The following route restrictions apply to all aircraft:

Situation	Routes <u>not</u> available
Bealine Base (North)	Right on Taxiway A (and vice-versa)
Mike (South)	Right on Taxiway A (and vice-versa)
27R vacating at A10W	Right on Taxiway A
09R/27L crossing at S4W	Routing westbound on Taxiway S cannot hold at S4W
09R/27L crossing at NB3/SB3	Left on Taxiway S (and vice-versa)
Link 23	Right on Taxiway A (and vice-verse)

2.5.2 Taxiway Restrictions for Large Aircraft

The following route restrictions apply to large aircraft:

Situation	Restrictions
Taxiway T left on Taxiway S	B747, B777, A340 and A380 are not to route via Taxiway T then left on S under their own power
NESSY right on Link 41	A340-600, B747-8 and B777-300 are not to route NESSY then right on Link 41 (and vice-versa) under power or under tow
Link 56 and Link 57	Aircraft larger than B767-300 are not permitted to use Link 56 and Link 57
Taxiway Y	Aircraft larger than A321 are not permitted to use Taxiway Y
S5W	B747-8 are not to route eastbound on Taxiway S then hold at S5W to cross 09R/27L

Chapter 3 Air Control (AIR) - Departures

3.1 Area of Responsibility

Air Control (AIR) Departures is responsible for traffic operating on the departure runway including ground traffic within the runway holding areas. Additionally, when coordinated, AIR Departures is responsible for low level traffic operating within the vicinity of the departure runway and for the provision of appropriate traffic information. AIR Departures is responsible for obtaining departure releases from TC controllers where required.

Helicopter traffic crossing Heathrow is the responsibility of the AIR Arrivals controller who shall coordinate with AIR Departures as required. However, helicopter traffic departing/arriving via the helicopter aiming point shall be the responsibility of AIR Departures controller when the departure runway is Runway 09R/27L.

AIR procedures for helicopters are detailed in [ADC 4.8](#).

3.2 Line Up Procedures

3.2.1 Phraseology Requirement

For all line up clearances issued from the holding point, the word “via” (before then specifying the holding point) shall be used, except for those issued to aircraft at the full length (see [ADC 3.4](#)).

Example: “ABC123 via NB2W line up Runway 27L.” / “ABC123 line up Runway 27L via NB2W.”

Note: the “via [holding point]” may be placed before or after the line-up instruction.

3.2.2 Multiple Aircraft on the Runway

Controllers should be aware of the potential effects of jet blast when lining up multiple aircraft on the runway. It is generally acceptable to line up two aircraft as long as there is a gap of at least one holding point between them. For example:

- **Runway 27L** – NB1 and NB2W or NB2E and NB3.
- **Runway 27R** – A1/2/3 and A4
- **Runway 09R** – NB8 and NB11

3.3 Take-off Clearances from the Holding Point

For aircraft departing from an intersection, all take-off clearances issued shall use the word “from” before then specifying the appropriate holding point (see [ADC 3.4](#) for the definition of full length holds).

Example: “ABC123 from NB3, Runway 27L cleared for take-off surface wind 230 degrees 8 knots”

Note 1: The “from [holding point]” should be placed before the take-off clearance.

Note 2: The use of “from [holding point]” is also required for traffic which has been lined-up on the runway.

3.4 Full Length Holding Points

27L	27R	09L	09R
N1, N2E, S1	A1, A2, A3	A13	N11, S11

Note: Holding points not listed in the above table may not be considered an intersection for wake turbulence purposes. See [ADC 3.11.1](#) for the wake turbulence definition of an intersection.

3.5 Runway Crossing and Entry Clearances

For all crossings or runway entry clearances (regardless of the position of the holding point), the word “at” (before then specifying the holding point) shall be used.

Example: “CRO55ER at S3, cross Runway 27L (now).”

In order to expedite a crossing, the word “now” may be appended to the instruction.

3.6 Conditionals

3.6.1 Runway Safeguarding Phraseology

The word “follow” must not be used in conditionals in the runway holding area. Aircraft should not be instructed to “follow” another one to prevent two aircraft lining up with only one of them having clearance to do so.

Aircraft should not be told their number in the intended departure sequence. Instead, AIR may issue approximate airborne times as either a time past the hour, or an approximate wait in minutes.

3.6.2 Intersection Conditionals

Aircraft at an intersection may only be issued a conditional line up or crossing instruction behind the next aircraft from full length. I.e. The aircraft should be able to perform the intended action behind the next aircraft that passes them.

3.6.3 Maximum Runway Conditionals

It is recommended that a maximum of two conditionals shall be active at any one time. I.e. An aircraft may be lining up behind a departure on the runway, and another aircraft may be lining up behind them.

3.7 Read Backs

Full read backs of instructions in the runway holding areas shall be obtained from the pilot.

3.8 Landings on the Departure Runway

Departing traffic may not be aware when traffic is inbound to land on the departure runway (for example during TEAM) and could be expecting to line up following a sequence of departures. To prevent aircraft that are holding short of the departure runway from entering without clearance AIR should, when possible, inform the pilots of the reason of the halt in the departure flow.

Example: “ABC123 hold at NB2W there will be landing traffic.”

3.9 Flights to London TMA Airfields

GMP will have coordinated initially with the relevant local controller – see [ADC 1.5](#).

A release should be obtained from the receiving TC controller by AIR Departures for flights to all London TMA airfields (including Southampton (EGHI) and Bournemouth (EGHH)). In the absence of a receiving TC controller, the release shall be requested by the receiving APC unit.

Aircraft subject to a release must depart within +5 minutes of the release time.

3.10 Minimum Noise Routings

For noise abatement reasons, aircraft are to remain on the published SID procedure up to an altitude of 4000 ft. AIR Departures may only utilise the ATM to vector aircraft off the SID below 4000 ft when required for reasons of safety. This includes but is not limited to:

- Emergencies
- Weather avoidance
- Ensuring separation, including against helicopter traffic (for example, DET departures off Runway 27L with a helicopter holding at Stanwell, southbound departures off Runway 09R against traffic on H9, or police/HEMS helicopters operating off-route in the vicinity of departure routes).

The final clause includes vectoring departures against missed approaches (see [ADC 4.7](#)).

3.11 Wake Separation

3.11.1 Holding Points

For the purpose of wake turbulence provision between departures, the following holding points are **not** considered as intersections:

27L	27R	09L	09R
N3, S3	A4	-	N8, N10

***Note:** The use of RECAT-EU wake separation does not affect the requirements for increased separation for departures from intersections, in accordance with MATS Part 1 Section 1 Chapter 3 Table 4.*

3.11.2 Heavy-Heavy Wake Requirement

The CAA has made London Heathrow exempt from the 4 NM wake turbulence requirement between successive heavy departures.

3.11.3 RECAT-EU Departure Separation

RECAT-EU was introduced at Heathrow Airport in 2018. It provides a much more precise categorisation of aircraft in comparison to the standard ICAO categories. A table of the new categorisations is listed in **Appendix A | RECAT-EU Categorisation**.

The following wake turbulence departure separation, in **seconds**, is applied at Heathrow:

		Leader					
		Super (J)	Heavy (H)	Upper (U)	Medium (M)	Small (S)	Light (L)
Follower	Super (J)						
	Heavy (H)	100					
	Upper (U)	120					
	Medium (M)	140	100	80			
	Small (S)	160	120	100			
	Light (L)	180	140	120	120	100	

3.12 Departure Intervals

3.12.1 Speed Limitation on Departure

A speed limit of 250kt IAS applies to all departures from Heathrow except B747-400s, whilst flying below FL100. This limitation will not normally be removed by the TC Sector controller.

B747-400 aircraft will observe an IAS limit of 275kts + / - 5kts below FL100.

If departing aircraft are unable to comply with the standard speed limit, this may impact on the initial time separations applied by ATC. In all such cases, pilots will:

If before take-off: Inform GMP when requesting start-up clearance stating the minimum or maximum speed acceptable. Heathrow ATC is to inform the appropriate TC Sector controller who may specify a high-speed limitation and/or additional take-off separation, as necessary. Heathrow ATC is to advise the pilot, before take-off, of any higher speed limitation imposed.

If after take-off: Inform ATC the minimum speed acceptable.

The onus for removing the speed limitation rests with the appropriate TC Sector controller who will de-strict aircraft as soon as the traffic situation permits. Air controllers are not to remove a speed limitation without first obtaining the approval of the appropriate TC Sector controller.

3.12.2 Table of Aircraft Speed Groups

To permit the calculation of the correct time interval between departures, aircraft are categorised into five groups, all having a speed limitation of 250kt as shown in the following table:

4	3	2	1	0
CONC	All Jet Aircraft	BAE 146/Avro	AT43/44	BE9L
	Excluding	RJ Family	AT72	DHC6
	BAE 146/Avro	C501	BE20/35	E110
	RJ Family	C551	F27/50	SH36
	C501	D328/J328	SF34	
	C551	DH8D	DH8A/B/C	
	J328	SB20	JS31/32/41	

3.12.3 Departures Following an A340 Aircraft

- When a jet aircraft follows any A340 departure and the time-based separation specifies two minutes or more, the full time separation must be applied. The time separation may also be increased by the controller if required.
- Any jet aircraft following an A340, regardless of route or time separation, must be retained on the AIR frequency until separation is assured.
- Any heading and/or level instructions needed to maintain separation should be coordinated with TC as soon as is practical.

3.12.4 Departure Separation

3.12.4.1 Aircraft Following the Same/Similar Initial Route

1. ULTIB/UMLAT SIDs a minimum departure interval of 2 minutes.
2. Any combinations of DET SIDs on Westerly departures, a minimum departure interval of 2 minutes.
3. GASGU SID followed by a MODMI or CPT Standard Heading on Easterly departures, a minimum departure interval of 3 minutes.

Note: Following coordination of a non-standard heading, TC Heathrow may agree to reduce the standard minimum departure interval.

4. All other routes, a basic separation of 2 minutes.

With the exception of the routes defined in points 1-3 (to which MDIs apply), when a slow aircraft follows a faster aircraft and the basic separation of 2 minutes would apply, separation may be reduced to 1 minute when the second aircraft is two or more groups slower than the first.

When a faster aircraft follows a slower aircraft, the basic separation is increased by 1 minute for each successive group and thereafter by 1 minute for each additional group.

For example:

The Lead Departure	Provided it is not on a...	The Following Departure	Time Separation
Group 2	GASGU/MODMI Easterly	Group 3	3 minutes
Group 1	GASGU/MODMI Easterly	Group 3	4 minutes

When the second aircraft is several groups faster than the first, the separation obtained by using the table may be excessive, in which case an individual request may be made by the AIR controller to the TC Departure controller to agree a more expeditious departure interval.

Aircraft not included in Groups 0 to 4 are to be the subject of a separation to be agreed between Heathrow and the appropriate TC Departure controller. Heathrow is to provide separation between SVFR and all other departures.

3.12.4.2 Aircraft on Diverging Tracks

Route	27R	27L	Route	09R	09L
UMLAT/BPK vs CPT/GOGSI	*1 min	*2 mins	ULTIB/BPK vs DET	*1 min	1 min
UMLAT/BPK vs MAXIT	1 min	1 min	ULTIB/BPK vs GASGU/MODMI	1 min	1 min
UMLAT/BPK vs DET	*1 min	1 min	ULTIB/BPK vs CPT	*1 min	1 min
MAXIT vs DET	*2 mins	*2 mins	DET vs GASGU/MODMI	*2 mins	*2 mins
MAXIT vs CPT/GOGSI	*2 mins	*2 mins	DET vs CPT	*2 mins	*2 mins
CPT/GOGSI vs DET	*1 min	1 min	GASGU/MODMI vs CPT	*2 mins	*2 mins

Note 1: In each case the route shown is for both take-off orders, (e.g. a ULTIB/BPK departure following a CPT/GOGSI, or vice versa).

Note 2: For separation shown with an asterisk (*) when a fast aircraft follows a slow aircraft, add 1 minute only when there are **two** intervening groups in the table of aircraft speed groups.

Except the following on Westerlies:

- a. When a MAXIT is followed by a DET, or vice versa, which is from any faster speed group, add 1 minute.
- b. When a UMLAT/BPK is followed by a CPT/GASGU, or vice versa, which is from any faster speed group, add 1 minute for one or more intervening groups.

After the departure of an aircraft not included in groups 0-3 any subsequent departure is to be the subject of co-ordination with the appropriate TC Sector controller.

3.13 Application of RSIVA

AIR Departures must, using the ATM, ensure 3 NM radar separation has been achieved between diverging aircraft before aircraft are handed to the appropriate TC departure sector.

3.14 Transfer of Control and Communication

3.14.1 Conditions

All departures will have met the following conditions before AIR initiates a transfer of communications to either TC Heathrow or the appropriate TC departure sector:

- The aircraft will have started a turn.
- All local conflicts (including potential conflicts) will have been resolved.

3.14.2 Handoff Priority

Departure	1	2	3	4	5	6	7	8	9
UMLAT ULTIB	TC NW	TC N	TC	TCM	LM	LC	LSC	L	INT N Note 1
BPK	TC NE	TC N	TC E	TC	LE	LC	LSC	L	INT N Note 1
DET	TC SE	TC S	TC	LD	LS	LSC	L	INT S Note 2	-
GASGU GOGSI MAXIT MODMI CPT (Westerlies)	TC SW	TC S	TC	LS	LSC	L	INT S Note 2	-	-
CPT (Easterlies)	INT S	INT N	TC SE	TC S	TC	LD	LSC	L	-

Note 1: The indicated handoff priority is followed by the INT N top-down order TCSE - TCS - LD - LS - LSC - L

Note 2: INT S is covered top down by INT N, then as per the order in Note 1.

3.15 CPT Easterly Departures

It is the responsibility of AIR departures to ensure that departures via Compton on Easterly operations are observed to begin a turn towards the agreed standard heading.

Aircraft should be informed to report their assigned heading to TC Heathrow.

Example: “ABC123, report heading to Heathrow Director 134.975”

3.16 Stopping a Departure

Where possible, departures who are rolling at over 80 knots ground speed should not be instructed to cancel their take-off roll.

For aircraft below 80 knots ground speed, the following phraseology should be used:

Example: “ABC123, stop immediately I say again, stop immediately, acknowledge”

For aircraft who have not yet started their take-off roll:

Example: “ABC123, hold position, cancel take-off I say again, cancel take-off, acknowledge”

3.17 Missed Approaches

See AIR Arrivals, [ADC 4.7](#).

Chapter 4 Air Control (AIR) - Arrivals

4.1 Area of Responsibility

Air Control (AIR) Arrivals is responsible for traffic operating on the arrival runway and for aircraft on approach within 4 NM. Additionally, when coordinated, AIR Arrivals is responsible for low level traffic operating within the vicinity of the arrival runway and for the provision of appropriate traffic information, and for helicopter traffic crossing Heathrow including departing and arriving helicopters. However, helicopter traffic departing/arriving via the helicopter aiming point shall be the responsibility of AIR Departures controller when the departure runway is Runway 09R/27L.

4.2 Aircraft on Approach

The transfer of communications of an aircraft from TC Heathrow to AIR Arrivals should occur no later than 7 NM from touchdown which is prior to the transfer of control.

TC Heathrow will retain control of all aircraft on approach until 4 NM from touchdown. It remains the responsibility of TC Heathrow to monitor the wake turbulence separation and radar separation up to this point. Any instruction which AIR wishes to issue outside of 4 NM must be co-ordinated with FIN before it is given.

4.3 Landing Clearance

4.3.1 Runway Designator

The runway designator should be included in all landing clearances.

4.3.2 Cancelling Approach Clearance

It is the responsibility of the AIR Arrivals controller to issue landing clearances to all aircraft. If he is not satisfied that an approach can continue safely, he may issue instructions to re-position a particular aircraft, or instruct the aircraft to “go around”.

4.4 Arrival Spacing

Arrival wake turbulence separation is as per [APC 2.5.3](#).

When an A380 aircraft follows another A380 aircraft on the same landing runway, the minimum final approach spacing to threshold behind the leading A380 shall be as follows:

09L	09R	27L	27R
4.5 NM	4 NM	4 NM	4 NM

4.5 Minimum Radar Separation

A minimum radar separation of 3 NM applies between identified aircraft, except for those established on final approach, when the radar separation may be reduced to 2.5 NM (see [APC 2.5.2](#))

4.6 Dependent Parallel Approaches

Runway 09L/27R and Runway 09R/27L are far enough apart that wake turbulence separation is not required for aircraft established on parallel final approaches.

A minimum radar separation of 2 NM diagonally will be applied and monitored between aircraft on approach to parallel runways.

The 2 NM minimum diagonal separation may be reduced as long as both aircraft are flying an ILS approach and visual separation is established:

- by the succeeding aircraft (who should inform AIR when this is achieved), or
- by AIR of both aircraft.

4.7 Missed Approaches

The standard missed approach procedures are as published on approach charts. For the ILS approaches, they are also detailed in the table below.

Approach	Missed Approach Procedure
ILS 09L	Climb to 3000 feet, straight ahead until passing 1580 feet or I-AA DME 0, whichever is later. Turn left on track 036°, continue as directed.
ILS 09R	Climb straight ahead to 3000 feet, continue as directed.
ILS 27L	Climb to 2000 feet, straight ahead until passing 1080 feet or I-LL DME 0, whichever is later. Then turn left on track 147°. When established and passing LON DME 6 climb to 3000 feet without delay. Continue as directed.
ILS 27R	Climb to 3000 feet, straight ahead until passing 1580 feet or I-RR DME 0, whichever is later. Turn right on track 316°, continue as directed.

4.7.1 Arrivals Controller

On becoming aware of, or after initiating, a go-around the AIR Arrivals controller is to:

1. Activate the UKCP Go-Around Alarm (if in use)
2. Inform the AIR departures controller of the missed approach and obtain acknowledgement;
3. Ensure separation is maintained and monitor aircraft visually or with the ATM. After separation is assured, co-ordinate with INT North or South, dependent on the direction of the go-around traffic;
4. Pass details of the callsign, heading, reason for missed approach and all action taken above to the appropriate TC Heathrow INT controller. The TC Heathrow INT controller will issue a frequency for the aircraft to contact and any revised heading and/or altitude;
5. The AIR Departures controller will co-ordinate with the AIR Arrivals controller before resuming departures.

Note: All executive instructions relating to headings ending in zero must be followed by the word “degrees”.

4.7.2 Departures Controller

On becoming aware of, or after initiating, a go-around from any runway the AIR Departures controller is to:

1. Suspend departures;
2. Acknowledge the missed approach with the AIR Arrivals controller;
3. Establish the relative position between the 'go-around' and all departing traffic;
4. Ensure separation and issue tactical headings to departing traffic if necessary;
5. Inform the AIR Arrivals controller of all departures as defined below, and action taken or proposed to resolve any conflicts;
6. Obtain an acknowledgement from the AIR Arrivals controller;
7. Inform the appropriate TC Outbound Sector of any headings instructions given to departing aircraft;
8. The AIR Departures controller (after coordination with the appropriate TC Heathrow controller) will inform the AIR Arrivals controller when normal departures are about to resume.

4.7.3 Definition of Departures

For the purpose of this procedure, departing traffic is defined as an aircraft that:

- has received take off clearance that cannot be safely cancelled or,
- has commenced its take-off roll or,
- is airborne and at or below 3000 ft.

4.8 Aerodrome Helicopter Procedures

The following sections detail procedures for controlling helicopters within the vicinity of the aerodrome including departure and arrival, runway crossing, and police security check procedures. AIR controllers shall also note the interface procedures with TC Thames/Heathrow (documented at [LOW 4.5](#)) and restrictions relating to Heathrow Easterly operations (documented at [LOW 4.4](#)).

4.8.1 Departure and Arrival Procedures

4.8.1.1 Helicopter Aiming Point

Inbound and outbound helicopters will routinely use the helicopter aiming point (HAP), situated on the taxiway east of Link 43. Caution must be exercised when using this aiming point which is on a live taxiway.

Manoeuvring to/from the HAP is to be performed under VFR to/from Bedfont. If weather conditions do not permit this (see [LOW 3.2](#)), Feltham will be used, and standard separation requirements will apply except when AIR can make use of RSIVA.

If inbound from/outbound to the north, the helicopter should be instructed to cross both runways via Bedfont or Feltham (see [ADC 4.8.3](#)), and not cleared to do so directly to/from the aiming point.

4.8.1.2 Releases

All departing helicopter traffic is subject to release from TC Thames (see [LOW 1.1](#)).

4.8.1.3 Wake Turbulence Separation

When a movement to/from the HAP coincides with A380 traffic departing/landing Runway 09R/27L, a 4 minute wake turbulence separation should be applied. All other movements are considered separated for wake turbulence purposes, provided that the helicopter routes no further north than abeam the HAP.

4.8.1.4 Taxi to Parking

Helicopters alighting at the HAP will ground or air-taxi to a parking area as directed.

4.8.2 Restrictions during Landings on the Departure Runway

There are occasions when the departing runway is required for landing traffic. Helicopter traffic shall not be held between the runways whilst landings are performed on both runways. This will require the controller to delay crossing traffic until an appropriate gap is identified to perform the crossing of both runways.

4.8.3 Runway Crossing Procedures

4.8.3.1 Crossing Procedures - Runways 27L/R

Helicopters will normally be instructed to cross the departure runway to the east of the threshold.

When a suitable gap in the landing stream exists, ATC will pass traffic information on a fixed-wing landing aircraft and issue a crossing clearance behind.

Example: "GABCD behind the landing Sky One A330, cross Runway 27L behind, route east of the Runway 27R threshold, hold at Sipson"

The helicopter will be expedited to cross in the gap as close to the threshold as practicable and as expeditiously as possible. Once clear of the landing runway traffic shall route to the east of the departure runway and resume the route to Sipson/Bedfont as appropriate to hold, unless otherwise instructed by ATC.

Where the departure runway is crossed first, holding prior to crossing the landing runway will be permitted between the two runways. For aircraft holding in orbits, this operation must take place between the departure threshold and a line drawn east-west through the southern edge of the Virgin Hangar. No helicopter is to cross this line until a clearance to cross the landing stream is received. Having crossed the landing runway, the helicopter will route to Sipson/Bedfont as appropriate to hold, unless otherwise instructed by ATC.

4.8.3.2 Crossing Procedures Runways 09L/R

4.8.3.2.1 Northbound

The northbound route for helicopters is: **Bedfont – Stanwell – West of Terminal 5 – Longford – Sipson.**

If there is inbound traffic to Runway 09R, helicopters will be instructed by ATC to route Bedfont – Stanwell. The pilot will be instructed to hold at Stanwell and will wait for a suitable gap in the approach.

If there are no Runway 09R inbounds, helicopters will be routed Bedfont – Stanwell to then hold West of Terminal 5. This operation is to take place between the departure threshold and a line drawn east-west through the mid-point of Terminal 5 main building. No helicopter is to cross this line until a clearance to cross the Runway 09L landing stream is received.

When a suitable gap in the Runway 09L landing stream exists, ATC will pass traffic information on relevant fixed-wing aircraft and issue a crossing clearance behind. The helicopter will cross in the gap as close to the runway threshold as possible. Once clear of the landing stream, the helicopter will route Longford – Sipson to hold, unless otherwise instructed by ATC.

4.8.3.2.2 Southbound

The southbound route for helicopters is: **Sipson – Longford – West of Terminal 5 – Stanwell – Bedfont.**

Helicopters will be instructed to route Sipson – Longford to hold at Longford. When a suitable gap in the Runway 09L landing stream exists, ATC will pass traffic information on relevant fixed-wing aircraft and issue a crossing clearance behind. The helicopter will cross in the gap as close to the runway threshold as possible (this may be before Longford).

Once south of Runway 09L the helicopter will route to the West of Terminal 5 and re-join the route; West of Terminal 5 – Stanwell – Bedfont (and must remain west of Runway 09R). If there is inbound traffic on the approach to Runway 09R traffic must be held at Longford to cross both runways simultaneously in an appropriate gap. On completion of the route, the helicopter will hold at Bedfont unless instructed otherwise by ATC.

4.8.3.2.3 Separation

Longford and Stanwell are separated for both wake turbulence and ATC visual separations only. Whilst helicopters are transiting between Bedfont and Sipson and vice versa, traffic information will be passed to fixed-wing aircraft for the relevant runway.

4.8.4 Police Security Checks

Police Security Checks are performed by Police Helicopters and are usually conducted to the south and to the north of Heathrow Airport. Such helicopters will request a “north side” or a “south side” security check. They will receive the same after departure instruction and take-off instruction like any other helicopter, and receive their security check clearance at their holding fix/area (e.g. Bedfont).

Example: “UKP251 cleared south-side security checks, QNH 1013hPa. Report security checks complete”

APC | APPROACH CONTROL

Chapter 1 Area of Responsibility and Sector Organisation

1.1 General

In this section, the following conventions for the naming of the Heathrow Group sector positions is adopted:

INT or INT DIR	- Intermediate Director
FIN or FIN DIR	- Final Director
TC Heathrow	- Collective INT and FIN functions

1.1.1 Area of Responsibility

The area of responsibility for TC Heathrow is the London CTR, the Heathrow Radar Manoeuvring Area (RMA) and TC airspace as delegated to TC Heathrow within 40 NM of Heathrow from the time and place at which:

- Arriving aircraft are released by a TC inbound sector, until control is transferred to aerodrome control (ADC);
- Aircraft approaching from outside controlled airspace cross the boundary of controlled airspace, until control is transferred to ADC;

Note: Responsibility for aircraft wishing to join the London Control Zone below an altitude of 2500 feet is delegated to TC Thames during the hours of operation of TC Thames.

- Departing aircraft, on specified routes, are transferred from Heathrow ADC, until they are transferred to the appropriate TC sector;
- Overflying aircraft are transferred from an adjacent sector, until such time as control is either returned to that sector or passed on to another sector.

1.2 Function

TC Heathrow positions provide services appropriate for the Approach and Approach Radar control functions, as specified in MATS Part 1, Section 3, Chapters 1 and 2, for IFR traffic within controlled airspace.

1.2.1 Responsibility of Intermediate Directors (INT DIR)

1.2.1.1 INT North

- The acceptance of releases and control of aircraft inbound to Heathrow via BNN and LAM from the release point until control is transferred to either FIN or Heathrow ADC.
- The acceptance of releases and control of aircraft inbound to RAF Northolt from the release points BNN and/or LAM, until control is transferred to either the Northolt Director or to Northolt ADC, as appropriate.
- The control of overflying aircraft within the Heathrow RMA including transit flights within Heathrow CAS.

- Radar vectoring and sequencing for ILS, RNP and/or visual approaches.
- Coordinating the arrival sequence with all radar controllers.
- Liaison with AIR on pertaining issues excepting range checks, final approach spacing and landing and go-around clearances.
- Executive co-ordination with other units, unless delegated to FIN.
- The control, by negotiation, of certain aircraft transiting the area specific to Heathrow operations.
- Coordination and control of missed approach traffic at London Heathrow.
- Assumes responsibility for all other Heathrow radar positions top down.

1.2.1.2 INT South

- The acceptance of releases and control of aircraft inbound to Heathrow via OCK and BIG from the release point until control is transferred to either FIN or Heathrow ADC.
- The acceptance of releases and control of aircraft inbound to RAF Northolt from the release points OCK and/or BIG, until control is transferred to either the Northolt Director or INT, as appropriate.
- The radar vectoring and sequencing for ILS, RNP and/or visual approaches.
- The control, by negotiation, of certain aircraft transiting the area specific to Heathrow operations.
- Coordination and control of missed approach traffic at London Heathrow.
- The initial control of CPT departures on Easterly operations until transferred to TC.

1.2.2 Responsibility of Final Director (FIN DIR)

- The control of aircraft landing at Heathrow from the time they are transferred by INT North/South until they are transferred to Heathrow ADC.
- Radar vectoring and sequencing for ILS, RNP and/or visual approaches.
- Coordination with ADC with respect to range checks, final approach spacing and low approach and landing clearances.

1.3 TC Heathrow Bandbox/Splitting Procedures

1.3.1 Opening Order

INT North may be staffed at any time.

FIN must be opened before INT DIR are split.

1.3.2 Procedure for Bandboxing/Splitting INT North and INT South

1. Inform Heathrow AIR.
2. Inform TC South (TC SW and TC SE) of new frequency if appropriate.

Chapter 2 Radar Directors – General Operational Procedures

2.1 General Procedures

INT Directors will control inbound traffic from the four Heathrow holding stacks as follows:

- **BNN** and **LAM** - INT North
- **BIG** and **OCK** - INT South

Both INT Directors will accept their own inbound releases, coordinate with adjacent sectors and other agencies as required, and manage their own flight progress strip display.

INT North will adopt the role of a “*Master Director*” whose role is to coordinate and integrate the traffic from the north and south stacks, determining the landing order. During normal Heathrow operations, with all three director positions manned, INT North Master Director will pass instructions to inbound traffic routing through both north stacks in order to perform appropriate integration of the two traffic streams until handover to the FIN DIR.

2.2 Inbound Releases

All inbound releases will be to the appropriate INT DIR (North for BNN and LAM, South for BIG and OCK). Heathrow inbounds routing via the four Heathrow holding stacks will be released in level order in accordance with abbreviated release procedures.

Aircraft that are not able to be released in accordance with these procedures shall be released by means of either a full release or, if in conflict with an overflying aircraft, a radar release. For reasons of expedition TC Heathrow may request, and London TC may offer alternative releases for aircraft that would otherwise be subject to the standard releases.

Except where agreed in a full release or radar release, following transfer of communication TC Heathrow may:

- Apply or remove speed control
- Issue descent to a lower level in accordance with release procedures
- Turn and descend the aircraft after reaching the release point.

TC Heathrow must not climb the aircraft or stop its descent above the release level; however, the approach controller may instruct aircraft to disregard any ‘level by’ restrictions imposed. Once traffic has entered the Heathrow RMA, it shall not be instructed to leave it.

2.2.1 Procedures for Abbreviated Releases

An abbreviated release is a method of reducing coordination between APC units and London TC, as compared to a full release, since only the release point and level is communicated with the rest of the release being implied by standard local procedures.

2.2.1.1 Electronic Abbreviated Releases

Provided the correct cleared level is displayed in the aircraft track data-block, London TC is not, on VATSIM, required to coordinate an abbreviated release verbally with TC Heathrow. This procedure is referred to as an electronic abbreviated release.

London TC may opt to use verbal abbreviated releases whilst holding is taking place - workload permitting - or where it might be deemed useful for clarity.

2.2.1.2 Verbal Abbreviated Releases

If London TC sector controllers opt to use a verbal abbreviated release, it shall be in the following format:

- Hold Name
- Callsign
- Release Level

Example: “BNN release, BAW123 at 9.”

Note: The Release Level may be abbreviated to either one or two digits – for example, FL90 may be passed as ‘9’, FL100 as ‘10’ (‘ten’).

2.3 Transfer of Data and Control between Directors

2.3.1 Heathrow Inbounds

Transfer of data and control to FIN will be by electronic transfer of the aircraft track data-block coincident with the transfer of communication.

INT North and INT South are to ensure that all information on the electronic flight progress strip is accurate before transfer to FIN. When this is the case, no verbal coordination is required, unless either controller feels it necessary for reasons of clarity, or to highlight non-standard positioning or coordinated restrictions.

On transfer of control from either INT DIR to FIN, controllers should use the phrase: “Contact Heathrow Director 120.4 with callsign only.”

2.3.2 Inbounds to Other Heathrow RMA Airfields

INT South must obtain the preferred routing and descent level for inbounds to Northolt and Denham via OCK and BIG from INT North, prior to this traffic reaching the holding stack. The approval for such aircraft to commence intermediate approach must also be obtained.

Procedures for the transfer of control to Northolt APC are detailed in [APC 6.5](#).

2.4 Identification and SSR Validation and Verification Procedures

All aircraft under the control of TC Heathrow must be identified, the assigned SSR code validated, and Mode C return verified. Except where described below this is to be by one of the methods described in MATS Part 1. Aircraft transferred from another radar unit either by standing agreement or individual coordination are deemed to have been validated and the Mode C return verified.

Aircraft departing Heathrow which are automatically code-callsign converted (correlated) with the correct callsign and are not displaying a squawk error (DUPE) indicator within the track data-block are deemed identified and validated. The first radar controller working these aircraft must however verify the Mode C return.

Any aircraft that does not automatically code-callsign convert, is displaying an incorrect callsign, or that is displaying a squawk error (DUPE) indicator shall be reassigned a unique code; however, for initial identification a controller may request an IDENT to avoid requiring the pilot to set a new squawk during the workload intensive departure phase.

2.5 Separation Requirements for TC Heathrow

2.5.1 General

TC Heathrow controllers may apply reduced radar separation of 3 NM between aircraft provided that:

- Both aircraft are identified, and
- If greater than 3 NM, the appropriate wake turbulence separation is applied, and
- If applied against an aircraft under the control of another agency, direct voice communication is available between the controllers, and the other agency must also be approved to apply reduced radar separation.

Note: All London TC sectors, TC approach units (including RAF Northolt), Farnborough APC, and Southend APC are authorised to apply 3 NM radar separation.

2.5.2 Use of 2.5 NM Separation on Final Approach

Radar separation between aircraft on final approach may be reduced to *not below* 2.5 NM if certain conditions are met. This can increase the landing rate to alleviate delays and minimise the adverse effect of a strong headwind component on runway capacity.

2.5 NM final approach spacing may be applied between specific individual pairs of aircraft following the same final approach track or adjacent parallel runway approach tracks or between an individual aircraft on base leg and a preceding aircraft on the final approach track, provided that:

- There is no required wake turbulence spacing between the individual aircraft pair, and
- The individual pairs are closely monitored by radar and speed adjusted when necessary by FIN DIR, and
- Both speed on final approach and the 2.5 NM separation from preceding traffic must be stabilised by 8 NM from touchdown, and
- The Heathrow reported visibility and cloud ceiling are equal to or better than 10 km and 1500 ft respectively, with a minimum recommended headwind component of 10 knots before the use of 2.5 NM spacing, and
- The aircraft involved in the procedure are being operated normally (it is the pilot's responsibility to inform ATC if they are operating their aircraft other than in the normal manner), and
- Braking action is good.

2.5.3 RECAT-EU Wake Separation on Final Approach

RECAT-EU was introduced at Heathrow Airport in 2018. It provides a much more precise categorisation of aircraft in comparison to the standard ICAO categories. A table of the new categorisations is listed in **Appendix A | RECAT-EU Categorisation**.

The required separation must be in place when the leading aircraft is over the threshold of the landing runway.

The following separation, in **nautical miles**, is to be applied between arrivals:

		Leader					
		Super (J)	Heavy (H)	Upper (U)	Medium (M)	Small (S)	Light (L)
Follower	Super (J)	4 NM	3.5 NM	3 NM			
	Heavy (H)	4 NM	3.5 NM	3 NM			
	Upper (U)	5 NM	4 NM	3 NM			
	Medium (M)	5 NM	4 NM	3 NM			
	Small (S)	6 NM	5 NM	4 NM			
	Light (L)	8 NM	7 NM	6 NM	5 NM	4 NM	3 NM

2.6 Terrain and Obstacle Clearance

Within the Surveillance Minimum Altitude Area (SMAA) the lowest level that can be assigned in the sector north of OCK is 1800 ft except for within the defined area around Portal West where it is 1900 ft and the defined area around Crystal Palace Mast and the Shard where it is 2000 ft. In the sector south of OCK it is 2000 ft except for the defined area around Biggin Hill where it is 2100 ft.

Aircraft within the Final Approach Vectoring Areas (FAVAs) for Heathrow, which are either established on the approach track or are on an intercept of 40° or less and cleared to establish the final approach track, may be descended to 1600 ft.

The Minimum Sector Altitude (MSA) within 25 NM of Heathrow is:

NW	NE	SW	SE
2200 ft	2100 ft	2100 ft	2300 ft

Heathrow ATC SMAA chart: **AD 2.EGLL-5-1**.

2.7 Change to MSL Procedure

When a change to the London QNH results in a new MSL, the first controller to note the change shall coordinate with TC Heathrow (INT North), TC Thames (TMS DIR), TC North and TC South to agree an effective time that is at least 5 minutes from the time the pressure change was noticed. Aircraft operating at the old MSL are deemed separated from aircraft operating at altitude 6000 ft until the new MSL is agreed to be in effect.

Chapter 3 Inbound Procedures

3.1 Information to Arriving Aircraft

After an arriving aircraft has made its initial call to Approach Control, the following information shall be passed as soon as practicable:

- The Runway in Use and the type of approach, if not already received from the ATIS
- The current ATIS weather code
- Whether LVPs are in operation, if not already received from the ATIS
- Any delay to be expected.

All TC controllers are to confirm the cleared level of an aircraft coming under their control on first RT contact. If it is not volunteered by the pilot it is to be requested and verified by the receiving controller before giving any executive instruction. In addition, the initially contacted Heathrow INT Director is to confirm aircraft type, including type variants.

Subsequent Changes

Aircraft that have received the information above must be kept informed of the following until they have landed:

- Significant changes in the meteorological and runway conditions
- Further reports from other pilots
- Implementation or cancellation of LVP.

3.2 Standard Arrival Routes

The below table is a summary of STARs for Heathrow. STAR charts are available in the AIP.

Designator	Arrival Via	Route	Remarks
ALESO 1H	T420	ALESO – ROTNO – ETVAX – TIGER – LLE01 – BIG	
BARMI 1H	P7	BARMI – SONOG – LOGAN – SABER – BRASO – WESUL – LAM	
FITBO 1H	Y125	FITBO – SOPIT – WCO – BNN	Not for flight planning
HAZEL 1H	L620	HAZEL – LLS01 – OCK	
HON 1H	L15, L10, L612	HON – TOBID – SOPIT – WCO – BNN	
LOGAN 2H	L608, L980	LOGAN – TRIPO – SABER – BRASO – WESUL – LAM	
NUGRA 1H	(U)Y53, Q36, Q38	NUGRA – TOBID – SOPIT – WCO – BNN	
OTMET 1H	N17	OTMET – SOKDU – NEDUL – BIGTO – HAZEL – LLS01 – OCK	
ROXOG 1H	(U)P87, L962	ROXOG – AMTOD – BEGTO – HAZEL – LLS01 – OCK	

SIRIC 1H P2 SIRIC – NIGIT – LLW03 – OCK

3.2.1 Stack Switching STARS

STAR	Routing	Stack Switching
LAM 1X	LAM – HILLY – BIG	From LAM to BIG stack
OCK 1Z	OCK – DORKI – HILLY – BIG	From OCK to BIG stack
TANET 1Z	TANET – DET – LLE02 – BIG	From LOGAN/LAM to BIG stack

STAR	Routing	Stack Switching
LAM 1Z	LAM – DONNA – BNN	From LAM to BNN stack
SIRIC 1Z	SIRIC – CPT – BNN	From OCK to BNN stack

STAR	Routing	Stack Switching
BIG 1Z	BIG – DORKI – OCK	From BIG to OCK stack
LAM 1Y	LAM – DORKI – OCK	From LAM to OCK stack
TOBID 1X	HON – WOD – LLW02 – OCK	From BNN to OCK stack

3.3 Holding Procedures

3.3.1 Holding Areas

The table below indicates the holding areas available for Heathrow traffic:

Hold	Inbound Course	Direction	Holding Levels	Holding Speed
BNN	116°	Right	FL70 - FL170	220 Kts
LAM	262°	Left	FL70 - FL170	220 Kts
OCK	328°	Right	FL70 - FL150	220 Kts
BIG	302°	Right	FL70 - FL150	220 Kts

3.3.2 Speed Limit Points

The table below indicates the Speed Limit Points (SLPs) associated with each holding area:

Holding Area	Speed Limit Point	Maximum Speed (IAS)
BNN	WCO	250 Kts
LAM	LAM DME 12	250 Kts
OCK	OCK DME 12	250 Kts
BIG	BIG DME 12	250 Kts

3.3.3 Holding Pattern Separation

Separation exists between aircraft established in any of the above holding areas up to at least FL150.

3.4 Level Allocation

3.4.1 Allocation at BIG and OCK Holds

MSL is allocated to INT South at BIG and OCK.

3.4.2 Allocation at BNN Hold

3.4.2.1 TC Heathrow

The lowest flight level that TC Heathrow may use in the BNN hold is MSL+1.

TC Heathrow must not descend traffic released at BNN to MSL until the following conditions are satisfied:

- a. the aircraft has left the BNN hold;
- b. the aircraft is south of BNN;
- c. the aircraft is within the Heathrow RMA.

3.4.2.2 TC North West (TC NW)

MSL is allocated to TC NW. TC NW must ensure that traffic at MSL under their control remains a minimum of 3 NM clear of the Heathrow RMA.

TC NW may release traffic to TC Heathrow above FL110 subject to the following condition: TC Heathrow will ensure all traffic, vectored from the BNN hold towards intermediate approach, is FL110 or below by 5 NM DME beyond BNN to ensure separation from TC NE airspace.

3.4.3 Allocation at LAM Hold

3.4.3.1 TC Heathrow

The lowest Flight Level that TC Heathrow may use in the LAM hold is MSL+1. TC Heathrow must not descend traffic released at LAM to Minimum Stack Level until all of the following conditions are satisfied:

- a. the aircraft has left the LAM hold;
- b. the aircraft is west of LAM;
- c. the aircraft is within the Heathrow RMA;
- d. the aircraft is, on Easterly operations, west of the western edge of N57.

3.4.3.2 TC North East (TC NE)

To facilitate departures from London Stansted, Luton and Northolt routeing via DET, MSL is allocated to TC NE for use by all traffic routeing east of the LAM VOR.

TC NE may release traffic to TC Heathrow above FL110 subject to the following condition: TC Heathrow shall ensure all traffic, vectored from the LAM hold towards intermediate approach, is FL110 or below before they leave LAM to ensure separation from TC NE airspace. However, if aircraft do not meet this condition, coordination should be affected first with **AC Worthing**.

3.4.4 SODVU Box

Figure 4 depicts the SODVU Box, with a vertical limit of FL105. TC Heathrow must ensure that unless traffic is vertically separated, aircraft do not track within 3 NM of the SODVU Box unless coordinated with TC South East.

The LAM hold is deemed separated from the SODVU Box, so long as holding aircraft conform with the published holding pattern.

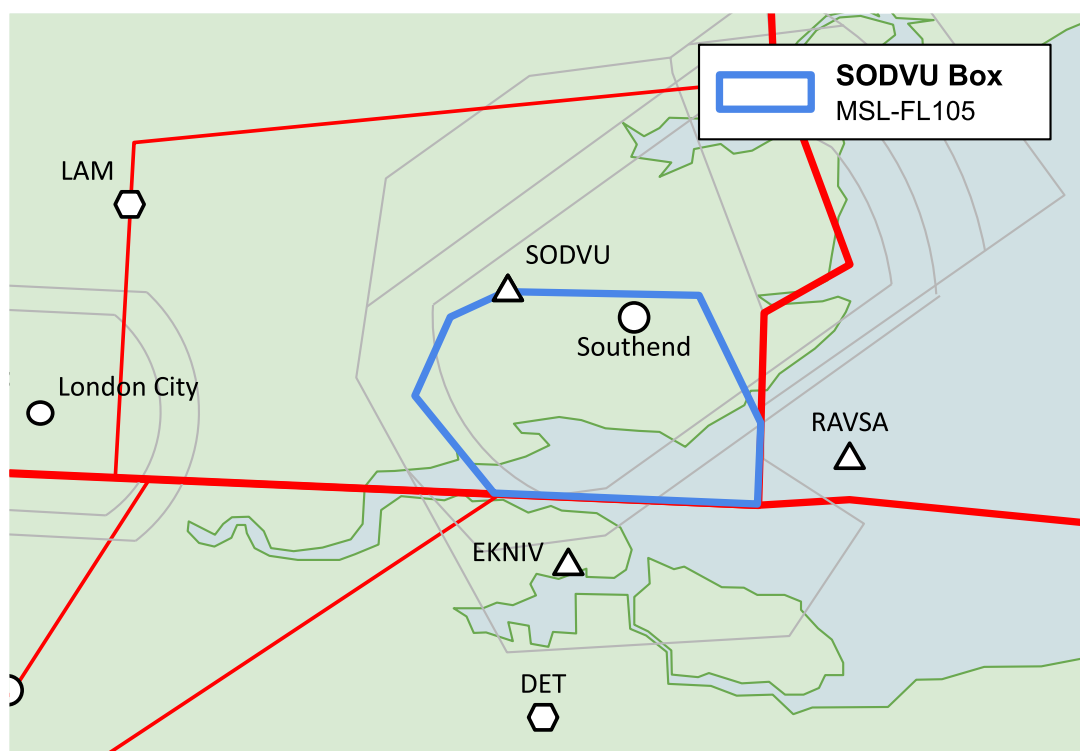
3.4.5 TC Controllers

The respective TC Controllers are allocated the airspace up to and including the Transition Altitude (6000 ft) at the BNN, LAM, BIG and OCK holding areas, for aircraft following SIDs.

MSL east of the LAM hold is allocated to TC North and TC Thames to facilitate climb of departures from other airfields in the London TMA.

The appropriate TC Inbound Controller is allocated the airspace from MSL up to, and including FL150 at BNN, LAM, BIG and OCK.

Figure 4 - SODVU Box



3.5 Release Points

The standard Release Points for Heathrow are as follows:

- **Lambourne (LAM)** and **Bovingdon (BNN)** for TC North (TC NW/NE)
- **Ockham (OCK)** and **Biggin (BIG)** for TC South (TC SW/SE)

3.6 Transfer of Communication Procedures

Transfer of communication should be effected in the correct level order for each holding facility.

Aircraft will be transferred to INT Directors in sufficient time for contact to be established before reaching the facility so that heading or holding instructions may be passed. If this is not possible, the aircraft will be instructed to hold on reaching the facility and the INT Director so informed.

INT Directors are to ensure that the pilots of inbound aircraft are in receipt of the current ATIS/METAR report and are to verify the aircraft type.

Any aircraft type which is not as filed must be changed as soon as possible and advised to any controller who may be reliant on up-to-date information, say for the provision of wake turbulence separation.

3.7 Descent before Release Point

INT Directors may issue descent clearance to an inbound aircraft which has not yet reached the release point as follows:

Release Point	Descent before Release Point
BNN	MSL + 1
LAM	MSL + 1
BIG	MSL
OCK	MSL

3.7.1 Inbounds via LAM on Westerlies

Heathrow LAM arrivals route along the northern boundary of the Thames RMA descending to not below MSL + 1 in accordance with the above release procedures. This restriction ensures separation from London City outbounds climbing to MSL within the Thames RMA.

During periods of low traffic on Westerly operations it can be expeditious for Heathrow traffic to be provided early descent and vectoring before the LAM release point to position for straight in approaches. Similarly, for tactical reasons during Westerly operations all aircraft types inbound to Northolt Airport and low performance propeller driven aircraft inbound to Heathrow may be preferentially released to INT North at a level below MSL at LAM.

If TC North East is able to provide an early release to INT North, they will provide any such release with the restriction of *“descent subject TC Thames”*. INT North shall then coordinate with TC Thames as to available levels within the Thames RMA. TC Thames will not typically approve descent below 4000ft so that London City departures can remain free-flow.

During periods of low traffic at London City TC Thames may, at their discretion, agree a permanent delegation of the Thames RMA to TC Heathrow. During any agreed delegation it will be the responsibility of TC Thames to ensure separation against Heathrow traffic for all traffic under its control and for cancelling the delegation when required.

Traffic released below MSL + 1 is not to be held at LAM nor within N57 or the Thames RMA.

Chapter 4 Procedures for Intermediate and Final Approach

Unless otherwise noted the procedures detailed in this chapter apply to aircraft under the control of INT/FIN Directors inbound to Heathrow or Northolt.

4.1 Radar Manoeuvring Area (RMA)

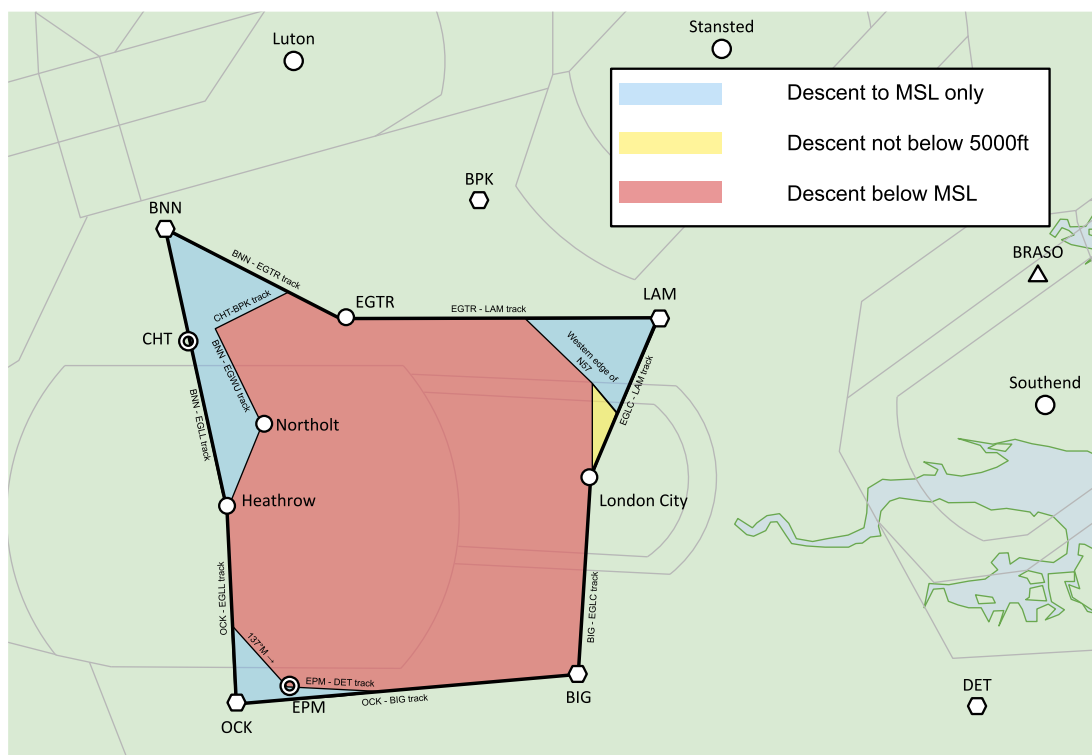
The Heathrow RMAs for Westerly operations (Figure 5) and Easterly operations (Figure 6) are represented below.

Aircraft released at BNN, LAM, BIG and OCK which have left the release point under the control of the INT Directors must remain within the RMA. Aircraft released after prior coordination at other points, will enter the RMA when on intermediate approach and must subsequently remain within it.

If an INT Director wishes to operate outside the RMA, then coordination must be effected with the appropriate sector.

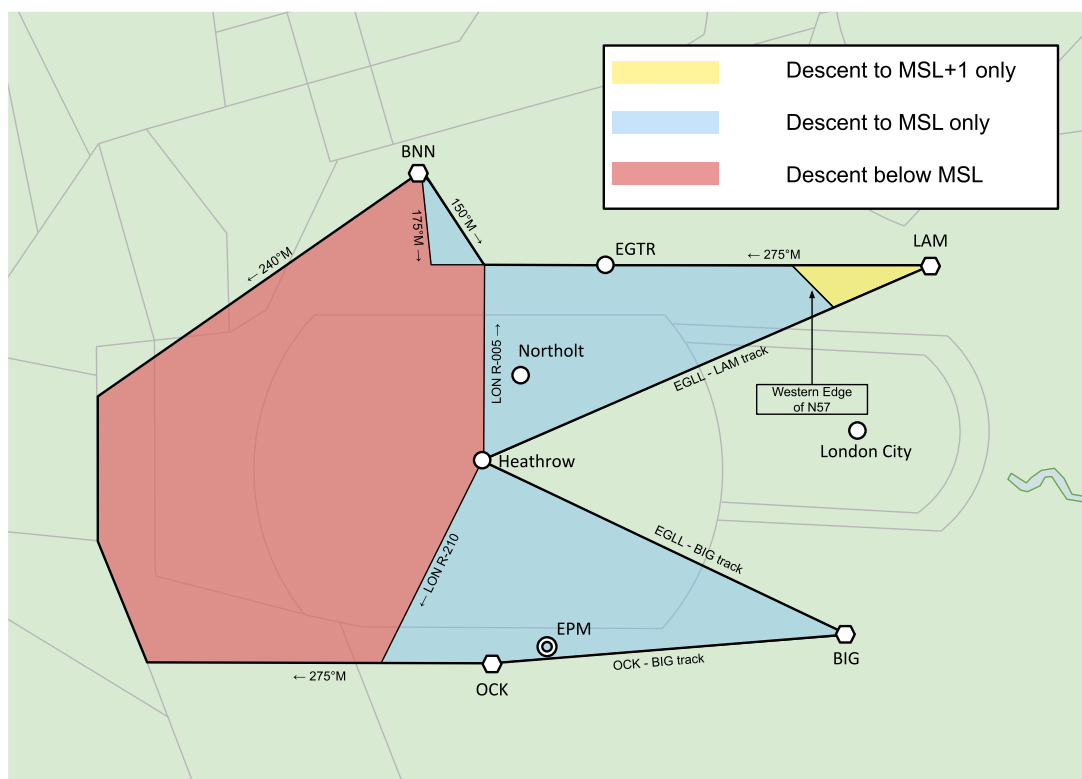
Westerly RMA

Figure 5 - Heathrow RMA – Westerly Operations



Easterly RMA

Figure 6 - Heathrow RMA – Easterly Operations



4.1.1 Descent from Minimum Stack Level

LL INT Directors may issue descent clearance below the MSL at the points listed in the table below, subject that standard separation is always maintained between inbound aircraft and aircraft departing from Heathrow, Northolt, London City and Luton.

For this purpose, INT Directors may assume that radar responses observed to be following the standard outbound routes are departing aircraft.

Release Point	Heathrow Westerlies	Heathrow Easterlies
BNN	South of CHT – BPK track.	South of BNN, and west of BNN R175
LAM	Clear of W edge of N57.	West of LON R005.
BIG	North of EPM – BIG track.	West of LON R210.
OCK	North of EPM – BIG track.	West of LON R210.

Note 1: When Westerly landings are taking place, INT South is to ensure that aircraft released at BIG remain east of the 005°M track from EPM.

Note 2: When Easterly landings are taking place, INT Directors are to ensure that: Aircraft released at LAM cross the 005° radial of the LON VOR at FL100 or below, but not below MSL.

Aircraft released at OCK or BIG must cross a line 5 NM East of the WOD - MID track at or below FL100.

These requirements are to ensure separation from overflying traffic at FL110 under TC control. Overflying traffic in the WOD area at FL100 or below will be coordinated with INT Directors.

Whenever INT North wishes to vector traffic from BNN or LAM into that part of the Heathrow RMA that is within TC South (SW/SE) airspace, at MSL or above, coordination must be effected with the appropriate TC South Controller(s).

4.2 Change of Runway Configuration

When there is a change from Easterly to Westerly operations, or vice versa, the AIR Controller will advise INT North of the callsigns and SIDs of the last 3 departures from the old runway.

An aircraft which has left the holding stack to make an approach to the new configuration runway must remain at MSL until clear of the SID track of the traffic departing from the old runway unless coordination takes place between the appropriate INT Director and TC Sector controller.

All departures from the old runway will follow the SID track and altitudes. TC Departure Controllers must not deviate departing aircraft from the SID route and altitude until the departing aircraft is clear of all inbound traffic that has left the holding stack, unless coordinated with the appropriate INT Director.

The AIR South controller will inform all TC Heathrow positions when the runway change is completed.

4.3 Continuous Descent Approach Procedure (CDA)

The aim of the CDA procedure is to provide pilots with the ATC assistance necessary for them to achieve a continuous descent during intermediate and final approach, at speeds which require minimum use of flap etc.

The procedure requires ATC to apply specific, or minimum, speeds to inbound aircraft and to pass adequate “range from touchdown” information. Except in exceptional circumstances, the CDA procedure is to be employed at all times for aircraft inbound to Heathrow.

During the night period all inbounds to Heathrow, irrespective of weight or type of approach, are to be given descent clearance from MSL at a distance from touchdown which ensures that inbounds are no lower than 6000 ft when 20 track miles from touchdown.

In accordance with existing procedures, aircraft are then to be vectored onto a closing heading that will position the aircraft to intercept the extended runway centreline no closer than 10 NM from touchdown. Descent clearance below 3000 ft is not to be given until the aircraft is 10 NM from touchdown.

4.4 Procedures for Intermediate Approach

4.4.1 Speed Control

The speeds to be flown during the approach phase are to be specified by the controller and will depend on the traffic situation at the time. Standard speeds are published in the UK AIP and should be adhered to whenever possible.

If traffic conditions permit, a pilot may be requested to maintain a higher than normal speed or be advised that there is “no ATC speed restriction”.

- During intermediate approach, i.e. after leaving the holding facility to base leg approximately 6 NM prior to ILS intercept: 210 kts IAS;

Note: *Pilots of some modern jet aircraft may request the use of their “minimum clean” speed during this phase of flight; commonly 220/230kt. Where possible, and subject to separation requirements, this should be approved.*

- Thereafter, and until established on final approach, the highest possible speed between 160 – 180 kts IAS as required to ensure accuracy of spacing;
- Established on final approach, until 4NM DME: 160 kts IAS

4.4.2 Ranges from Touchdown

To assist pilots in the management of their descent, ranges from touchdown are to be passed as follows:

- when first issuing descent clearance from stack level (a best estimate only is required at this stage);
- as soon as possible after first contact with FIN;
- at any time if a previous estimate has become invalid, e.g. following a change in landing sequence, or if a controller considers that a range check would assist a pilot with descent management.

4.4.3 Transfer of traffic to the FIN Director

Transfer should typically be initiated once the aircraft is cleared below MSL, clean of conflict from traffic unknown to FIN. Where a conflict unknown to FIN shall delay transfer, INT should consider whether resolving the conflict themselves or coordinating with FIN will be most expeditious.

Traffic should normally be offered to the FIN Director descending to an altitude of 4000 ft QNH at 220 kts IAS (or as appropriate). Where FIN is working traffic ahead in sequence, INT shall not clear traffic to below 4000 ft. The cleared level, assigned heading and speed shall be recorded on the track data-block before transfer.

To reduce RTF congestion on the FIN frequency, the following phrase shall typically be used for transfer from INT to FIN:

Example: *“ABC123 report your callsign only to Heathrow Director 120.4”*

4.5 Procedures for Aircraft on Final Approach

4.5.1 Responsibility

FIN shall retain control of inbound aircraft until such time as the pilot reports established on the ILS/RNP approach, or such time that they can safely continue a visual approach.

Although it is the responsibility of FIN for establishing and maintaining the necessary separation between inbound aircraft, AIR Arrivals is to monitor the ATM and check that the required spacing between inbound aircraft does not degrade. AIR Arrivals **will not** issue any instructions for speed adjustment on final approach without first obtaining the approval of FIN.

The minimum spacing between aircraft on final approach is 3 NM (or 2.5 NM, see [APC 2.5.2](#)). It is the responsibility of AIR Arrivals to monitor runway arrival spacing and to notify any required increases in minimum separation to FIN. Commonly it may be expected that deteriorating weather conditions such as poor visibility, wet runway and/or cross-wind, will give rise to requests for increased spacing due to increased runway occupancy time.

Wake turbulence spacing between aircraft on final approach shall be applied in accordance with [APC 2.5.3](#).

INT/FIN Directors may receive instructions from AIR Arrivals to leave a (specified) gap on final approach. This may be due, for example, to unusual runway crossing traffic or a departure from the landing runway. All such requests should be complied with unless there are sound operational or safety reasons to prevent so doing.

4.5.2 Procedures Following Heathrow Emergency Landing Traffic

TC Heathrow will create a 15 NM gap between emergency landing traffic and the next aircraft to land on that runway.

TC Heathrow FIN will provide Heathrow Air Arrivals with a 10 NM check in respect of the first landing aircraft after the emergency traffic.

In order to assist TC Heathrow, the Heathrow AIR Departures controller will normally offer the departure runway to TC for landing aircraft while the arrival runway is used by the emergency traffic.

4.5.3 ATC Low Visibility Operations

Simplified procedures to be adopted during CAT II/III operations have been devised for use at Heathrow. The commencement of and subsequent cancellation of Low Visibility Operations will be notified by Heathrow ADC. Full details including weather criteria are included in [GEN Chapter 2](#).

4.5.4 Descent Profiles

The procedures below are to be applied to provide separation from:

- traffic on helicopter route H4 during approaches to 27L/R;
- the White Waltham local flying area during approaches to 09L/R;
- the TC Thames area of responsibility;
- and to minimise general noise disturbance beneath the approach areas.

4.5.4.1 All Runways

Outside the night noise restriction periods detailed below, aircraft are not to be cleared for descent below 3000 ft until within 11 NM track distance from touchdown, below 2500 ft until within 9 NM or below 2000 ft until 7 NM; except when established on the ILS glidepath.

Between 2300 and 0700 (local) with respect of 09L/09R and between 2300 and 0600 (local) with respect of 27L/27R, inbound aircraft, irrespective of weight or type of approach, are to be vectored onto a closing heading which will position aircraft to intercept the extended runway centre-line no closer than 10 NM from touchdown. Descent clearance below an altitude of 3000 ft is not to be given until the aircraft is 10 NM from touchdown.

4.5.4.2 Separation from Thames Director

As London City Airport is always open on VATSIM, when Heathrow is on Westerlies, descent clearance below 4000 ft is not to be given:

- until the aircraft is 13 NM track distance from touchdown; or
- unless the aircraft will remain west of a line north-south through a point 10 NM from 27L/R touchdown.

During periods when London City airport is quiet and coordination is effected with TC Thames (TMS DIR) (or the controller covering it top-down), INT/FIN Directors may descend initially to 3000 ft. It is essential to confirm that the Thames RMA may be used by TC Heathrow prior to adopting this procedure. It is the responsibility of the TC Thames controller to cancel this delegation if necessary.

4.5.4.2.1 London City Airport – Runway 09 Arrivals

TC Thames may vector aircraft downwind inbound to Runway 09 subject to the following conditions:

- Aircraft must descend to an altitude of not above 2100 ft QNH, to be level before passing west of a line passing north/south through London City Airport.
- Aircraft must then descend to 2000 ft QNH as soon as possible subject to RVA restrictions.
- Aircraft must not be vectored west of a north/south line through Vauxhall Bridge (6.4 NM west of London City), without prior coordination with TC Heathrow.

4.5.4.2.2 London City Departures – Runway 27

This procedure relates to all CLN, EKNIV, DVR, LYD and CPT departures from London City Runway 27.

After departure, outbound traffic on the routes detailed above fly the standard right turn and maintain 3000 ft QNH. Once the aircraft has established on an easterly track and has passed through a line parallel to; and 3 NM east of the BIG - EGLC track, TC Thames may climb the aircraft to 4000 ft.

In order to ensure separation from such London City departures, TC Heathrow traffic on intermediate approach to Runways 27L/R within the Heathrow RMA may not descend below 5000 ft QNH, to the east of the extended BIG - EGLC track without coordination with TC Thames (TMS DIR).

4.5.5 Transfer of traffic to AIR Arrivals

Unless otherwise informed, on transfer of control from FIN to AIR Arrivals, controllers should use the phrase:

“(Callsign), contact Heathrow Tower (118.505/118.705).”

Unless requested, FIN is not required to provide AIR Arrivals with range checks for inbound aircraft.

4.6 Procedures to Ensure Correct Runway

AIR will ensure that any change in the landing runway is immediately notified to TC Heathrow.

In any circumstances when an aircraft elects, or is instructed, to use a runway for landing other than that promulgated, the appropriate INT Director is to ensure that the AIR controller is notified at the earliest opportunity and an acknowledgement of the runway change obtained from the pilot.

30 NM range final approach checks on inbound aircraft under TC Heathrow control are to be passed by INT/FIN controllers to AIR Arrivals as follows:

- whenever aircraft, inbound to Heathrow, make an approach to the promulgated departure runway. If a succession of aircraft make such an approach only the first aircraft need be checked in;
- in respect of the first landing aircraft following a change of the promulgated landing runway;
- in association with 27L/R, and inbound aircraft are being vectored in batches for alternate runways;
- in respect of aircraft in emergency;
- when requested by AIR.

4.7 Action in the Event of a Missed Approach

The missed approach procedures are defined on the relevant approach plates and are also detailed in [ADC 4.7](#) for ILS approaches.

4.7.1 Procedures

The AIR Arrivals controller will inform AIR Departures of the missed approach. AIR Departures will ensure separation from the missed approach aircraft by issuing tactical headings to departing traffic if necessary.

The appropriate INT Director will be given details of the missed approach by AIR Arrivals. Missed approaches from the northern runway will turn to the north and be coordinated with INT North and missed approaches from the southern runway will turn to the south and be coordinated with INT South.

The INT Director will issue a heading, altitude and, if required, a frequency to transfer to if not directly to the INT Director.

If the INT Director decides to turn the aircraft towards the departure runway track it must be coordinated with AIR Departures before doing so.

The appropriate INT Director will endeavour to climb the missed approach traffic to 4000 ft as soon as is practicable.

Note: *There is no requirement to coordinate climb to 4000 ft with TC departure sectors unless traffic is in conflict.*

The following adjacent units will receive a TC Heathrow go-around alarm and have associated responsibilities upon hearing the alarm:

- TC Thames – will coordinate as appropriate to deconflict/separate low level traffic under their control
- Northolt APC – will endeavour to restrict the climb of any outbound traffic to 2000 ft and then coordinate further climb with TC Heathrow, they will also coordinate any relevant low level traffic within the Northolt RMA
- Farnborough APC – will coordinate if they have traffic holding at VEXUB or if, from radar monitoring, it is apparent that a Farnborough Group inbound/outbound is liable to conflict with the Heathrow go-around traffic.

Note: *Receipt of a TC Heathrow go-around alarm by adjacent units is subject to correct UKCP set-up and TC Heathrow controllers should monitor for conflicting traffic and initiate coordination proactively regardless of responsibility. Additionally, TC/AC controllers providing top-down services will not receive a go-around alarm and are not expect to initiate coordination, it is TC Heathrow's responsibility in this case.*

INT Director will inform AIR Departures when the outbound tracks are clear and normal departures can resume.

4.7.2 Holding

If missed approach traffic is required to hold, then holding is available at Epsom (EPM) and Chiltern (CHT) NDBs. If aircraft is held at EPM, then TC Gatwick, Farnborough APC and AIR Departures must be informed.

4.8 RNP Approaches

Pilots will “request RNP approach” on first contact with Heathrow Director. The Intermediate Fix (IF) for the RNP approach for all runways is at a range of 10 NM on the extended centreline for the runway.

Aircraft requesting an RNP approach will be radar vectored towards the IF, before being instructed to resume own navigation and “cleared RNP approach runway (designator), QNH (hPa)”.

Note: *When instructed to resume own navigation, the aircraft's current track must be within 45 degrees of the IAF.*

Note: *The Heathrow QNH must be included in the RNP approach clearance.*

When clearing an aircraft for an RNP approach, the instruction clears the aircraft on both the lateral and vertical profile of the procedure. As such, controllers may use the following phraseology to emphasise that an aircraft is not cleared on the vertical profile.

Example: *“SHT75A, resume own navigation direct IVLAR, maintain altitude 4000 ft” then later “SHT75A, cleared RNP approach Runway 27R, QNH (hPa).”*

All RNP procedures commence at an initial altitude of 3000 ft with a fly level segment of 1.5 NM and a 3.2° glidepath descent from 8.5 NM.

Runway	Intermediate Fix (IF)	Final Approach Fix (FAF)
27R	IVLAR	L27RT
27L	NEKSA	L27LT
09R	BENPA	L09RT
09L	ABAVI	L09LT

Note: The RNP Z procedures were replaced permanently by the RNP Y 3.2° trial procedures from AIRAC 2021/12 and are now referred to as “RNP approach” without any additional identifier.

4.8.1 Coordination of RNP Approaches

LL AIR must be informed whenever an aircraft is conducting an RNP approach. FIN shall inform AIR no later than 10 NM from touchdown.

Chapter 5 Outbound Procedures

5.1 General Procedures

During Westerly operations, all IFR Heathrow and Northolt outbound traffic following published Standard Instrument Departure (SID) routes will normally contact the appropriate TC Departure sector direct, with no reference to TC Heathrow.

During Easterly operations, TC Heathrow INT South will be transferred departures via CPT from AIR.

5.2 Identification of Departing Traffic

AIR Departures are not authorised to validate the SSR code of Heathrow departures.

Identification and validation of Mode A is to be achieved by using the procedure detailed in [APC 2.4](#).

The appropriate TC departure sector is responsible for verifying Mode C data, except for those departures handled first by TC Heathrow.

5.3 Procedures for Outbound Traffic – Easterly Operations

5.3.1 General

LL INT South is required to take control of aircraft following CPT SIDs, which conflict with the intermediate or final approach pattern. INT South is to climb the aircraft to the agreed level and then transfer control to TC SW (or as otherwise directed).

5.3.2 Procedures

When the airfield is on Easterly operations, an agreement is in place to clear aircraft via CPT to a standard heading to assist INT South in the handling of these departures against arrival traffic. Unless informed otherwise by TC Heathrow, clearance delivery is to issue the following after departures instruction:

- passing London DME 2 (09R) or 1.5 (09L), turn right heading 220 degrees;
- climb to altitude 6000 ft.

LL AIR Departures does not require a release for this traffic.

Following identification, validation and verification INT South shall transfer CPT departures to TC SW by silent handover, subject to the following conditions:

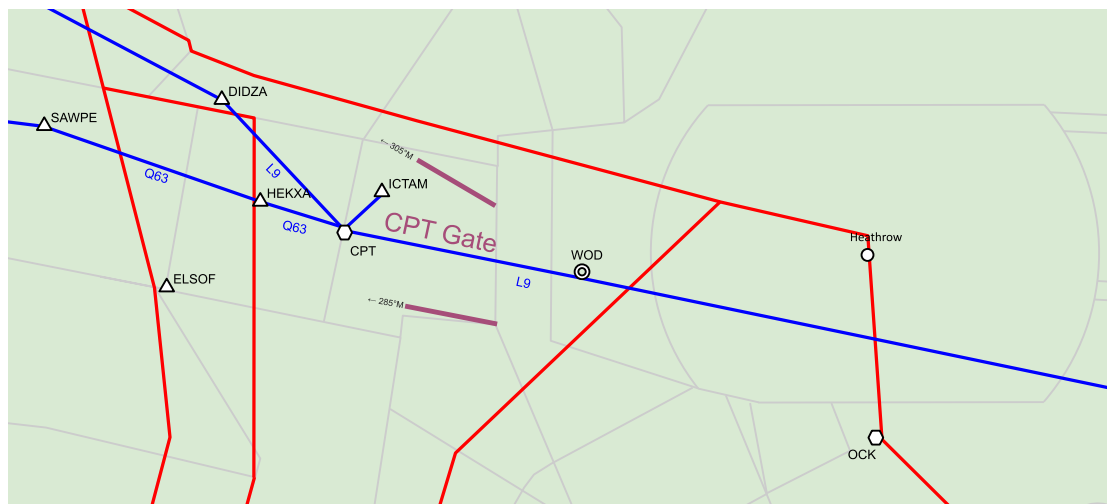
- The aircraft is at or above MSL+1 by the western edge of the Heathrow Easterly RMA;
- The aircraft is presented to TC SW on a radar heading, positioned *through* the CPT gate (see Figure 7);
- The heading should, subject to traffic, position the departure towards the northern side of the airway L9/Q63 but must not track the aircraft into TC NW airspace;
- LL INT South shall ensure that the aircraft is at 4000 ft or above abeam WOD.

TC SW is responsible for separation against all traffic outside of the Heathrow RMA.

The heading allocated by INT South must ensure that a minimum of 3 NM separation is maintained from other traffic on intermediate and final approach under control of INT North or FIN directors.

If a departure is unable to meet the terms of this standing agreement: either the level restriction or lateral positioning through the CPT radar gate, INT South must coordinate with TC SW. Where possible, this should take place prior to abeam WOD. TC SW is responsible for separation against all traffic outside of the Heathrow RMA.

Figure 7 - Compton (CPT) Gate



Chapter 6 Northolt Procedures

6.1 General

Northolt is a military aerodrome and therefore requires a military endorsement to control on VATSIM. Top-down control for Northolt is by Swanwick Mil. In the absence of Northolt ATC and Swanwick Mil, the Northolt airspace and limited responsibilities are shared between Heathrow INT North and TC Thames as described below and in [LOW 3.5.5](#).

6.1.1 Frequencies

Position	Frequency (MHz)
Northolt Information (ATIS)	125.125
Northolt Ground	121.575
Northolt Tower	120.675
Northolt Approach	126.450
Northolt Director	130.350
Northolt Talkdown	125.875

Note: VATSIM does not simulate the Northolt Departure frequency. Northolt Approach is the primary radar facility to be opened before all others and will handle all external coordination with Heathrow.

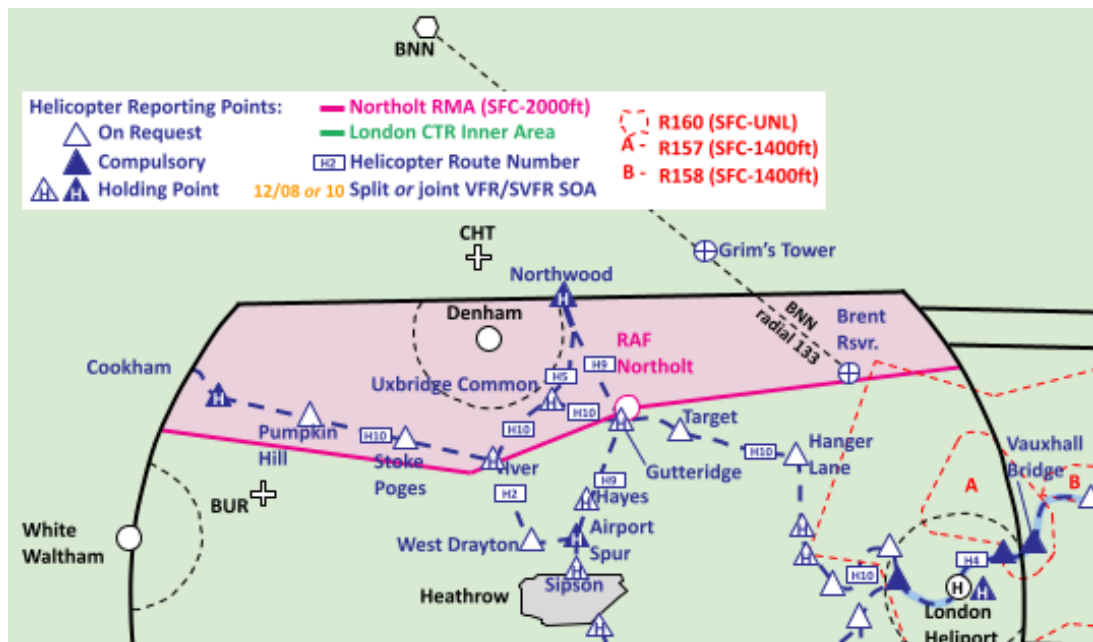
6.1.2 SSR Operating Information

Northolt SSR assigned codes: 4360 – 4367.

6.2 Northolt Radar Manoeuvring Area (RMA)

Northolt APC is delegated a portion of the London CTR from the surface to 2000 ft.

Figure 8 - Northolt RMA



6.3 Runway Usage

The runway in use is based on the active runway at Heathrow Airport. Aircraft may encounter a tailwind on landing. If a pilot cannot accept, then they must inform INT North or Northolt Approach at the earliest opportunity.

6.4 Altimeter Setting

Standard procedure for all aircraft using Northolt is to set QNH instead of QFE for landing. In consequence, Northolt approach procedures are based on **Northolt QNH**. For separation purposes, any difference between Heathrow and Northolt QNH may be regarded as insignificant.

6.5 Northolt Inbounds

Aircraft inbound to Northolt under the control of TC London will be routed to the appropriate TC holding facility as if they were inbound to Heathrow. The Heathrow RMA rules apply to Northolt traffic under the control of TC Heathrow.

The following details are to be passed to Northolt ATC on Northolt inbounds:

Callsign – Stack – ETA – SSR

Example: "Ascot 1, via LAM at time '55, squawking 4334"

Heathrow will individually release traffic to Northolt APC, typically at 3000 ft on Easterly operations and 4000 ft on Westerly operations, with the assumption that Northolt will descend to 3000 ft as soon as practical.

6.6 Northolt Outbounds

Northolt outbounds are worked initially by Northolt APC and it is the responsibility of Northolt APC to ensure separation against Heathrow traffic.

6.7 Actions When No Northolt ATC is Online

Due to the close interaction with Heathrow and LTMA traffic, when no Northolt ATC is online Heathrow controllers may control Northolt traffic as far as to prevent conflicts with Heathrow and LTMA traffic. Specifically:

- INT Directors shall control Northolt inbound traffic as far as they would normally be transferred to Northolt ATC.
- INT North may control Northolt inbound traffic until established on final approach to prevent conflict with Heathrow traffic and LTMA traffic in the BPK area. Although Heathrow cannot provide a top-down service, it is advisable to retain the aircraft on frequency in case of a missed approach.
- TC Heathrow controllers may advise Northolt outbound traffic on the correct departure routes to use but shall not provide any aerodrome control services.
- INT North may control Northolt outbound traffic so far as to prevent conflict with Heathrow traffic if, from the observed departure track, a conflict appears likely.

LOW | LOW LEVEL OPERATIONS

Chapter 1 General Principles

1.1 Provision of Air Traffic Services

Responsibility for low level traffic within the London and London City CTRs falls under TC Thames on VATSIM. Heathrow Radar (TC SVFR) is permanently bandboxed with LC DIR.

Outside the hours of operation of TC Thames, TC Heathrow INT North will take responsibility for traffic operating within the London CTR, at London Heliport, or on any of the published helicopter routes within the London CTR. The top-down responsibility for the London City CTR/CTA is that of the top-down order for TC Thames services and TC Heathrow shall not assume responsibility for traffic operating within the London City CTR/CTA unless coordinated.

For clarity in the following section TC SVFR shall be used to refer to the controller providing TC SVFR functions be it a TC Thames position or TC Heathrow INT North.

TC SVFR is not responsible for providing an aerodrome flight information service (AFIS) for Brooklands, Denham, Fair Oaks and White Waltham aerodromes in the absence of the relevant AFIS position and shall not provide clearances to enter the local flying areas. When an AFIS position is open TC SVFR shall ensure aircraft are afforded sufficient time to contact the AFIS position before entering the relevant local flying area.

1.2 Coordination

TC SVFR shall effect coordination with TC Heathrow FIN whenever low level traffic may affect typical vectoring for Heathrow inbounds, or when traffic is routing via the landing-end or the inner area (except when on the published helicopter routes). Traffic routing within the inner area is to also be coordinated with Heathrow AIR Arrivals.

Traffic that may conflict with departing aircraft is to be coordinated with Heathrow AIR Departures or Heathrow FIN as appropriate.

Chapter 2 Airspace

2.1 Classification

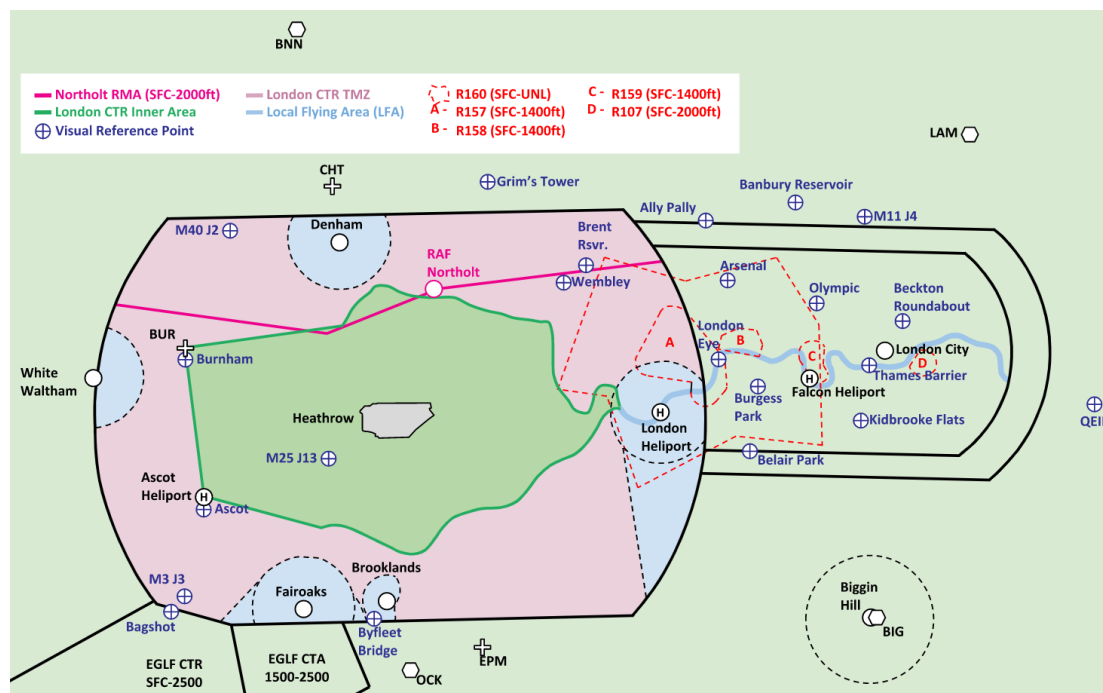
The London and London City Control Zones (CTR) are classified Class D airspace from surface to 2500 ft. The London City CTR is bordered by the London City Control Area (CTA) which is classified Class D airspace with a vertical extent of 1500 ft to 2500 ft. The London CTR is subdivided into an outer area and inner area which has associated restrictions. Aircraft are permitted to operate in both CTRs and the London City CTA in VMC and IMC conditions under either VFR or SVFR as appropriate.

The Northolt RMA is the northern portion of the London CTR as demonstrated in Figure 8 and Figure 9 with a vertical extent of the surface to 2000 ft. This portion of the London CTR is delegated to Northolt APC during its hours of operation. It retains its Class D classification however Northolt APC is authorised to apply reduced vertical separation of 500 ft between IFR/SVFR aircraft under its control operating within the Northolt RMA.

2.2 Transponder Mandatory Zone

The entirety of the London CTR, excepting the published local flying areas for Brooklands, Denham, Fairoaks, and White Waltham, is designated a Transponder Mandatory Zone (TMZ). All traffic regardless of flight rules is required to operate a transponder at all times. Military and state aircraft operating within the Northolt RMA or that airspace overlying the Northolt RMA up to 2500 ft are exempt from the requirements of the TMZ.

Figure 9 - London CTR and London City CTR/CTA with airspace details



2.3 Local Flying Areas

Local Flying Areas (LFAs) are established around airfields surrounding Heathrow within the London CTR as follows:

Airfield	Maximum Altitude	Remarks
Brooklands	1500 ft	Amended SVFR rules (<i>see note</i>)
Denham	1000 ft	Amended SVFR rules (<i>see note</i>), such flights deemed separated from Northolt RMA traffic operating at 1500 ft or above
Fairoaks	1500 ft	Amended SVFR rules (<i>see note</i>)
London Heliport	1300 ft	ATC clearance required for entry (<i>see</i> LOW 4.6)
White Waltham	1500 ft	Amended SVFR rules (<i>see note</i>)

Note: Within these areas, traffic is permitted to designate itself SVFR subject to flight conditions detailed below. TC SVFR is not responsible for separation of traffic within the local flying area and cannot provide separation between traffic within the local flying area and traffic outside beyond ensuring traffic under its control does not enter the local flying area.

VFR flights may take place within the LFAs in compliance with the Class D VMC minima detailed in UK AIP ENR 1.2. With the exception of the London Heliport LFA no ATC clearance is required for entry.

Aircraft unable to operate VFR may operate SVFR within the LFAs subject to the following conditions:

- Remain clear of cloud and with the surface in sight
- Fly at a speed of 140 knots IAS or less
- A minimum cloud ceiling of 600 ft
- A minimum flight visibility of 3 km
- In compliance with the requirements for SVFR flights detailed in UK AIP ENR 1.2.

2.3.1 Brooklands

Brooklands is a disused aerodrome, aviation museum and motor circuit situated 1.5 NM south of Weybridge. There is no AFIS or A/G radio service.

2.3.2 Denham Aerodrome

Denham is a licensed aerodrome situated 1.5 NM east of Gerrards Cross. Denham Radio provides an A/G radio service on 130.725 MHz. RAF Northolt traffic operating at and above 1500 ft overhead the Denham LFA is deemed separated from Denham traffic operating SVFR.

2.3.3 Fairoaks Airport

Fairoaks is a licensed aerodrome situated 2 NM north of Woking. Fairoaks Information provides an AFIS on 123.425 MHz.

2.3.4 London Heliport

London Heliport is a licensed heliport situated in Battersea on the southern bank of the River Thames. Battersea Tower provides an aerodrome control service within the London Heliport LFA on 134.275 MHz and ATC clearance is required for all operations within the London Heliport LFA. Procedures for London Heliport and the associated LFA are detailed in [LOW 4.6](#).

2.3.5 White Waltham Airfield

White Waltham is a licensed aerodrome situated 2 NM southwest of Maidenhead. Waltham Radio provides an A/G radio service on 122.600 MHz.

2.4 Visual Reference Points (VRPs)

Visual reference points are established in both the London CTR and London CTR/CTA along transit routes that deconflict against IFR traffic flows. They are depicted in Figure 9.

2.5 Other Aerodromes in the Vicinity

Ascot Racecourse (EGLT) is an unlicensed heliport situated at Ascot Racecourse; it is only operational during racing events.

Biggin Hill (EGKB) is a licensed aerodrome situated 12 NM south east of London. Biggin Approach provides a non-surveillance approach control service on 129.400 MHz. TC Thames is responsible for the provision of an approach radar service.

Blackbushe (EGLK) is a licensed aerodrome situated 8.5 NM south east of Reading. Blackbushe Information provides an AFIS on 122.300 MHz. The Blackbushe ATZ is partly situated in Farnborough controlled airspace.

Damyns Hall (EGML) is an unlicensed grass aerodrome situated 1 NM east of the London City CTA boundary.

Elstree (EGTR) is a licensed aerodrome situated 2.6 NM west of Watford. Elstree Information provides an AFIS on 122.400 MHz.

Farnborough (EGLF) is a licensed aerodrome situated 1 NM north west of Aldershot. Farnborough Radar provides a surveillance approach controls and lower airspace radar service on 134.350 MHz. Farnborough controlled airspace directly abuts the south western boundary of the London CTR.

Gerpins Farm is a private grass airstrip situated on the eastern boundary of the London City CTA, 1 NM west of EGML.

Kenley (EGKN) is a notified winch launch glider site situated 5NM west of Biggin Hill, adjacent to the M23/M25 junction. Intense gliding activity can be expected within 2NM of Kenley up to and altitude of 2000ft. The site should be considered active seven days a week during daylight hours. Controllers should avoid routing any flight below 2500ft within 2NM of Kenley.

Lippitts Hill is a helipad situated 9 NM north of London City. It is the operational base of the Metropolitan Police Air Support Unit.

North Weald (EGSX) is an unlicensed aerodrome situated 2 NM south east from Junction 7 of the M11 motorway. It is a base of operations for the National Police Air Service (NPAS). North Weald Radio provides an A/G radio service on 123.525 MHz.

Redhill (EGKR) is a licensed grass aerodrome situated 1.5 NM south east of the town of Redhill. Redhill Tower provides an aerodrome control service on 119.600 MHz. The Redhill ATZ sits partly within the Gatwick CTR. It is an NPAS operational base.

Rochester (EGTO) is a licensed grass aerodrome situated 1.5 NM south of the town of Rochester. Rochester Information provides an AFIS on 122.250 MHz. TC Thames is responsible for IFR flights joining/leaving controlled airspace.

Stapleford (EGSG) is a licensed aerodrome situated 4.5 NM north of Romford. Stapleford Radio provides an A/G radio service on 122.825 MHz.

Wycombe/Booker (EGTB) is a licensed aerodrome situated 2.4 NM south west of High Wycombe. Wycombe Tower provides an aerodrome control service on 126.550 MHz.

Chapter 3 VFR and SVFR Operations

3.1 VFR and Special VFR Minima

VFR and SVFR flights within the London and London City CTRs are permitted in accordance with the criteria detailed in SERA 5001. For flights not entering an ATZ the VMC minima relate to in-flight conditions as opposed to airport reported weather.

VFR flight within the Heathrow ATZ, including helicopter overflight of Heathrow, and the London City ATZ is only permitted when the Heathrow or London City reported visibility is 5 km or greater and the reported cloud ceiling 1500 ft or greater.

Below these minima SVFR flight may take place subject to SERA 5001 and the following additional criteria:

- SVFR helicopter arrival to/departure from/overflight of Heathrow – Heathrow reported visibility is 2 km or greater and reported cloud ceiling 600 ft or greater
- SVFR helicopter flight on published helicopter routes – in-flight visibility of 1 km or greater
- SVFR fixed wing arrival to/departure from Heathrow is not authorised below VMC minima

Criteria relating to the LFAs and London Heliport are detailed in [LOW 2.3](#) and [LOW 4.6](#) respectively.

In marginal weather conditions, when the reported meteorological visibility falls below 5 km or the reported cloud ceiling falls below 1500 ft, TC SVFR shall inform pilots of transiting aircraft requesting a VFR clearance of the reported weather and ask them to specify the type of clearance required. It is the pilot's responsibility to determine his flight conditions, whether or not the relevant VMC can be maintained, and whether he can accept a SVFR clearance bearing in mind he must remain clear of cloud and in sight of the surface.

Controllers should note that pilots may be simulating alternate weather to real world conditions and therefore may be able to maintain VMC at any time. If the pilot reports this to be the case, the controller may choose to issue a VFR or SVFR clearance.

3.2 SSR Code Allocations

TC Heathrow and TC Thames have a joint allocation of SSR codes.

TC Thames shall allocate codes in the range 7030 – 7046 (LC DIR) and 7050-7056 (TMS DIR).

TC Heathrow shall allocate codes in the range 7070 – 7076.

Code 7047 is assigned to Biggin Hill APC as a conspicuity code.

Code 7057 is assigned to TC Thames as a conspicuity code for London City.

Code 7077 is assigned to London Heliport ADC as a conspicuity code.

Code 0012 is the designated frequency monitoring code ("listening squawk"), aircraft squawking this code in the vicinity of the London CTR and London City CTR/CTA should be maintaining a listening watch on the Thames Director frequency 132.700 MHz, however the Mode A and C readout displayed must be considered unvalidated and unverified, respectively.

TC Heathrow and TC Thames controllers shall be familiar with the following special purpose codes used by aircraft operating in the vicinity of London:

HLE60 Surrey/Sussex Air Ambulance	0003
HLE21 Kent Air Ambulance	0014
HLE07 Essex Air Ambulance	0015
HLE24 Thames Valley Air Ambulance	0016
HLE27 London Air Ambulance	0017
HLE55 Hertfordshire Air Ambulance	0031
UKP251 NPAS 61 (North Weald)	0043
UKP252 NPAS 62 (North Weald)	0044
UKP37 NPAS 15 (Redhill)	0045
The Queen’s Helicopter Flight	0037
British Transport Police ASU	0006
Other Air Ambulance Helicopter Medivac	0020
Other Police ASU	0032

With the exception of codes 0020 and 0032, helicopter flights which are correctly displaying the appropriate special purpose code may be retained on the special purpose code and identified by means of the IDENT function.

As they are not unit specific, helicopters operating on codes 0020 and 0032 shall be allocated a unique TC Heathrow/TC Thames code for identification.

In the event that an aircraft displays an incorrect special purpose code, or the appropriate special purpose code invokes a squawk error (DUPE) indicator the aircraft shall be allocated a TC Heathrow/TC Thames code.

3.3 Single-Engine and Airspace Restrictions

3.3.1 Single-Engine Helicopters and the Specified Area (R160)

Single-engine helicopters shall not overfly the Specified Area of Central London (R160), which excludes the River Thames and the area between the high water marks on each of its banks, below a height that would enable them to land clear of the area in the event of an engine failure.

Single-engine helicopters are also not able to route along the following helicopter routes at night:

- H7
- H9 (Hayes to Gutteridge)
- H10 (Gutteridge to Kew Bridge).

3.3.2 Single-Engine Fixed Wing Aircraft

With the exception of aircraft departing or arriving Heathrow or London City, aircraft operating within the Northolt RMA (see [LOW 2.1](#)), and aircraft within the LFAs at Denham and Brooklands (see [LOW 2.3](#)), clearance shall not be routinely issued to single-engine fixed wing aircraft requesting to operate within those parts of the London and London City CTRs between a north/south line extending through the LON VOR and a north/south line extending through the LCY NDB.

This is due to the inability of aircraft operating at typical low level altitudes to alight clear of the built up area of central London in accordance with SERA 3105 Minimum Heights.

3.3.3 Other Airspace Restrictions within the London and London City CTRs

R107 – Belmarsh

A restricted area is established around HMP Belmarsh from the surface to 2000 ft. It applies only to helicopters except those operated by UK Police Forces and those making an IFR approach (including cloud break procedure) to London City.

R157 – Hyde Park / R158 – City of London / R159 – Isle of Dogs

Restricted areas are established around the above sites from the surface to 1400 ft. Flight is prohibited by all aircraft except:

- Any aircraft in the service of the Metropolitan Police Service
- Any helicopter flying on Helicopter Route H4
- For R159 only – any aircraft approaching or departing London City

Controllers must not issue clearances that are likely to compromise a pilot's ability to remain clear of any of the above airspace restrictions.

3.4 Geographical Deemed Separations

3.4.1 Use of the River Thames

Within London City CTR and the London CTR between Kew Bridge and Vauxhall Bridge, separation exists between traffic instructed to remain north of the River Thames and traffic which has been instructed to remain south of the river provided that:

- Appropriate traffic information has been passed to the pilots concerned
- The pilots can comply with the instruction.

Note 1: *It should be noted that single engine helicopters may not be able to accept this form of separation within the R160 Specified Area. Single engine helicopters are normally required to fly between the high-water marks of the River Thames whilst within R160. They may deviate slightly right of the river in order to increase lateral separation from opposite direction traffic, provided they remain close enough to the river to be able to reach it in the event of an engine failure.*

Note 2: *Caution should be exercised when applying this form of separation in the vicinity of the Isle of Dogs, as the river curves tightly back on itself and could lead to an inadvertent loss of separation.*

Note 3: *Helicopters may not be able to accept this form of separation in the vicinity of Belmarsh Prison.*

Note 4: *Controllers shall note the restrictions in [LOW 4.1.3](#) relating to helicopters operating on H4 on the south bank of the River Thames below 1300 ft.*

3.4.2 Right Side Separation

Right side separation may be used on the route H3 between Bagshot Mast and Thorpe, and on the route H4 between Kew Bridge and Vauxhall Bridge. This form of separation is applied by instructing traffic following the line feature of the route (either the M3 Motorway or the River Thames respectively) to remain to the right of the line feature (i.e. to keep the line feature to the pilot's left).

Right side separation shall only be used for traffic routing along the relevant line feature, it shall not be used for traffic orbiting or holding in the vicinity of the line feature and any such traffic should be separated by other means.

3.5 London CTR Procedures

3.5.1 General Procedures

Aircraft may be cleared to enter the London CTR by TC SVFR either VFR or SVFR without reference to TC Heathrow FIN, however controllers shall note the coordination requirements listed in [LOW 1.2](#). Low level traffic wishing to operate IFR within the London CTR shall be subject to coordination with TC Heathrow FIN before clearance is issued to enter the control zone. TC SVFR may delay issuing a clearance to transit until such time as the traffic situation permits. In such situations TC SVFR will advise the pilot when to expect a clearance and will typically require the pilot to remain outside of controlled airspace.

TC SVFR is to provide standard separation between IFR and SVFR traffic, and between SVFR and other SVFR traffic, except where a deemed separation standard is applicable. However, no separation can be provided between SVFR flights operating within the LFAs for Brooklands, Denham, Fair Oaks and White Waltham aerodromes and between SVFR flights operating within these LFAs and other IFR/SVFR flights in the London CTR. For procedures in the London Heliport LFA see [LOW 4.6](#).

Fixed wing traffic wishing to transit the London CTR shall typically be routed either overhead London Heliport or via a route Ascot (EGLT) – Burnham (BUR).

Helicopter traffic shall typically route via the published helicopter routes or the Bovingdon (BNN) – Brent Reservoir – London Heliport route detailed in [LOW 4.1](#) and [LOW 4.2](#) respectively, however they may also operate off-route if required or requested.

The TC SVFR controller shall monitor the UKCP TC Heathrow go-around alarm and, in the event of a missed approach, coordinate with Heathrow AIR and/or TC Heathrow INT North/South as required to deconflict/separate low level traffic from missed approach traffic.

3.5.2 Fixed Wing Low Level Inbounds to Heathrow

Fixed wing low level inbounds to Heathrow (VFR, SVFR and IFR) shall be initially worked by TC SVFR who shall coordinate with TC Heathrow FIN to transfer traffic no later than the downwind position; either orbiting or on an agreed heading/altitude depending on flight rules.

TC Heathrow FIN is responsible for the final positioning and coordination with Heathrow AIR Arrivals for fixed wing low level inbounds to Heathrow.

3.5.3 Inner Area

The London CTR is subdivided into an outer and inner area as depicted in Figure 9. The inner area is established to provide additional protection to Heathrow IFR operations and it has a number of associated operating restrictions. There are no additional restrictions associated with the outer area.

The following restrictions apply within the inner area:

- All traffic entering the inner area must be coordinated with the Heathrow AIR controller(s) and, except for helicopter traffic routing via the published helicopter routes, with TC Heathrow FIN.
- Within the inner area VFR and SVFR fixed wing operations are not permitted except when inbound/outbound Heathrow or to complete specific operational tasks within the inner area.
- Within the inner area all VFR and SVFR helicopter traffic shall be routed via the published helicopter routes except when operationally necessary (i.e. traffic landing at private sites within the inner area or category A flights).

3.5.4 Altitude Restrictions and Separation from Heathrow IFR Traffic

Within the London CTR VFR and SVFR traffic may operate at a maximum altitude of 2400 ft, however traffic should not routinely be cleared to operate above levels which provide either 1000 ft vertical clearance from Heathrow IFR traffic or have been notified as providing deemed separation. To assist TC SVFR controllers in separating low level traffic from Heathrow IFR traffic the following sections outline the normal inbound and outbound profiles.

Heathrow inbound IFR aircraft are not to be cleared below 3000 ft until 11 NM track distance from touchdown, below 2500 ft until 9 NM, or below 2000 ft until 7 NM; except when established on the ILS glidepath. Procedure altitudes may be higher than these profiles.

IFR departures from Heathrow operating on a SID are required to maintain a minimum climb-out profile that guarantees at least 2000 ft altitude by 7 NM track distance from the upwind end of the departure runway. If any aircraft notifies Heathrow ADC that it cannot maintain this minimum climb-out profile, it will be coordinated with TC SVFR.

As an additional guide, controllers may wish to use the standard operating altitudes for the published helicopter routes detailed in [LOW 4.1](#) as maximum altitudes for aircraft operating in the vicinity of a helicopter route segment.

To provide separation from Heathrow IFR traffic the following altitude restrictions are to be applied to aircraft transiting the CTR routing north/south:

- Via London Heliport – not above 1500 ft
- Via Ascot/Burnham – not above 1200 ft VFR or 1000 ft SVFR while adjacent to and passing under the final approach path

Where possible, aircraft should not be instructed to fly at a specific altitude and clearances should normally instruct pilots not following a published helicopter route to fly *"not above"* the maximum altitude which maintains separation from relevant traffic, allowing the pilot to fly lower if necessary to maintain visual contact with the surface. It is the pilot's responsibility to comply with the low flying rules applicable to VFR and SVFR flights.

3.5.5 Northolt RMA Procedures

The Northolt RMA is active during the hours of operation of Northolt APC (126.450 MHz). Northolt APC operates autonomously within the Northolt RMA and TC SVFR must not issue any clearance to transit the Northolt RMA except when:

- Prior coordination has been effected with Northolt APC, or
- Control of the Northolt RMA has been transferred back to TC SVFR, or
- Northolt APC is closed.

When Northolt transfer control of the Northolt RMA to TC SVFR it will include the Northolt ATZ.

TC SVFR is responsible for ensuring separation for traffic under its control against any traffic under the control of Northolt APC within the Northolt RMA. Northolt may position this traffic up to the Northolt RMA boundary without coordination. TC SVFR shall ensure standard separation is maintained against traffic within the Northolt RMA until coordination has been effected to confirm the flight rules of the traffic involved. When flight rules allow (i.e. either aircraft is operating VFR) then separation can be reduced and appropriate traffic information passed. Northolt APC may apply reduced vertical separation of 500 ft but only for traffic under its control, reduced vertical separation must not be applied against traffic under the control of TC Heathrow/TC Thames.

Requests for clearance to cross the Northolt RMA are to be made with Northolt APC. Transit aircraft will either remain in communication with TC SVFR or be transferred to Northolt APC at the discretion of the Northolt controller. When Northolt have conflicting traffic then they will typically take control of the transit aircraft as they are able to apply reduced vertical separation with the pilot's agreement and expedite traffic.

Heathrow crossing traffic routing H9 northbound shall be coordinated by TC SVFR with Northolt APC and once coordination is effected TC SVFR shall instruct Heathrow AIR to transfer the helicopter directly to Northolt APC at Airport Spur.

Northolt APC may deem SVFR helicopters holding at Gutteridge separated from Northolt IFR departures and arrivals when both the Heathrow reported visibility and the pilot reported in-flight visibility is greater than 6 km.

When Northolt APC is closed, the Northolt RMA is closed and the airspace reverts to TC SVFR control. If TC Heathrow INT North is vectoring an out-of-hours Northolt inbound or is made aware of a pending departure they must coordinate with TC SVFR before the inbound enters the Northolt RMA or the outbound traffic's departure is approved.

3.5.6 Procedures Relating to Farnborough Controlled Airspace

The Farnborough CTR and CTA-1 directly abut the southern boundary of the London CTR. Farnborough APC is the controlling authority for this airspace and is also delegated a portion of the overlying LTMA as the Farnborough RMA for vectoring Farnborough inbounds.

Farnborough APC is authorised to vector inbounds to Runway 24 within 3 NM of the common boundary/the Heathrow RMA and whilst doing so Farnborough APC is responsible for ensuring separation against all observed traffic within the London CTR.

Farnborough APC is responsible for coordinating with TC SVFR with respect to any low level traffic operating within the London CTR within 3 NM of the common boundary west of the Brooklands LFA. TC SVFR shall confirm the flight rules of any such traffic and provide sufficient information to allow Farnborough APC to provide traffic information with respect to VFR flights or to maintain separation with respect to SVFR and IFR flights.

It is the responsibility of Farnborough APC to maintain separation unless coordinated otherwise with TC SVFR.

Note: *TC SVFR should endeavour to proactively coordinate with Farnborough APC if they anticipate low level traffic could conflict with Farnborough inbounds.*

Unless coordination has been affected with Farnborough APC, traffic entering or leaving the London CTR to the south-west shall be instructed to remain outside Farnborough controlled airspace. Traffic routing via H3 shall be instructed to route west of Bagshot at the CTR boundary.

3.6 London City CTR Procedures

3.6.1 General Procedures

Aircraft may be cleared to enter the London City CTR by LC DIR either VFR or SVFR or IFR subject to other traffic and appropriate coordination as required. LC DIR may delay issuing a clearance to transit aircraft for traffic reasons. In such situations LC DIR will advise the pilot when to expect a clearance.

LC DIR is to provide standard separation between IFR and SVFR traffic, and between SVFR and other SVFR traffic, except where a deemed separation standard is applicable. Traffic information will be provided to VFR transit aircraft to enable them to avoid IFR/SVFR traffic and arriving/departing aircraft. If necessary, routing instructions or altitude instructions may be issued to the VFR traffic.

Multi-engine transit traffic shall typically be routed between Vauxhall Bridge and London Bridge. Single-engine transit traffic shall typically be cleared to route via a compass-point direction with the instruction *“to remain east of London City airport at all times.”*

Transit traffic unable to accept the above routes shall be routed through the London City overhead in accordance with the procedures used for inbounds and outbounds.

London City VFR and SVFR inbounds shall normally be routed:

- From the north during Runway 27 operations – routing M11 Junction 4 to Beckton Roundabout to hold overhead the roundabout
- From the north during Runway 09 operations – routing Banbury Reservoir to Olympic to hold overhead the VRP
- From the south – routing towards the Thames Barrier to hold south of the barrier.

Details of inbound VFR traffic must be passed to London City AIR and transfer of control and communication shall take place when the pilot reports visual with the airfield. Aircraft may only penetrate the London City ATZ with the prior approval of London City AIR.

SVFR inbounds will be retained by LC DIR until such time as they can be safely integrated into the inbound stream maintaining standard separation and the aircraft has become number one to land (in order to ensure that it cannot execute any manoeuvre which will erode the

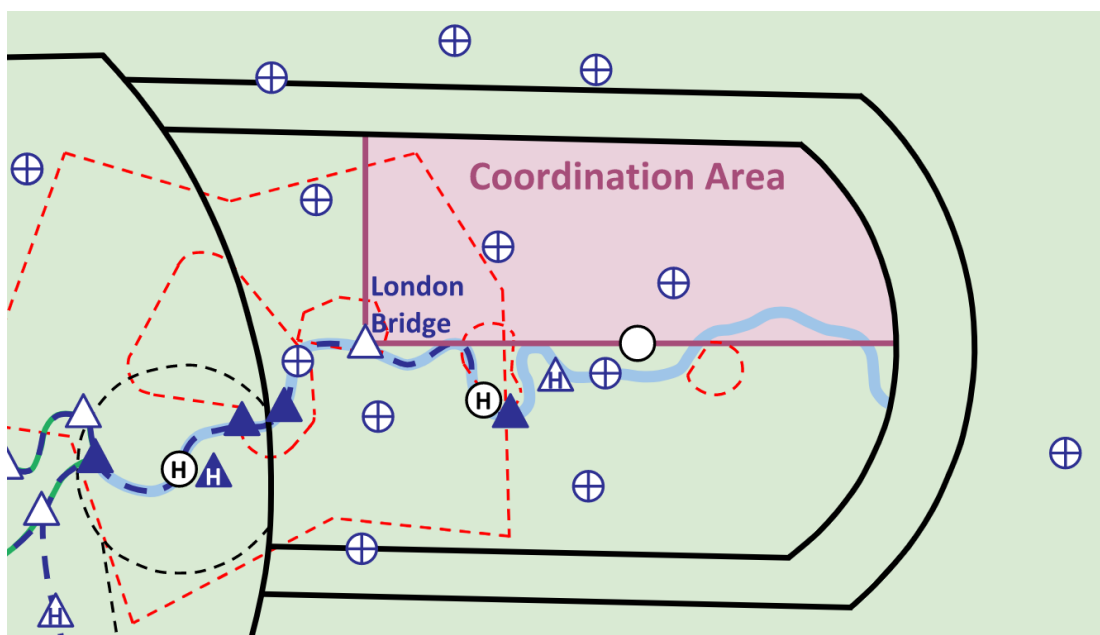
separation against the aircraft ahead). This is unless London City AIR is able to provide RSIVA and has co-ordinated with LC DIR and agreed to provide reduced separation. Subject to this, the responsibility for separating the aircraft from IFR and/or other SVFR flights will remain with TC SVFR until London City AIR is visual with the relevant traffic.

London City VFR and SVFR outbounds shall typically be cleared via a compass-point direction. Clearance will be requested from LC DIR by London City GMC when the aircraft starts, and departure is subject to release from TC SVFR. Outbounds and aircraft transiting via the overhead shall be transferred from London City AIR to TC SVFR when all local conflicts have been resolved and the aircraft is clear of the London City ATZ.

3.6.2 “Coordination Area”

To protect standard IFR departures and missed approaches, the north-eastern part of the London City CTR/CTA, bound by lines running east/west through London City and north/south through London Bridge, is designated the “Coordination Area.” Any low level traffic, including VFR transits, which intends to route via the “Coordination Area” must be coordinated with London City AIR before it enters the “Coordination Area.”

Figure 10 - London City “Coordination Area”



The following details must be passed to London City AIR:

- Callsign (and SSR code if not code-callsign converted)
- Aircraft type
- Flight rules
- Departure and/or Destination (if applicable)
- Route and/or Heading
- Level restriction.

Example: “G-ABCD, squawking 7031, a Cessna C152, VFR, routing north to south, remaining east of the ATZ, not above 2000 ft.”

3.6.3 Altitude Restrictions and Separation from Heathrow IFR Traffic

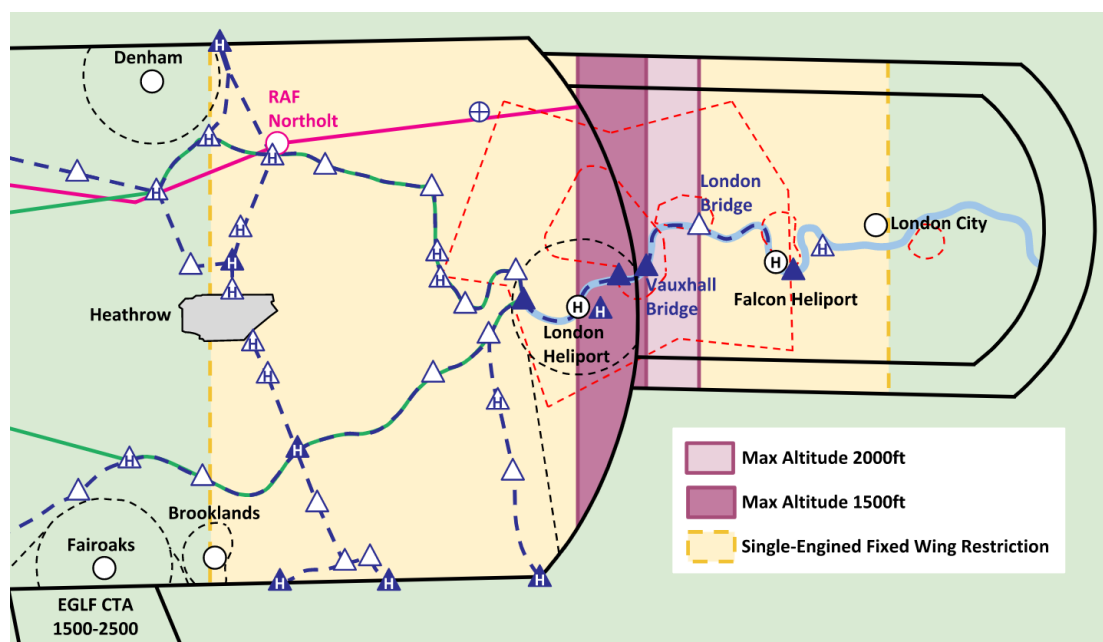
In order to provide separation between low level traffic and traffic inbound to Heathrow on the ILS, the maximum altitudes issued to low level traffic will be as follows:

- Between a line north/south through London Heliport and a line north/south through Vauxhall Bridge – not above 1500 ft
- Between a line north/south through Vauxhall Bridge and a line north/south through London Bridge – not above 2000 ft
- East of a line north/south through London Bridge – not above 2400 ft.

When altitudes above these levels are required LC DIR shall coordinate with:

- Heathrow on Westerlies – TC Heathrow FIN
- Heathrow on Easterlies – the relevant London TC sector

Figure 11 - Altitude and Single-Engine Fixed Wing Restrictions



Where possible, aircraft should not be instructed to fly at a specific altitude and clearances should normally instruct pilots not following a published helicopter route to fly "not above" the maximum altitude which maintains separation from IFR traffic, allowing the pilot to fly lower if necessary to maintain visual contact with the surface. It is the pilot's responsibility to comply with the low flying rules applicable to VFR and SVFR flights.

3.6.4 Procedures Relating to Biggin Hill Airport

Biggin Hill APC is responsible for the provision of UK FIS to traffic outside of controlled airspace that does not require a surveillance service and is inbound/outbound/overflying Biggin Hill within 10 NM.

It is not necessary to prenote VFR traffic to Biggin Hill APC. Traffic will be transferred to Biggin Hill APC at least 10 NM away from Biggin Hill if outside controlled airspace, or as soon as possible if leaving controlled airspace. VFR traffic in communication with TC Thames/TC SVFR approaching from a direction ranging between north-west through to north-east of

Biggin Hill must be coordinated with Biggin Hill APC whilst any aircraft is making an instrument approach to Runway 21.

In the event of an aircraft leaving the London City CTR to the south, the pilot should be requested to remain west of the Biggin Hill Runway 21 final approach track if there is traffic joining the approach track for Runway 21. The pilot should be given the reason for the request.

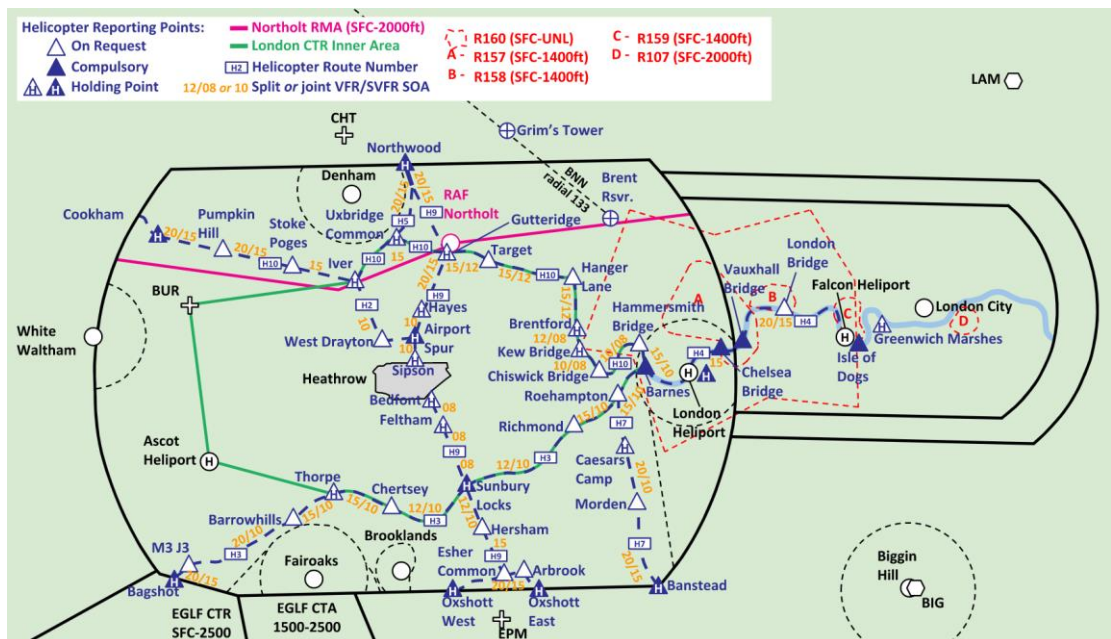
Chapter 4 Helicopter Operations

4.1 Helicopter Routes

4.1.1 Routes

There are seven published helicopter routes, designated by the letter “H” followed by a number (e.g. route “H10”, spoken as either “Aich Ten” or “Hotel Ten”). The routes with published standard operating altitudes are depicted below:

Figure 12 - Helicopter Routes and Standard Operating Altitudes



4.1.2 Standard Operating Altitudes

Helicopters following published routes should be cleared to fly at “Standard Operating Altitudes” and controllers should enter “SOA” into the scratchpad to indicate this clearance to other radar controllers.

This clearance allows pilots to fly below the published altitudes as required to maintain VMC on a VFR clearance or remain clear of cloud and with the surface in sight on a SVFR clearance. The exception to this is on H10 between Perivale and Chiswick Bridge where the published altitudes must be maintained exactly.

The standard operating altitudes very dependent on whether the aircraft is cleared VFR or SVFR. Higher altitudes are designated for VFR traffic to improve terrain clearance and visual acquisition of route landmarks, lower altitudes are designated for SVFR traffic to ensure separation against Heathrow IFR traffic. In Figure 12 the standard operating altitudes for each route segment are depicted in orange in the format XX/YY where the first number represents the VFR standard operating altitude in hundreds of feet and the second number the SVFR standard operating altitude in hundreds of feet. Where the VFR and SVFR standard operating altitudes are identical then only a single number is depicted.

Example: 12/08 – VFR standard operating altitude is 1200 ft, SVFR standard operating altitude is 800 ft.

The AIP also details advisory minimum altitudes for each route segment.

Pilots who are unaware of the correct altitudes should be informed of them when the clearance is given or instructed to report approaching the appropriate reporting point for the next altitude instruction. Pilots are to be at the lower altitude on arrival at the point at which the lower altitude applies.

4.1.3 H4 Restrictions

Between London Heliport and London Bridge, helicopters operating on H4 must not be instructed to fly on the south bank of the River Thames whilst simultaneously restricted to altitudes below 1300 ft. Additionally, should a pilot report, or a controller suspect (i.e. cloud base at Heathrow or London City reported below 2300 ft), that a helicopter restricted to the south bank of the river is unable to comply with SERA 3105 Minimum Heights then the helicopter's route must not be restricted to the south bank of the river.

Additionally, no helicopters are to hold on the portion of H4 between Vauxhall Bridge and Westminster Bridge (which is located halfway between Vauxhall Bridge and London Bridge).

4.2 Off-Route Operations and Uncontrolled Sites

Other than the airspace restrictions and the restrictions for single-engine helicopters described in [LOW 3.3](#) there are no additional restrictions to helicopter traffic wishing to operate off-route in the London or London City CTRs. TC SVFR controllers shall apply the procedures and restrictions for the London and London City CTRs detailed in [LOW 3.5](#) and [LOW 3.6](#) when formulating clearances for helicopters operating off-route.

An unpublished route exists for multi-engine helicopters routeing Bovingdon (BNN) – Brent Reservoir – London Heliport. Helicopters shall route on or north of the BNN radial 133 to Brent Reservoir (located at the north-western corner of R160) then direct to London Heliport. The BNN radial 133 restriction assists Northolt APC in separating SVFR traffic on this route against Northolt IFR inbound. Helicopters on this route shall be cleared not above 1500 ft.

Helicopters departing from uncontrolled sites should contact TC SVFR for route clearance prior to take-off. Clearance for take-off and landing cannot be given, but the pilot should be informed of the surface wind at the nearest airport and instructed to report "lifting" or "setting down." TC SVFR will coordinate as described in [LOW 3.5.3](#) regarding helicopters using sites within the London CTR Inner Area, and with City AIR regarding helicopters using sites within the London City ATZ.

4.3 Separation from Heathrow IFR Traffic

With the exception of the restrictions outlined in [LOW 4.4](#), helicopter traffic operating VFR or SVFR at standard operating altitudes on the published helicopter routes is separated from normal Heathrow IFR traffic. As such, there is no mandatory requirement for traffic information to be passed between normal Heathrow IFR inbound or outbound traffic and VFR or SVFR traffic operating on the published helicopter routes.

Traffic operating on H10 between Kew Bridge and Barnes is subject to additional criteria to ensure separation from Heathrow inbound traffic. The separation criteria to be applied to helicopters operating on H10 with respect to Heathrow inbound traffic landing on 27L/R are as follows:

Type of Approach	H10 between Kew Bridge and Barnes
ILS/RNAV	Separated
Localiser only/Visual	Separated, provided that the aircraft is on the localiser/final approach track and is not cleared to descend below 2000 ft QNH until 6 NM from touchdown

Responsibility for initiating coordination with respect to the above restrictions rests with TC Heathrow FIN.

4.4 Restrictions during Heathrow Easterly Operations

During Heathrow Easterly operations certain routes have operating restrictions to ensure separation from outbound Heathrow IFR traffic on SIDs. Responsibility for initiating coordination with respect to these restrictions rests with TC SVFR who shall effect coordination with Heathrow AIR Departures before helicopter traffic enters the restricted route portions.

Restrictions exist on:

- H3 between Richmond and Thorpe
- H9 between Oxshott West/East and Bedfont
- H10 between Gutteridge and Kew Bridge

4.4.1 H3, H9 and H10 VFR Operations

The restricted portions of H3, H9 and H10 may be used by VFR helicopters independently of Heathrow outbound traffic subject to the following restrictions:

- Heathrow reported cloud ceiling is 2000ft or greater
- No A340-200/300 departures (all routes) or A380 departures (on CPT departure)

In the event of a pending A340-200/300 or A380 CPT departure the VFR helicopter traffic must be held outside the restricted portion pending the outbound IFR traffic.

4.4.2 H10 SVFR Operations

SVFR helicopter traffic operating on the restricted portion of H10 is deemed separated from all northbound narrow-body departures. SVFR helicopter traffic is not separated from northbound Heavy or Super category departures and will be held at either Gutteridge or Kew Bridge to await a suitable gap in the departure sequence. TC SVFR shall coordinate with Heathrow AIR Departures and Heathrow AIR Departures shall identify a suitable gap in the departure sequence.

4.4.3 H3 and H9 SVFR Operations

SVFR helicopter traffic operating on the restricted portions of H3 and H9 is not separated from CPT, GASGU, MAY, or MODMI SIDs. In order to provide adequate separation, the following procedures shall be used:

Between 0800 and 2100 Local

When there is helicopter traffic on H3 between Richmond and Thorpe and/or on H9 between Oxshott West/East and Bedfont, aircraft on CPT, GASGU, MAY, or MODMI SIDs must be instructed to climb straight ahead through 1500 ft and pass the LON DME 2 NM before turning right.

Between 2100 and 0800 Local or at the Discretion of Heathrow AIR or TC SVFR

The straight ahead to 1500 ft requirement is not to be used, therefore no helicopter traffic is permitted to operate on H3 between Richmond and Thorpe and/or H9 between Oxshott West/East and Bedfont when aircraft are departing on CPT, GASGU, MAY or MODMI SIDs. TC SVFR may, at its discretion, implement a departure check however this must not be allowed to cause excessive delay to Heathrow departures. A departure check should only be used when absolutely necessary and the helicopter traffic should be transferred to Heathrow AIR Departures as soon as visual contact is established to allow use of RSIVA to minimise delay.

4.5 Heathrow Crossing Procedures

4.5.1 General Procedures

Heathrow ADC shall coordinate all outbound helicopters with TC SVFR prior to departure.

TC SVFR shall provide Heathrow AIR Arrivals the following details for all inbound or crossing helicopters:

- Callsign (and SSR code if not code-callsign converted)
- Aircraft Type
- Flight rules
- Transfer holding point and ETA
- Whether inbound or crossing

Helicopter arrivals and departures will be routed via the holding areas at Sipson or Bedfont/Feltham as appropriate and as detailed below.

4.5.2 Transfer Holding Points

Helicopter operations at Heathrow commence and terminate at Sipson to the north and Bedfont or Feltham to the south. Helicopters must hold at these points unless instructed otherwise by ATC.

Whilst holding at Sipson or Feltham, helicopters are separated for both ATC and wake turbulence purposes from fixed wing aircraft landing on, departing from, or executing missed approaches to all runways.

When the meteorological conditions exist for VFR flight, helicopters approaching from the south will be held at Bedfont. These helicopters will be separated for wake turbulence, but pilots must remain in visual contact with aircraft on approach to 27L. The missed approach turns left at 1000 ft above aerodrome level, and pilots should be warned as such when a missed approach occurs.

When the meteorological conditions do not exist for VFR flight, helicopters require separation from IFR traffic and will be held at Feltham to the south. Integration of this traffic will require an increased gap in the IFR arrival stream, and the helicopter may incur

significant delay. Responsibility for coordinating a gap in the IFR arrival stream rests with Heathrow AIR Arrivals.

4.5.3 Tactical Enhanced Arrival Mode (TEAM) Delays

There are occasions when the departing runway is used for landing traffic. This will incur extra delay as the helicopter crossing procedures cannot be carried out with aircraft inbound to both runways simultaneously. During TEAM Heathrow AIR Arrivals shall inform TC Thames of the likely delay and TC Thames shall inform the helicopter traffic of the delay and offer an alternate route clear of the inner area.

4.6 London Heliport Procedures

4.6.1 Area of Responsibility and General Procedures

During its hours of operation Battersea Tower (134.275 MHz) is responsible for the provision of air traffic services within the London Heliport ATZ and LFA. Outside the hours of operation of Battersea Tower, service is provided to airborne traffic by the TC SVFR controller.

Battersea Tower is responsible for maintaining separation between traffic within its AOR and additionally, when delegated, between traffic within its AOR and traffic inbound to and outbound from Kensington Palace and Buckingham Palace.

TC SVFR is responsible for maintaining separation between traffic that is under the control of Battersea Tower and other traffic operating under the control of TC SVFR that is outside the London Heliport AOR.

London Heliport does not publish a METAR and so weather information is not available on VATSIM, as such traffic shall be passed the surface wind at London City. The QNH to be passed is the London (Heathrow) QNH.

4.6.2 Weather Minima

For inbound and outbound helicopters, the weather minima for the London Heliport are a reported meteorological visibility of 1 km or greater and a cloud ceiling of 600 ft AGL or greater.

Inbounds and outbounds routing via the LFA require a minimum flight visibility of 3 km.

When the flight visibility is less than 3 km, helicopters may access the Heliport via the helicopter routes provided that the flight visibility and reported meteorological visibility are at least 1 km.

4.6.3 London Heliport ATZ and LFA Procedures

The London Heliport ATZ is the airspace within 2 NM of London Heliport from the surface to 2000 ft AAL, it is wholly contained within the London and London City CTRs and as such assumes Class D classification. That part of the ATZ above 1300 ft AMSL is delegated to TC SVFR.

The London Heliport LFA is the airspace formed by the ATZ and the southern extension depicted in Figure 9 with the vertical extent of the surface to 1300 ft AMSL.

Flight within the LFA is subject to ATC clearance which pilots must obtain before entering the LFA. Within the LFA Battersea ATC may control traffic without reference to TC SVFR in accordance with the following procedures:

- Traffic under the control of Battersea ATC shall be instructed to squawk the conspicuity SSR code of 7077
- Flight within the LFA is limited to multi-engine helicopters
- Traffic must remain below cloud with the surface in sight
- VFR traffic:
 - Maximum altitude 1300 ft
 - In compliance with Class D VMC minima detailed in UK AIP ENR 1.2
- SVFR traffic
 - Maximum altitude 1000 ft
 - Minimum flight visibility 3 km
 - In compliance with the requirements for SVFR flights detailed in UK AIP ENR 1.2.

Battersea ATC does not have access to an ATM and must instruct traffic to pass position reports as required and to also report entering and leaving controlled airspace.

Battersea ATC may clear helicopters to operate SVFR within the LFA not above 1000 ft. Traffic operating SVFR within the London Heliport LFA is deemed separated from traffic operating outside the lateral confines of the LFA within the London CTR and from Heathrow IFR traffic on standard routes. TC SVFR traffic operating SVFR overhead the LFA is not deemed separated and must be coordinated in accordance with [LOW 4.6.4](#).

Battersea ATC may use geographical separation with the River Thames per [LOW 3.4.1](#) and RSIVA as outlined in MATS Part 1 to facilitate SVFR movements within the LFA.

4.6.4 Arrival and Overflight Coordination

Coordination is to be effected with London Heliport in respect of flights under the control of TC SVFR which shall pass within or overhead the lateral confines of the Battersea AOR; this includes SVFR traffic routing above the ATZ/LFA and helicopter traffic routing on the helicopter routes through the ATZ.

TC SVFR will pass details of all inbound and overflying traffic to Battersea Tower before such traffic passes Kew Bridge, Teddington, Caesar's Camp to the west, or London Bridge to the east, or Brent Reservoir to the north. If coordination has not been effected, or if Battersea Tower cannot accept or has conflicting traffic then any inbound or overflying traffic must be held at the relevant reporting point pending onward routing.

4.6.5 Outbound Coordination

Battersea Tower will telephone TC SVFR to pass the type, destination, requested routing and to request release for any traffic which intends to route outside the Battersea AOR.

Outbound traffic should remain in the circuit until accepted by TC SVFR.

Once released traffic should be passed any clearance limit imposed by TC SVFR and then instructed to contact TC SVFR before leaving the Battersea AOR.

4.6.6 Landing Sites Within Battersea Circuit Area and Kensington Palace/Buckingham Palace

A letter of agreement exists between TC SVFR and London Heliport regarding the control of helicopter traffic at sites within the Battersea AOR, and additionally at Kensington and Buckingham Palaces.

During its operating hours, Battersea Tower will normally be delegated control of helicopter traffic inbound to and outbound from the following landing sites:

- Battersea Power Station, the former Chelsea Barracks, St George's Hospital Helipad, and any other landing site within the Battersea AOR, and additionally
- Kensington and Buckingham Palaces.

Departures from any of these sites which intend to route outside the Battersea AOR will be coordinated by Battersea ATC with TC SVFR prior to lift.

TC SVFR is responsible for ensuring separation of traffic outside the Battersea AOR including helicopters departing from or landing at Kensington Palace and Buckingham Palace. However, this responsibility for helicopters departing from or landing at Kensington Palace and Buckingham Palace may be delegated to Battersea ATC.

This procedure assists with problems of poor RT coverage at low levels in the vicinity of the Battersea circuit area.

4.7 SVFR Procedures and Separations

Helicopters on a SVFR clearance require standard separation against IFR traffic and other SVFR traffic. Procedures for separating traffic routing via the helicopter routes against Heathrow IFR traffic are described in [LOW 4.3](#) and [LOW 4.4](#). Traffic that is off route will require a clearance that assures separation against Heathrow IFR traffic taking into account the restrictions in [LOW 3.5.4](#).

Between SVFR traffic controllers shall apply either:

- Standard horizontal or vertical separation
- Geographical separation as described in [LOW 3.4](#)
- Visual separation between on-route SVFR helicopter traffic in accordance with the procedure below.

Controllers may apply deemed separation between SVFR helicopter traffic operating on the published helicopter routes by asking the pilots to maintain visual separation provided that:

- The Heathrow reported visibility is 5 km or greater, and the helicopters can operate clear of cloud and in sight of the surface and remain in a flight visibility of 5 km or greater
- There is agreement between the helicopter pilots concerned
- The helicopters are operating on the published helicopter routes at standard operating altitudes
- Appropriate traffic information is passed to the helicopter pilots (normally for this purpose it will only be necessary for the controller to pass general traffic information e.g. *"Two helicopters westbound along H10 at 1000 ft in the vicinity of Perivale – acknowledge"*).

This deemed separation can only be applied between helicopter traffic operating on the helicopter routes, it cannot be applied between off-route traffic or between off-route traffic and traffic operating on a published route. Additionally, if a pilot refuses or considers that the conditions are such that he is unable to maintain visual separation, then the helicopter traffic will be provided with another SVFR separation standard.

4.8 IFR Clearances to Helicopters

TC SVFR must not issue IFR clearances to helicopters wishing to depart or land at sites within the London CTR other than Heathrow or Northolt. Helicopters wishing to route IFR to Heathrow or Northolt shall be coordinated with TC Heathrow FIN or Northolt APC to integrate this traffic into the fixed wing IFR arrival flow.

IFR helicopter may use the London City ILS as a cloud break procedure to assist them in landing at sites in the vicinity such as London Heliport, Falcon Heliport or the Royal London Hospital.

Chapter 5 UK Flight Information Services (FIS)

MATS Part 1 details the services which may be provided outside controlled airspace. The provision of UK FIS is to be limited so that it does not adversely affect the service provided to aircraft inside controlled airspace.

Outside the hours of operation and/or boundaries of responsibility of adjacent units tasked with providing the Lower Airspace Radar Service (LARS), TC SVFR may provide UK FIS to traffic flying outside controlled airspace, but normally only within the confines of the M25 motorway or 10 NM of the London CTR and London City CTR/CTA boundaries.

The adjacent units tasked with providing LARS are Farnborough APC and Southend APC and consideration should be given to transferring UK FIS traffic which is not seeking to transit the London or London City CTRs to these units.

Controllers must not give a Deconfliction Service or radar vectors under a Traffic Service to aircraft below SMAA levels or minimum sector altitudes.

A radar service outside of 40 NM of Heathrow/London City must not be given.

APPENDIX A | RECAT-EU CATEGORISATION

RECAT-EU was introduced at Heathrow Airport in 2018. It provides a much more precise categorisation of aircraft in comparison to the standard ICAO categories.

A table of the new categorisations are as follows:

SUPER HEAVY (J)	HEAVY (H)	UPPER (U)	MEDIUM (M)	SMALL (S)	LIGHT (L)
A388	A332	A306	A318	AT43	FA10
A124	A333	A30B	A319	AT45	FA20
(...)	A343	A310	A320	AT72	D328
	A345	B703	A321	B712	E120
	A346	B752	AN12	B732	BE40
	A359	B753	B736	B733	BE45
	B744	B762	B737	B734	H25B
	B748	B763	B738	B735	JS32
	B772	B764	B739	CL60	JS41
	B773	B783	BCS1	CRJ1	LJ35
	B77L	C135	BCS3	CRJ2	LJ60
	B77W	DC10	C130	CRJ7	SF34
	B788	DC85	IL18	CRJ9	P180
	B789	IL76	MD81	DH8D	C650
	IL96	MD11	MD82	E135	C525
	(...)	TU22	MD83	E145	C180
		TU95	MD87	E170	C152
		(...)	MD88	E175	(...)
			MD90	E190	
			T204	E195	
			TU16	F70	
			(...)	F100	
				GLF4	
				RJ85	
				RJ1H	
				(...)	

GLOSSARY

Abbreviation	Definition
AC	Area Control
ADC	Aerodrome Control
AIR	Air Controller (i.e. Tower Controller)
APC	Approach Control
CTA	Control Area
CTR	Control Zone
DME	Distance Measuring Equipment
EAT	Expected Approach Time
FIN	Final Director
FIS	Flight Information Service
FL	Flight Level
Ft	Foot (feet)
GMC	Ground Movement Control
GMP	Ground Movement Planner
GS	Groundspeed
hPa	Hectopascal
IAS	Indicated Airspeed
ICAO	International Civil Aviation Organisation
ILS	Instrument Landing System
INT	Intermediate Director
Kts	Knots
LTMA	London TMA
MDI	Minimum Departure Interval
MHz	Megahertz
MSL	Minimum Stack Level
NM	Nautical Mile
RFC *	Released for Climb
RFD *	Released for Descent
RFT *	Released for Turn
SID	Standard Instrument Departure
SSR	Secondary Surveillance Radar
STAR	Standard Terminal Arrival Route
TC	Terminal Control

* Although these acronyms are not used in this document, they may be useful for controllers to be aware of as common notation in text coordination.