

GLASGOW VMATS PART 2
EGPF

REVISION 2024/07 - EFFECTIVE 11 JULY 2024

DISTRIBUTION AND SCOPE

This manual is for controllers of Glasgow Aerodrome and Approach 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 MATS Part 1 (CAP 493) and guidance on standard UK Radiotelephony phraseology, detailed in CAP 413.

EXCLUSION OF LIABILITY

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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. **New text is marked in red.** They are also described briefly in the table below.

AMENDMENT HISTORY

Revision	Effective Date	Notes
2024/07	11 July 2024	Updated to current Operations major vMATS format. Departure separation standards updated to 2 minute departure interval and UK harmonised speed table (SEP Chapter 2) including UK RSIVA conventions. Holding pattern deemed separations defined (SEP 3.1). Update to SID table (ADC 1.2.1). New flight level capping (ADC 1.2.2) and PDC sections. Delay absorption procedure to other Scottish TMA fields (ADC 1.5). GMC-issued standard VFR departures with updated coordination requirements for (S)VFR traffic (ADC 1.7 and ADC 2.8). Changes to departures subject to release (ADC 2.9). Updated handover orders in line with current Scottish Area sectorization (ADC 2.10.2). Clarification of ADC and APC responsibility in event of go-around (ADC 2.14.2 and APC 3.9). Updated Glasgow Local Area, Campsie Line buffer zone information and new Glasgow Designated Area (APC Chapter 1). Revised INT/FIN responsibilities (APC 1.3 , APC 2.7 and throughout). Updated holding, and STAR tables (APC 3.2 & 3.3). Updated Release procedures, vectoring and descent restrictions for all arrivals (APC 3.5 , 3.7 and 3.8). Glasgow APC responsibilities for departure separation (APC Chapter 4)
2020/06	21 May 2020	Revision and re-formatted
1.0	July 2011	First Publication

INTRODUCTION AND STRUCTURE

The Glasgow 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 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.

This document is divided into sections as follows:

Page Abbreviation	Section
PRE	Preface
GEN	Unit General Operating Procedures
SEP	Local Separation Standards
ADC	Aerodrome Control
APC	Approach Control
LOW	Low Level Procedures (VFR)
EMG	Emergency 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.

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GEN | UNIT GENERAL OPERATING PROCEDURES

Chapter 1 Altimeter Setting Procedures

1.1 Departing Aircraft

Departing aircraft should state the QNH on first contact with GMC, otherwise it should be issued by the GMC controller. Aircraft should be informed of any changes to the QNH as soon as the information is available. Aircraft operating in the visual circuit may be given the QFE if requested.

1.2 Arriving / Transit Aircraft

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

1.3 QFE Threshold

The QFE for all runway thresholds is 1 hPa less than the Glasgow QNH.

1.4 Transition Altitude

The Transition Altitude in the Scottish TMA is 6000 feet Above Mean Sea Level (AMSL).

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

1.5 Transition Levels and Minimum Stack Levels

The Transition Level and Minimum Stack Level for the Scottish TMA is based on the Glasgow QNH.

Glasgow QNH	Transition Level	Minimum Stack Level (MSL)
1032-1049	FL65	FL70
1014-1031	FL70	FL70
995-1013	FL75	FL80
977-994	FL80	FL80
959-976	FL85	FL90
940-958	FL90	FL90

Note: The classification of 1013 hPa as 'low pressure' in the above table aligns with MATS Part 1 (CAP 493).

1.6 Altimeter Setting Regions

The airport is located under the Scottish TMA. All VFR aircraft operating under the Scottish TMA shall be given a local QNH to mitigate against controlled airspace infringement. Traffic may be issued the Belfast or Portree RPS when receiving a service from Glasgow to the west or north of the TMA.

Chapter 2 All Weather Operations

2.1 Aerodrome Equipment

Glasgow is equipped for Category II/III operations to both Runway 05 and Runway 23.

2.2 Low Visibility Procedures (LVP)

2.2.1 Enforcement

Pilots will be informed when these procedures are in operation by the ATIS or by RT. Low Visibility Procedures will be applied when either of the following conditions are met:

- The IRVR or Metrological Visibility is 600m or less, and/or
- The cloud ceiling (BKN or more) is 200 feet or lower.

2.2.2 Safeguarding Procedures

Safeguarding procedures are to be initiated when either of the following conditions are met:

- The IRVR is 1000m or less and forecast to drop into LVP, and/or
- The cloud ceiling is 300 feet or below and forecast to drop into LVP.

When safeguarding is initiated, all departing aircraft must line-up via the CAT II/III holding points (A2 and G2) and vacate at full length (A and G). The GMC controller shall use the Category II/III holding points unless specifically agreed otherwise with AIR.

Where safeguarding is initiated only due to cloud base, but the IRVR remains greater than 1000m, AIR may instruct aircraft (except Code F aircraft) to vacate at intermediate taxiways. It is advisable therefore during safeguarding for AIR to specify a taxiway to vacate with or before the landing clearance.

2.2.3 Instrumented Runway Visual Range (IRVR)

The IRVR is measured at three points along the runway; at the Touchdown Zone (TDZ), the mid-point and the stop-end. The minimum IRVR that can be measured is 50m and the maximum is 1500m.

Only the TDZ IRVR value is published in METARs, thus the remaining two IRVR values are 'unknown' to the VATSIM controller. When LVP are in force, pilots should be informed of the reported IRVR and any subsequent updates.

2.2.4 Category II/III Holding Points

The following Category II/III holding points are to be used during safeguarding/LVP:

- Runway 05 – G2
- Runway 23 (Code E and lower) – A2
- Runway 23 (Code F) – A3

2.2.5 Arrival Spacing

During Safeguarding/LVP, the minimum spacing used must be 10 NM (6 NM may be used if a gap is not required for a departure but this must be agreed with the AIR controller). This is to ensure that aircraft have received a landing clearance by 2 NM from touchdown, exceptionally 1 NM from touchdown. During LVP, aircraft require to establish on the localiser at an early stage, therefore, aircraft must be vectored to intercept the localiser at a range of not less than 10 NM from touchdown.

2.3 Meteorological Information

Provision of an ATIS is the responsibility of the AIR controller (who may delegate the responsibility to another controller). Aircraft are required to confirm the current ATIS information on first contact. When LVP are in force then this should be included in the ATIS broadcast.

Chapter 3 Description of Airfield

3.1 Aerodrome Geographical Data

ICAO Code	EGPF
Aerodrome Reference Point (ARP)	Lat: 555219N Long: 0042559W
Elevation	26 ft
Transition Altitude	6000 ft
Safety Altitude	4900 ft (NE)

3.2 ATC Communication Facilities

Callsign	Logon Callsign	Abbreviation	Frequency
Glasgow Information	EGPF_ATIS	ATIS	129.575
Glasgow Ground	EGPF_GND	GMC	121.705
Glasgow Tower	EGPF_TWR	AIR	118.805
Glasgow Radar	EGPF_APP	INT	119.100
Glasgow Radar	EGPF_F_APP	FIN	128.755

Note: Glasgow Radar (FIN) is only permitted to be opened if AIR is online.

3.3 Radio Navigation and Landing Aids

Type	Identifier	Frequency	Remarks
ILS 05	I-UU	110.100 MHz	3° Glidepath
ILS 23	I-OO	110.100 MHz	3° Glidepath
VOR/DME	GOW	115.400 MHz	
NDB	GLW	331.0 kHz	

Chapter 4 Use of Runways

4.1 Preferential Runway

In calm conditions, Runway 23 is the preferred runway if the tailwind component is less than 5 knots and the runway surface is dry.

The selection of the runway in use shall be in reference to the current and forecast wind. In calm, changing or crosswind scenarios, the TAF and winds at 2000 ft should be used to identify the best runway in use.

4.2 Runway Change Procedures

In case of a change to the active runway, AIR shall initiate coordination with APC to agree a last arrival and time for the runway change. AIR should also consider the number of pending (taxiing) departures in determining a suitable time. APC shall inform Scottish Control.

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

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

AIR must obtain a release from INT for the first departure after a runway change.

4.3 Runway Vacation

When runway 05 is in use, traffic shall not vacate via F and D due to the sharp turn angle.

When runway 23 is in use, traffic may vacate via G, F, E and D. The turn from taxiway B onto A (and vice versa) is only suitable for Code C aircraft and lower, therefore in the rare situation that Code D/E traffic enters the runway prior to B and backtracks, it must line up via the runway extension and cannot vacate B or A. Code F aircraft cannot use the runway extension to line up.

Aircraft vacating the runway shall be transferred to GMC for further instructions. AIR shall not give instructions to aircraft vacating via E/D to enter taxiway G.

Code F aircraft are permitted to enter/vacate the runway as follows:

Runway Link	Restrictions
Alpha	None
Bravo	Not suitable to enter and backtrack runway 23.
Delta	Only accessible from Southwest (i.e. cannot achieve turns on/off greater than 90°)
Echo	Only accessible from the East (i.e. cannot achieve turns on/off greater than 90°)
Foxtrot	Not suitable to enter and backtrack runway 05. Only accessible from the East (i.e. cannot enter/leave via G2)
Golf	None

4.4 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 MATS Part 1 (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:

“(Callsign) Runway (xx), land after the (traffic), surface wind (xxx) degrees (x) knots”

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

SEP | LOCAL SEPARATION STANDARDS

Chapter 1 General

1.1 Separation Standards

Except where described below, standard separation is to be provided in accordance with MATS Part 1 (CAP 493), Section 1, Chapter 3.

1.2 Wake Turbulence Separation

Wake turbulence separation shall be provided in accordance with MATS Part 1 (CAP 493), Section 1, Chapter 3.

1.3 Horizontal Radar Separation

Glasgow APC controllers may apply reduced radar separation of 3 NM between aircraft provided that:

- Both aircraft are identified, and
- Both aircraft are within 40 NM of Glasgow, 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:** Scottish TMA (Galloway & Talla or stations covering top-down), Edinburgh APC and Prestwick APC are authorised to provide 3 NM radar separation within either Scottish TMA airspace or 40 NM of the aerodrome respectively. Scottish Area Control (and TMA controllers outside of TMA airspace) are **not** authorised to provide 3 NM radar separation.*

Chapter 2 Departure Separation

2.1 General Procedures

Standard departure separation detailed in MATS Part 1 (CAP 493) shall be replaced by a standard departure interval between aircraft departing on Glasgow Standard Instrument Departures (SIDs). The responsibility for establishing the initial separation between departing aircraft is held by the AIR controller.

The separation between departing aircraft shall be achieved through the application of timed intervals between successive departures. These intervals are dependent on the departure route and aircraft speed groups as listed in the departure separation table and aircraft speed groups table.

Aircraft not included in the speed groups table, or following routes other than SIDs, must be subject to individual release by APC, as will the subsequent SID departure.

Any departure from the runway not in use shall be individually coordinated between the AIR and APC controllers, as will the subsequent departure from the runway in use.

2.2 Departure Intervals

Departure intervals defined in minutes are based upon full sixty seconds.

The basic departure interval for all routes is **2 minutes**.

The basic interval is to be applied between successive departures from the same speed group or when the following aircraft is one speed group slower than the leading aircraft.

The basic interval may be reduced by 1 minute when the following aircraft is two or more speed groups slower than the leading aircraft.

When the following aircraft is from a higher speed group, the basic interval shall be increased by 1 minute for each successive speed group, for example Group 2 leads vs Group 3 following is 2 + 1 = 3 minutes.

2.2.1 Table of Aircraft Speed Groups

Glasgow uses the VATSIM UK harmonised speed table to categorise aircraft for departure separation. The table at time of writing is shown below – any subsequent updates to the harmonised table published via Procedure Change will apply to Glasgow.

Aircraft not included in Groups 1 to 4 are to be the subject of a separation agreed by the receiving radar controller.

Group 4	Group 3	Group 2	Group 1
All jet aircraft except:	BAE146/Avro RJ	ATR variants	BN2P/T
<i>Those in Group 3</i>	CL35/CL60	DH8A/B/C	C208
<i>Concorde</i>	CRJ1/2/7/9/X	F50	DA62
<i>Military fast jets</i>	D328/J328	JS31/32/41	DHC6
	DH8D	King Air variants	E110
	E135/145	PC12	
	E50P/55P	SF34	
	P180	SW3/4	
	SB20	TBM7/8/9	
	Citations except:		
	<i>C56X/680/68A/700/750</i>		

2.2.2 Reduced Separation in the Vicinity of an Aerodrome

Glasgow ADC is not permitted to provide RSIVA to shorten the departure interval.

Chapter 3 Arrival Separation

3.1 Holding Stack Deemed Separations

The LANAK hold is deemed separated from TARTN, STIRA, GOW, TRN, FYNER and SUMIN at FL140 and below.

The STIRA hold is deemed separated from FOYLE (FL120 and below) and GOW, SUMIN, TARTN, and FYNER at FL140 and below.

ADC | AERODROME CONTROL

Chapter 1 Ground Movement Controller (GMC)

1.1 Area of Responsibility

Ground Movement Controller (GMC) (“Glasgow Ground”) provides departure clearance to standard IFR departures and is responsible for the safe and expeditious movement of aircraft on the aprons and taxiways. GMC will ensure an appropriate SSR code is set, initial altitude entered and the flight plan route is consistent with the standard route document. They will also provide and/or confirm ATIS information/QNH and provide any start-up delays/slots during events. Aircraft will be given pushback instructions when required. Departures will be taxied to the runway holding point and handed to AIR as early as possible, clear of potential conflicts. Arrivals will be taxied to stand.

1.2 Issuing Clearances

It is the responsibility of GMC 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 QNH.

GMC should ensure that both the stand number and aircraft type are confirmed by the pilot before issuing a clearance.

An IFR clearance should follow the format:

1. Callsign
2. Destination (or leaving controlled airspace)
3. Standard Instrument Departure
4. Squawk Code

Example: “ABC123, cleared to Ibiza, NORBO 1 Juliet departure, squawk 0516”

Example: “ABC123, cleared to leave controlled airspace, ROBBO 2 Alpha departure, squawk 0516”

GMC must obtain a full read back of the given clearance. If the QNH and/or ATIS Letter were not correctly reported by the pilot, the GMC controller will pass this to the pilot.

Example: “ABC123, correct. Information Alpha, QNH 1020”

1.2.1 Standard Instrument Departures (SIDs)

SID	RWY / Designator		Initial Altitude	Remarks
	23	05		
CLYDE	3A	3B	6000 ft	
FOYLE	3A	3B	6000 ft	(Note 2)
LOMON	3A	3B	6000 ft	(Note 1)
LUSIV	1A	1B	6000 ft	Non-jet aircraft only
NORBO	1H	1J	6000 ft	Jet aircraft only
PTH	4A	4B	6000 ft	
ROBBO	2A	2B	6000 ft	(Note 1)
TLA	5A		6000 ft	Non-jet aircraft only
		6B	5000 ft (Note 3)	
TRN	3A	6B	6000 ft	Non-jet aircraft only

Note 1: Traffic via LOMON and ROBBO will leave controlled airspace after the SID and should be issued a clearance to leave controlled airspace.

Note 2: Traffic via FOYLE filing N560 onwards is utilizing a conditional airway. On VATSIM, traffic may file and use this airspace at any time of day and is not considered to be leaving controlled airspace.

Note 3: TLA 6B has a published step climb to 6000 ft.

1.2.2 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
EGAA/AC	FL240
EGBB/BE/NX	FL270
EGGD/FF/SY	FL330
EGCC/GP/NR/NH/NJ/NM/NO	FL250
EGNT/PD	FL230
EGSH/TE/TK/UL/UN	FL330
EGVN/VA/BJ/BP	FL330
EIDW/ME/WT/CM	FL240

1.3 Departure Restrictions

The TRN, TLA and LUSIV SIDs are not available to jet aircraft. All aircraft should be re-routed via the NORBO SID and an appropriate route alteration.

The NORBO SID is only available to jet aircraft. Non-jet aircraft can be routed depending on their direction of travel onto TRN (P600), TLA (Y96) or LUSIV (routes via DCS).

1.4 Pre-Departure Clearance (PDC)

When both the controller and pilot are suitably equipped, a PDC may be offered 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.

Alternative methods of PDC may be used unless otherwise notified.

1.4.1 Availability of PDC

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

- 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 GMC controller's discretion.

***Note:** Should the GMC 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 GMC controller noticing.*

- When the route of an aircraft's flight plan needs to be changed, or for expedition due to a flow restriction on a certain routing.

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

1.5 Flights to Local Airfields

A request for delay should be sent to the receiving Scottish departure sector (or as documented below) when a clearance to any airport in the list below is issued via the ATS Route network and the Scottish sector should respond with any delay (a response without specifying a delay may be interpreted as no delay). Additional prenotes may be required (see the relevant section below).

The following airports are subject to this procedure and would also require a release by AIR before departure:

- Scottish TMA: EGPH, EGPK
- Other: EGNT

GMC 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 Scottish sector when the delay is absorbed and the pilot is starting. (*"GABCD starting for EGPK"*), no response is required from Scottish.
3. Greater than 20 minutes: Scottish to specify *"greater than 20 minutes"* or *"delay not determined"*. GMC to inform pilot of *"delay not determined, at least 20 minutes"* and ask whether they wish to proceed. GMC to re-coordinate at 20 minutes with Scottish.

In the event the relevant Scottish sector is offline, the receiving APC unit should receive this coordination.

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

1.5.1 Flights to Edinburgh

Coordinate with: Talla

Flights to Edinburgh do not need to join the ATS Route network and as such shall be handled between the Edinburgh and Glasgow radar controllers and not permitted above 6000 ft. GMC shall still follow the delay absorption procedure with Scottish (Talla) sector, though after this the flight should be coordinated with INT as a non-standard departure.

In the absence of Talla sector, coordinate with Edinburgh INT.

1.5.2 Flights to Prestwick

Flight Plan (Jet): NORBO DCT TRN DCT

Flight Plan (Non-jet): TRN DCT

Coordinate with: Galloway

Aircraft are cleared on either the NORBO (jet) or TRN (non-jet) departure. Traffic shall typically cruise no higher than 6000 ft. GMC shall follow the delay absorption procedure with Galloway, however this traffic shall remain within the Glasgow and Prestwick local areas and is coordinated between both stations.

In the absence of Galloway, coordination should be with Prestwick Radar.

1.5.3 Flights to Newcastle

Flight Plan (Jet): NORBO Y96 NATEB DCT

Flight Plan (Non-jet): TLA Y96 NATEB DCT

Coordinate with: Galloway

Traffic via this route should expect at least MSL + 1000 ft for cruise, otherwise they should be specifically highlighted to Galloway.

In the absence of Galloway, coordination should be with Talla and then Newcastle Radar.

1.6 Flow Restrictions

1.6.1 Calculated Take-off Times (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.

On VATSIM, the adherence to slot times is clearly not as important as the real world, and a deviance 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.

GMC should retain aircraft on stand until a reasonable time to facilitate the meeting of a slot time in order to prevent both RTF 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 VFR and SVFR Clearances

VFR traffic requesting to depart via Greenock (runway 23), Ardmore Point (runway 05), Alexandria and East Kilbride may be cleared by GMC without coordination. Traffic requesting to leave via Greenock/Ardmore Point when the incorrect runway is in use may be cleared via the alternate.

GMC shall issue clearance by the relevant exit lane not above 2000 ft and issue a squawk in the 2615-2617 range. GMC will then notify INT of the callsign, aircraft type, allocated squawk and route of any such cleared aircraft. If GMC has utilized all squawks, they will contact INT for new allocations.

Except for VFR circuits remaining within the ATZ, GMC shall coordinate all other VFR and all SVFR clearances with INT, stating the aircraft type and requested routing. INT will issue appropriate departure instructions, plus a local squawk code or else shall clarify when those instructions will be given (typically at the runway holding point).

All clearances issued should be communicated to AIR prior to start, along with any additional information passed by INT.

1.7.1 Runway 23

For all exit lanes when runway 23 is in use, GMC will specify the following restrictions in the clearance.

Via	Instruction
Greenock	Remain south (of the south bank) of the River Clyde
Alexandria	Remain south of the River Clyde until West of the River Leven
East Kilbride	Remain south of the A726 and A727

1.7.2 Runway 05

For all exit lanes when runway 05 is in use, GMC will specify the following restrictions in the clearance.

Via	Instruction
Ardmore Point	Remain north (of the north bank) of the River Clyde
Alexandria	Remain north of the River Clyde and East of the River Leven
East Kilbride	Remain north of the A726 and A727

1.7.3 Visual Circuits

GMC shall seek approval for visual circuit traffic from AIR prior to allowing engine start but shall not issue the circuit clearance.

1.8 Runway Change Procedures

When GMC is informed of a planned runway change by AIR, AIR and GMC should coordinate to agree on the last departure from the current runway. AIR will need to inform APC of the last 3 departures (or fewer when there are less than 3 active departures).

In the case that aircraft which have already been cleared will be departing from the new duty runway, these aircraft will need to be re-cleared. GMC must arrange the re-clearing of the aircraft.

1.9 Stand Allocation

Stands will normally be assigned automatically by the UK Controller Plugin (UKCP). In the event of a UKCP failure, it is the responsibility of the GMC controller to assign suitable stands to aircraft.

1.10 Pushback Clearance

Clearance to push should include the stand number to improve situational awareness of other aircraft on the frequency.

Example: “ABC123 stand 29, push and start approved”

Turboprop aircraft should be passed the outside air temperature if they have not acknowledged receipt of the ATIS.

Most stands at Glasgow have only one direction to face and in this circumstance the direction is not required with the pushback clearance. Stands on the main apron off taxiway G can push in multiple directions (including onto K/L/M aprons) and in this circumstance the push direction must be clarified.

Example: “ABC123 stand 8, push and start approved, fact east on Golf”

Simultaneous pushbacks are only to be given where there is a whole stand gap between two aircraft and 2 stand gaps when the aircraft is code D or greater.

1.11 Taxiway Restrictions

A Code F aircraft movement chart is available via the UK AIP (AD.2.EGPF-2-3). Code F aircraft only park on stand 30 or the large stands in the November apron (33, 35, 37, 39).

Taxiway Y is sufficiently wide to allow light aircraft to taxi in both directions, with aircraft remaining to the right by convention. On VATSIM, controllers should not assume pilots are aware of this restriction and so should specify when taxiing:

Example: "GABCD taxi via Y, right side, hold Y1. Caution Yankee in use in both directions, remain right."

1.12 Non-Direct Taxi Instructions to Stand

Where a clear route and taxi instruction cannot be issued to take an aircraft to its stand, the phrase "expect stand" should be used to inform the aircraft of their parking position.

Example: "ABC123 expect stand 17, hold short of Echo"

1.13 Departure Handoffs

Aircraft shall be transferred to AIR as soon as possible to prevent delays. For runway 23, traffic should be transferred to AIR prior to A3. For runway 05, traffic should be transferred to air on G after passing N.

In the absence of AIR or INT, GMC shall transfer the traffic to the Scottish Control sector covering INT top-down.

1.14 Helicopter Traffic

The alighting point for helicopters (near the Juliet Apron) is not used for landing/departure. Departures/Arrivals route via the threshold of the runway in use and then ground/air taxi to the HAP or the Gama apron.

Direct departures from the Gama apron may be permitted by familiar controllers only, if specifically requested by the pilot. GMC shall contact AIR for approval and if permitted, transfer the traffic to AIR for departure clearance.

GMC will taxi departing helicopters to B1 (runway 23) or D1 (runway 05) unless otherwise coordinated with AIR.

Chapter 2 Air Control (AIR)

2.1 Area of Responsibility

Air Control (AIR) (“*Glasgow Tower*”) is responsible for the safe and expeditious use of the active runway and exit taxiways. AIR is also responsible for giving information to aircraft on an instrument approach and VFR remaining in the visual circuit and operating within the vicinity of the ATZ with visual reference to the surface. AIR is also responsible for transferring departures to the relevant radar unit and obtaining releases for non-standard operations or when otherwise required.

2.1.1 Delegated Responsibilities

AIR is responsible for traffic operating under VFR within and in the vicinity of the ATZ. Traffic in the vicinity of the ATZ is coordinated between INT. FIN should also be informed of the presence of aircraft within the visual circuit.

2.2 Runway Change Procedures

In case of a change to the active runway, AIR shall initiate coordination with INT to agree a last arrival and time for the runway change. INT will coordinate with FIN.

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

AIR must then inform FIN of the intended last 3 (if appropriate) departures before, and the first departure after, the runway change (callsign and routing).

AIR must obtain a release from FIN before the first aircraft departs off the new runway.

2.3 Line Up Procedures

2.3.1 RT Phraseology

All instructions to enter a runway shall include:

1. The relevant runway designator
2. The holding point designator at which the aircraft is to enter the runway, including from full length.

Example: “ABC123, via A1 line up runway 23”

2.3.2 Multiple Aircraft on the Runway

If lining up multiple aircraft on the runway, the following departure should be informed of any intersection departure ahead of them.

Example: “ABC123, via A1 line up runway 23, caution, intersection departure ahead.”

Example: “ABC123, hold position, there will be an intersection departure ahead from B1”

2.4 Conditional Clearances

2.4.1 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.

2.4.2 Intersection Conditionals

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

2.5 Stopping a Departure

Where possible, departures who are rolling beyond 300m or over 80 knots ground speed should not be instructed to cancel their take-off roll, in accordance with MATS Part 1 (CAP 493).

For runway 05, 300m from full length is approximately where taxiway F joins the runway. From the runway 23 threshold, 300m is approximately the distance from B1 to the disused tarmac east of A (between T and B).

2.6 Flights to Local Airfields

GMC will have coordinated initially with the relevant local controllers – see [ADC 1.5](#). A release shall be obtained from the receiving Scottish controller by AIR for flights to Newcastle (EGNT).

Flights to Edinburgh and Prestwick require a release from (Glasgow) INT, who will coordinate with Edinburgh/Prestwick.

2.7 Wake Separation

2.7.1 Wake Turbulence Separation

Wake turbulence separation shall be provided in accordance with MATS Part 1 (CAP 493).

2.7.2 Holding Points

All holding points are considered to be different points for the purpose of providing wake turbulence separation.

2.8 VFR/SVFR Procedures

2.8.1 Departures

Coordination for VFR/SVFR departure routing is performed by GMC, who should inform AIR for the routing agreed with INT. All VFR/SVFR departures request a release from INT before departure.

2.8.2 Circuit Procedures

Visual circuits shall typically operate to the north side of the airfield, not above altitude 2000 ft. AIR however may vary the circuit direction as required by the traffic situation.

GMC will require approval from AIR before allowing startup. Circuit instructions are passed at the holding point.

AIR shall be responsible for notifying FIN that the circuit is active. FIN shall communicate this to INT.

2.9 Departures Subject to Release

AIR is to obtain a **departure release** from INT prior to issuing take-off clearance for:

- LUSIV/TRN/TLA departures from runway 05;
- Non-standard IFR departures;
- VFR/SVFR departures;
- when required by Glasgow APC;
- whenever the AIR controller intends to depart successive aircraft which would be separated by less than the specified time interval;
- aircraft not on the speed table, plus the subsequent departure. (This information shall be specifically coordinated in the release request);
- where the following aircraft is 3 groups faster than the leading aircraft. (This information shall be specifically coordinated in the release request).
- whenever the AIR controller requires an aircraft to deviate from the NPR;
- aircraft departing immediately prior to and following a change of runway direction;

The Glasgow AIR controller must obtain a departure release from FIN before clearing aircraft in any of the following categories for take-off:

- the next IFR departure following an IFR/SVFR missed approach, touch-and-go or low approach;

2.10 Transfer of Control

2.10.1 Departures

Departures may only be transferred to the appropriate frequency once all aerodrome conflicts have been resolved. Ideally transfer shall occur no later than 2000 feet or 2.5 NM from the end of the runway, though if required to retain traffic to resolve a conflict, the AIR controller shall look out for pilots climbing above their initial (cleared) level and take action.

If the departure time separation applied does not achieve the expected airborne separation, then the AIR controller should co-ordinate with the INT controller to provide headings to establish separation.

2.10.2 Handoff Priority

Departure	1	2	3	4	5	6	7
CLYDE	SW	SWD	S	INT	-	-	-
FOYLE	SS	SE	S	INT	-	-	-
LOMON	SS	SE	S	INT	-	-	-
LUSIV (RWY 23)	STW	ST	SD	SWD	SS	S	INT
LUSIV (RWY 05)	INT	STW	ST	SD	SWD	SS	S
NORBO	STW	ST	SD	SWD	SS	S	INT
PTH	SS	SE	S	INT	-	-	-
ROBBO	SW	SWD	S	INT	-	-	-
TRN (RWY 23)	STW	ST	SD	SWD	SS	S	INT
TRN (RWY 05)	INT	STW	ST	SD	SWD	SS	S
TLA (RWY 23)	STW	ST	SD	SWD	SS	S	INT
TLA (RWY 05)	STE	ST	SD	SWD	SS	S	INT

- INT – *Glasgow Intermediate Director*
- STW – *(TMA) Galloway*
- STE – *(TMA) Talla*
- ST – *Scottish TMA*
- SD – *Deancross*
- SW – *Scottish West*
- SWD – *West-Deancross*
- SS – *Scottish South*
- SE – *Scottish East*
- S – *Scottish Bandbox*

INT Top-Down Order: STW – ST – SD – SWD – SS – S

Glasgow APC may elect to work any departure. If this is the case, they will coordinate with AIR which departures should be transferred to APC, the frequency, and when this arrangement shall cease.

2.11 Aircraft on Approach

The transfer of communications of an aircraft from FIN to AIR should ideally occur by 6 NM from touchdown, but no later than 4 NM. This is prior to the transfer of control.

FIN remains responsible for radar separation and wake turbulence separation of aircraft until touchdown and therefore no changes to speed may be given by AIR without agreement with FIN.

2.12 Landing Clearance

2.12.1 Runway Designator

The runway designator should be included in all landing clearances.

Example: “ABC123, runway 23, cleared to land, surface wind 250 degrees 11 knots”

2.12.2 Cancelling Approach Clearance

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

2.13 Arrival Spacing

In routine operations on runway 23, FIN will endeavour to achieve spacing of at least 6 NM to allow 1 departure between each arrival. When runway 05 is in use, this should be increased to 8 NM, due to the need to vacate at Bravo.

The actual arrival spacing is subject to coordination between FIN and AIR, dependent on the traffic situation.

2.14 Missed Approaches

The standard missed approach procedures are as published on approach charts, and the table below.

Runway	Approach	Missed Approach Procedure
05	ILS/LOC/ VOR/NDB	Continuous climb to 3000 ft. Initially straight ahead to 3000 or I-UU DME 5 (GOW 5.9) whichever is <u>earlier</u> . Then right turn to GLW or GOW. Aircraft that have not achieved 2000 ft by I-UU DME 5 (GOW 5.9) turn right on track 095 until 2000 ft then right to GLW/GOW.
	SRA	Continuous climb to altitude 3000 ft. Initially straight ahead to 3000 or I-UU DME 5 (GOW 5.9) whichever is earlier. Then right turn to GLW or GOW.
	ILS/LOC/SRA	Continuous climb to 3000 ft. Initially straight ahead to 2500 ft or I-OO DME 2.6 (GOW 3.0), whichever is <u>later</u> . Then left turn to hold at GOW or GLW.
23	NDB	Continuous climb to 3000 ft. Initially on QDR 227 to 2500 ft or I-OO DME 2.6 (GOW 3.0), whichever is <u>later</u> . Then left turn to hold at GOW or GLW.

VOR	<i>Continuous climb to 3000 ft. Initially on GOW R233 2500 ft or I-OO DME 2.6 (GOW 3.0), whichever is <u>later</u>. Then left turn to hold at GOW or GLW.</i>
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2.14.1 Go Around Procedure

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

1. Activate the UKCP Go-Around Alarm (if in use)
2. If required, provide instructions to pilots to avoid 'immediate conflict'.
3. Co-ordinate with FIN to agree tactical headings and action required for all traffic. FIN will issue a frequency for the aircraft to contact and any revised heading and/or altitude.
4. Monitor both aircraft until separation is established, either visually or via the ATM.
5. After coordinating with FIN, resume departures once the departure track is clear. A departure release should be obtained from FIN for the first departure after a missed approach.

The AIR controller is not required to establish radar separation, this is the responsibility of the FIN controller who should be contacted early to assist in the provision of separation. 'Immediate conflict' is rare, typically only occurring when a departure is climbing into a missed approach. If the AIR controller gives instructions prior to coordination with FIN, these are to be restricted:

- a. Go-around traffic shall never be cleared above the missed approach altitude.
- b. Tactical headings may be issued ONLY if necessary should be limited to turns of 30 degrees from the runway track.

APC | APPROACH CONTROL

Chapter 1 General

1.1 Area of Responsibility

Glasgow Radar is responsible for the Glasgow CTR and the airspace contained within the Glasgow Local Area (see below).

Glasgow Radar shall provide approach control services to aircraft from the time and place at which:

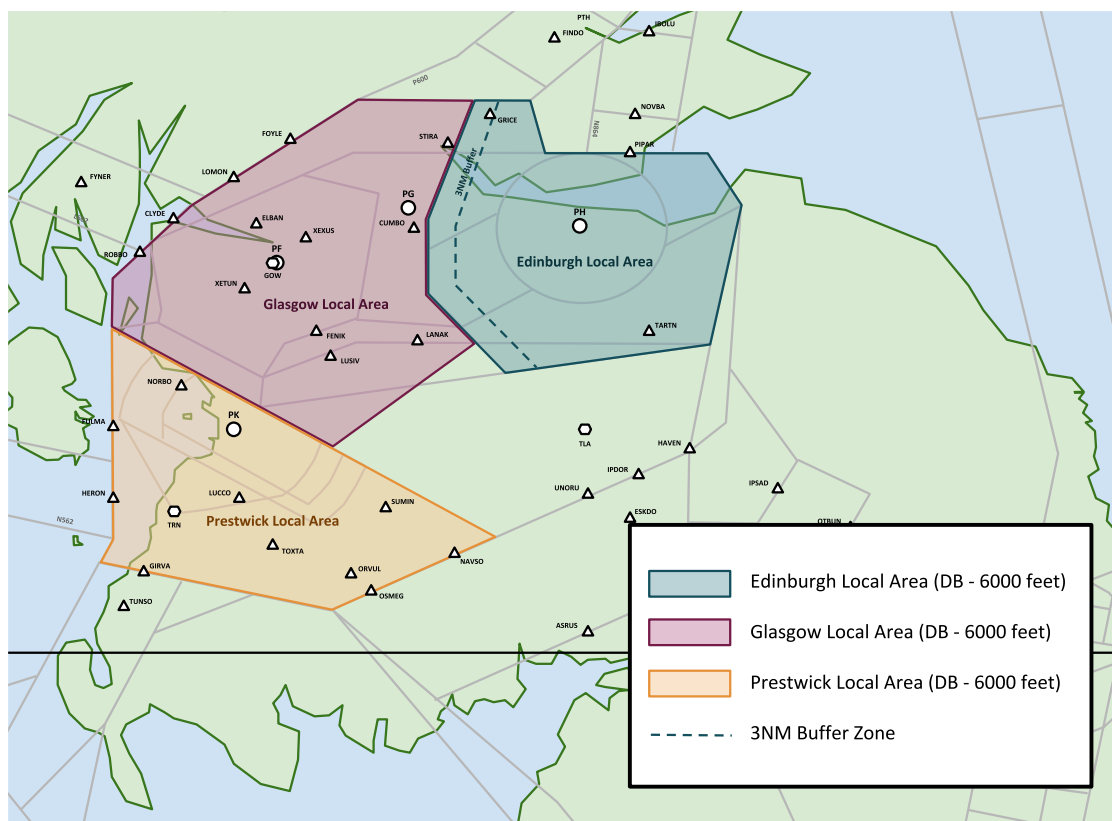
- Arriving aircraft are released by Scottish Control until transferred to ADC.
- Aircraft approaching from outside controlled airspace place themselves under the control of Approach Control until control is transferred to ADC.
- Overflying aircraft within the relevant controlled airspace.

1.2 Airspace

1.2.1 Local Areas in Scottish TMA

Glasgow APC are responsible for the Glasgow CTR/CTA and the airspace delegated to them by Scottish Control below 6000 feet – the ‘Glasgow Local Area’.

Figure 1 – Scottish TMA Airfield Local Areas and 3 NM Buffer Zone



1.2.2 Buffers

A 3 NM buffer is established within the Edinburgh Local Area to ensure separation between traffic being worked by Edinburgh and Glasgow APC. Edinburgh shall not vector inbound traffic into the buffer zone without prior coordination with Glasgow APC, allowing Glasgow to vector arrivals

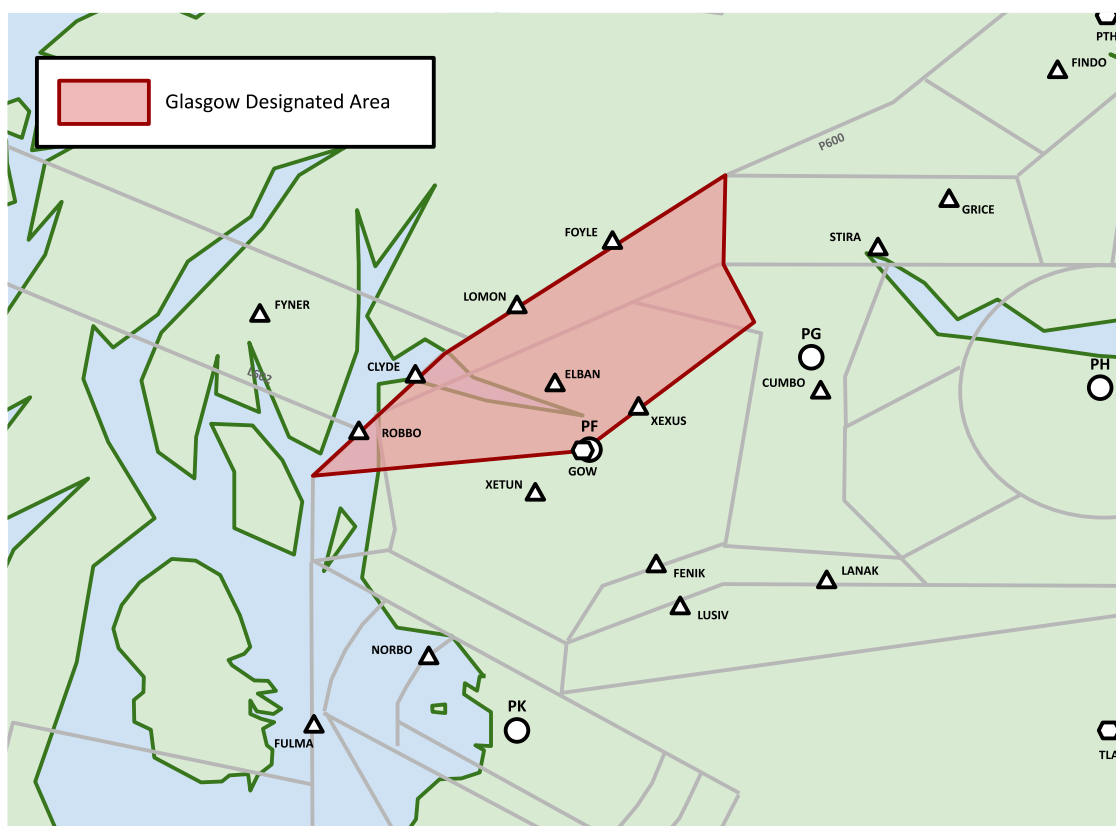
Glasgow and Prestwick shall not vector traffic within 2.5 NM of the boundary between their local areas, without prior coordination.

1.2.3 Glasgow Designated Area (GDA)

The Glasgow Designated Area (GDA) is an area of the Glasgow Local Area and Galloway’s airspace above that Glasgow APC may utilise at FL90 or below for inbounds from FOYLE, LOMON, CLYDE and ROBBO without needing to coordinate with Galloway. Glasgow APC is not permitted to route other inbounds into this area above the Glasgow Local Area (6000 ft). TMA Galloway will coordinate any traffic transiting through this airspace at FL90 or below.

Glasgow is responsible for separation of Glasgow arrivals and departures at or below FL90 within the GDA. Departures are handed directly to Area Control by AIR and Glasgow APC must ensure separation against arrivals, Scottish Area sectors can climb within the GDA to FL90 without coordination with Glasgow or Galloway.

Figure 2 – Glasgow Designated Area

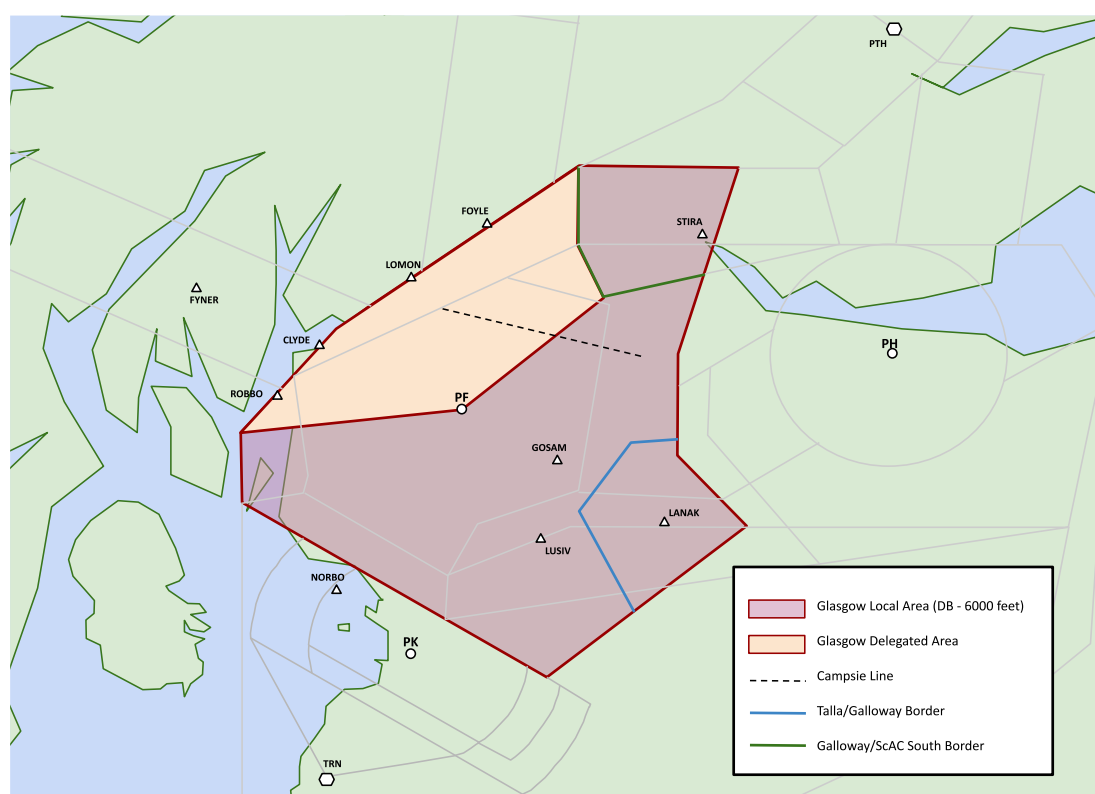


1.2.4 Glasgow Local Area Delegation

The Glasgow Local Area is mostly delegated by Galloway. However, Talla delegates the portion near LANAK and ScAC South delegates the portion near STIRA. Glasgow is not permitted to cross the boundary lines between area sectors until traffic is within the Glasgow Local Area (i.e. 6000 ft or below). These lines are available in the sector file as 'Glasgow Talla Boundary' (Talla/Galloway) and 'Glasgow Tay Boundary' (ScAC South/Galloway).

The Campsie line is available for display in the Sector File and is relevant to the descent profile for runway 23.

Figure 3 – Glasgow Local Area & Campsie Line



1.3 Function

Glasgow APC shall provide services appropriate for the Approach and Approach Radar control functions, as specified in MATS Part 1 (CAP 493).

1.3.1 Intermediate Director (INT)

- Provide an approach radar service to aircraft within 50 NM of the Aerodrome below FL195.
- The acceptance of releases and control of aircraft released by Scottish until control is released to FIN or ADC.
- The control of overflying aircraft within the Glasgow CTR/CTA and Glasgow Local Area including transits within Glasgow CAS.

- Coordination with ADC (AIR) for all except range checks, final approach spacing, low approach/landing clearances and missed approaches.
- Coordination with other relevant ATSUs.
- Provision of UK FIS (subject to workload) to aircraft within 40 NM of Glasgow.
- Issuing clearances to VFR/SVFR traffic entering the CTR and delegated airspace.
- Provision of a Radar Service to traffic joining the ATS Route network via non-Standard departure routes;

1.3.2 Final Director (FIN)

FIN shall only be opened with the agreement of the INT controller and is not permitted unless an AIR controller is online. It is responsible for:

- Radar vectoring and sequencing of traffic received from INT for ILS and visual approaches.
- Provision of Surveillance Radar Approaches
- Provision of a Radar Service to non-airways departures where deemed appropriate by INT.
- Coordination of missed approaches and control of such traffic unless agreed with INT.
- Coordination with ADC with respect to range checks, final approach spacing and low approach/landing clearances.

Chapter 2 Radar Directors General Operational Procedures

2.1 General Procedures

INT will control inbound traffic from the four holding stacks – LANAK, STIRA, FYNER and FOYLE – as well as inbounds coordinated via LOMON and ROBBO. INT will coordinate inbound releases with Scottish Area Control.

FIN will control inbound traffic from after transfer of control from INT.

Both positions will manage their own flight progress strip display. Both stations may coordinate with adjacent facilities regarding their own traffic, though most external coordination is performed by INT.

2.2 Inbound Releases

2.3 Transfer of Data and Control between INT and FIN

Transfer of data to FIN will be by electronic transfer of the aircraft track data-block at the point of transfer of communication. Transfer should typically be initiated once the aircraft is cleared below 6000 ft and clean of conflict from Glasgow outbounds and traffic unknown to FIN. Where a conflict delays transfer, INT should consider whether resolving the conflict themselves or coordinating with FIN will be most expeditious.

Where FIN is working traffic ahead in sequence, INT shall not routinely clear traffic to below 4000 ft (runway 05) or 4500 ft (runway 23). Cleared level shall be recorded on the electronic data-block before transfer.

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

“Contact Glasgow Radar 128.755, with callsign only”

2.4 Separation Requirements for Glasgow APC

See SEP | Chapter 1.

2.5 Terrain Clearance and Obstacle Clearance

Significant terrain exists to the north and west of Glasgow. 4900 ft within 25 NM and 5500 ft within 40 NM is terrain safe in all directions.

Controllers must refer to the Safety Minimum Altitude chart rather than relying on compass-based MSA.

2.6 Change to MSL Procedure

When the pressure changes across an MSL boundary:

- The first APC/Enroute controller to notice the change shall notify all affected units who also refer to the MSL.
- The first controller shall coordinate the agreement of 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 the Transition Altitude until the new MSL is agreed to be in effect.

2.7 Liaison with Aerodrome Control

APC shall supply the following information to Aerodrome Control.

FIN:

- The type of approach for IFR aircraft if anything other than ILS, with a range check provided by 10 NM
- Missed approach instructions when required.

INT:

- Any delay being imposed on departing IFR flights by Glasgow APC and the reason for the delay.
- Information on VFR or SVFR aircraft intending to land or transit the Glasgow ATZ.
- Departure releases together with after departure instructions when required.

2.7.1 Transfer of Arriving Aircraft

- IFR aircraft shall be transferred to ADC in the intended landing order.
- VFR aircraft shall be transferred to ADC when visual with the airfield or suitable visual references within the Entry Lanes. Transfer of control/communications may only occur once co-ordinated with ADC.
- SVFR aircraft shall be transferred when visual with the airfield and any preceding aircraft and only once co-ordinated with ADC.

2.7.2 Tower Check

Aerodrome Control is equipped with an ATM displaying both primary and secondary radar and therefore it is only necessary to give a 10 NM check to the ADC controller in respect of an inbound aircraft for the following:

- Non-transponding aircraft.
- Aircraft whose Squawk is not Code/Callsign converted.
- Training traffic which does not intend to land.
- Aircraft carrying out anything other than an ILS approach (type of approach must be given).

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:

- Runway in use and the type of approach, if not already received from the ATIS
- Position in landing sequence
- Current ATIS code, if not correctly reported by the pilot
- LVP in operation, if not already received from the ATIS
- Any delay to be expected.

INT shall confirm the cleared level of any aircraft coming under their control on first contact. If the pilot does not report their cleared level, it is to be requested and verified by the controller before giving any executive instruction. In addition, INT shall confirm the aircraft type, including type variant.

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
- Relevant reports from other pilots
- Implementation or cancellation of LVP.

3.2 Standard Arrival Routes (STARs)

Aircraft leaving the ATS Route network will be instructed to follow the appropriate STAR by Scottish Control. All STARs terminate at LANAK, STIRA, FYNER or FOYLE stacks and aircraft must not pass the stacks without ATC clearance.

STAR Designator	Via	Route	Descent Planning
AGPED 1G	Y96, N110	AGPED – HAVEN – TLA - LANAK	FL260 by AGPED FL70 by LANAK
APPLE 1G	UN590	APPLE – ASLIB – ENIPI – ODIGI – VAPPI - LANAK	FL260 by ASLIB FL200 BY ODIGI FL70 by LANAK
BLACA 1G	P600 (SW)	BLACA – GIRVA – TRN - LANAK	FL150 by GIRVA FL70 by LANAK
BRUCE 1G	L602, Y958, FRA	BRUCE - FYNER	FL90 by FYNER
ERSON 1G	N560	ERSON - FOYLE	FL90 by FOYLE
PTH 1G	P600 (NE)	PTH – GRICE – STIRA	FL70 by STIRA

RIBEL 1G	(U)N601	RIBEL – NISKA – ASLIB – ENIPIP – ODIGI – VAPPI - LANAK	FL260 by ASLIB FL200 BY ODIGI FL70 by LANAK
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3.3 Holding Procedures

Stack	Inbound Radial / Direction	Minimum Holding Level	Maximum Holding Level	Holding Speed Limit
LANAK	303° / Right Hand	MSL	FL140	230 knots
STIRA	234° / Right Hand	5000 feet	FL140	230 knots
FYNER	117° / Left Hand	MSL	FL140	230 knots
FOYLE	189° / Left Hand	MSL	FL140	230 knots
GOW	227° / Right Hand	3000 feet	6000 ft	Variable
GLW	228° / Right Hand	3000 feet	6000 ft	Variable

Note 1: MSL within the Scottish TMA is based on the Glasgow QNH.

Note 2: Care should be taken when holding aircraft at or below 6,000 feet at STIRA as this is Class E airspace.

Note 3: The STIRA hold can be used for both Glasgow and Edinburgh arrivals.

3.3.1 Phraseology Requirement

To reduce instances of incorrect direction holding, controllers are to use the following phraseology when instructing aircraft to hold: “(callsign) hold at (name), (left/right) hand turns, (as published)”.

Example: “ABC123 hold at LANAK, right hand turns, as published”.

If there is no published hold, or the direction given differs from the published hold, controllers shall also specify the inbound course and leg time/distance.

3.4 Expected Approach Times

Expected approach times are not issued. The arrival order is derived from the stack arrival time subject to tactical considerations.

Where traffic is holding, INT shall endeavour to provide an expected **delay** in increments of 5 minutes up to 20 minutes, after which traffic may be informed “*delay not determined*”.

3.5 Release Procedures

3.5.1 Agreed Levels

The table below summarises the transfer agreements for inbounds to Glasgow.

Via	From	Agreed Level
LANAK	Talla	MSL lvl LANAK
P600/TRN	Galloway	Individually coordinated / Alternately as per LANAK
FYNER/ROBBO	ScAC West	FL90 lvl 20 NM before GOW (See Note)
LOMON/FOYLE	ScAC South	FL90 lvl 20 NM before GOW (See Note)
STIRA	ScAC South	MSL lvl STIRA

Note: FL90 may be allocated to more than one aircraft provided a minimum of 5 NM between aircraft on parallel/diverging headings, or 10 NM (constant or increasing) between aircraft in trail is provided.

Glasgow APC must prioritise descending LANAK and STIRA traffic below the agreed level to facilitate transfer of subsequent arrivals.

Traffic shall typically be released silently or utilising a reduced radar handover. Direct routings during low traffic periods may also be coordinated by reduced radar handover.

Reduced radar handover format: “Callsign, descending to level, heading, (speed)”.

3.5.2 Arrivals via LANAK

Talla will transfer inbounds via LANAK by **silent handover** descending to the MSL. Talla shall endeavour to stream successive inbounds and shall not descend a subsequent inbound to the MSL until the preceding aircraft has vacated the level. In case this is not possible, transfer is possible by **electronic abbreviated release** at ‘stacked’ levels.

Scottish will typically only release traffic up to MSL+2, therefore Glasgow must make clearance of levels a priority, or proactively confirm to Talla that levels are available.

3.5.3 Arrivals via STIRA

Arrivals via STIRA may be transferred by **silent handover** descending to the MSL. Due to the shared nature of the STIRA arrival route with traffic inbound to Edinburgh, a **reduced radar handover** may be required.

3.5.4 Arrivals via TRN (BLACA 1G)

Galloway will typically transfer this traffic on a heading towards the Glasgow Local Area, descending to MSL or higher. A **reduced radar handover** is required for traffic transferred in this manner, which shall be provided prior to traffic crossing the Prestwick 30/12 extended centreline.

Where a reduced radar handover is not provided, traffic will be transferred according to the conditions of other LANAK traffic.

3.5.5 Arrivals via FYNER

Traffic via FYNER is transferred from ScAC West by **silent handover** descending to FL90, to be level 20NM before GOW (approximately 3NM after FYNER).

Traffic from FYNER must enter the Glasgow Designated Area at FL90 or below. Glasgow shall hold traffic at FYNER if unable to achieve this restriction.

3.5.6 Arrivals via FOYLE

Traffic via FOYLE is transferred by ScAC South using a **reduced radar handover**, completed before the traffic is within 30 NM of GOW.

Traffic shall either be cleared to FL90 to be level 20 NM before GOW (approximately 3NM before FOYLE), or on a suitable descent profile to achieve this restriction. Holding should be initiated for high traffic to ensure it enters the Glasgow Designated Area at FL90 or below.

3.5.7 Arrivals via ROBBO

ROBBO is defined for joining clearances of traffic from uncontrolled airspace to the West. ScAC West will instruct traffic to freecall Glasgow INT between 30 and 40 NM from GOW. Descent will be issued by ScAC West to be FL90 20NM before GOW.

Glasgow shall not issue joining clearance at ROBBO above FL90 to ensure traffic remains within the Glasgow Designated Area.

3.5.8 Arrivals via LOMON

LOMON is defined for joining clearances of traffic from uncontrolled airspace to the North. ScAC South will instruct traffic to freecall Glasgow INT between 30 and 40 NM from GOW. Descent will be issued by ScAC South to be FL90 20NM before GOW.

Glasgow shall not issue joining clearance at LOMON above FL90 to ensure traffic remains within the Glasgow Designated Area.

3.6 Continuous Descent Approaches

The aim of a continuous descent approach is to enable aircraft to make a continuous descent from transition altitude (6000 ft) to the establishing point on the localiser with the minimum use of flaps or other high-lift, high-drag devices. The use of a continuous descent, where level-offs do not occur reduces fuel consumption and noise levels.

ATC Actions

INT will give a descent from transition altitude at the point at which he/she believes the aircraft will be able to maintain a continuous 3° glide path during descent. The controller will pass the estimated track mileage to touchdown, allowing the pilot will then select a vertical speed which he/she judges will give a continuous descent.

3.6.1 Range from Touchdown

The range from touchdown information should be passed:

- When issuing the first clearance to descend below 6000 ft
- Upon first contact with the Final Director
- If it is judged to help the pilot with their descent planning
- When a previous estimate becomes invalid or inaccurate.

3.7 Intermediate Approach Procedures

3.7.1 Phraseology Requirement

INT handles the initial vectoring for Glasgow. On initial contact, INT shall confirm the aircraft type, including type variants and whether the pilot has received the ATIS code. INT will further inform/confirm the type of approach and the runway for landing.

Example: “ABC123, vectoring for an ILS approach, runway 24. (You are number # in traffic)”.

3.7.2 Vectoring of Inbounds

Traffic released to Glasgow APC must remain within the airspace of the releasing Scottish Control sector, or airspace delegated to Glasgow. Glasgow APC must not vector traffic across the boundaries between area sectors until it is within the Glasgow Local Area (6000 ft or below) or the Glasgow Designated Area for inbounds via LONOM/ROBBO/CLYDE/FOYLE (FL90 and below). This applies regardless of whether the area sectors are split or bandboxed. Therefore, Glasgow APC must:

- Descend LANAK arrivals to 6000 ft or below, before passing the boundary between Talla and Galloway sectors (approximately 6NM from LANAK).
- Descent STIRA arrivals to 6000 ft or below, before passing the boundary between ScAC South and Galloway sectors (between 4NM and 10NM from STIRA depending on direction)
- Ensure that arrivals into the Glasgow Designated Area are at FL90 or below by LOMON, ROBBO, CLYDE and FOYLE

To assist with these restrictions, the UK Sector file contains depictions of the Glasgow Designated Area and the boundaries between Talla/Galloway and Galloway/ScAC South as depicted in [APC 1.2.4](#).

All traffic transferred to Glasgow by Scottish Control on own navigation are released for turn in the *same general direction* towards the Glasgow Local Area. Such turns shall not be towards the non-duty runway until the aircraft is within the Glasgow Local Area at 6000 ft or below.

Traffic transferred on a heading from any Scottish sector should be individually coordinated prior to transfer of communications (most commonly by reduced radar handover). Traffic transferred on a heading is not released for turn, unless coordinated otherwise. In the absence of coordination Glasgow shall not turn aircraft until coordination is affected, or the traffic enters the Glasgow Local Area.

Traffic via TRN (BLACA1G) transferred by Galloway by reduced radar handover is released for turn subject to other Glasgow traffic.

3.7.3 Descent of Inbounds

All traffic transferred to Glasgow is released for descent, unless specified otherwise through coordination. When Glasgow descend arriving aircraft below MSL, it is Glasgow APC's responsibility to ensure separation against departures and any other traffic in the local area.

Glasgow must not descend traffic into the Prestwick or Edinburgh Local Areas or within 2.5NM of the Prestwick Local Area boundary.

Whenever not holding, Glasgow should endeavour to descend traffic below release levels (MSL/FL90 depending on direction) as soon as able so that these levels are available for subsequent arrivals. Clearance of MSL at LANAK shall be the highest priority.

3.7.4 Transfer of aircraft from INT to FIN

In a normal traffic situation, aircraft should be transferred to FIN descending to altitude 4000 ft (runway 05) or 4500 ft (runway 23) appropriately positioned on a base or downwind leg.

In all cases, INT shall hand aircraft to FIN with separation ensured against both departures and traffic unknown to FIN. Transfer of communication should take place as soon as possible once the aircraft in question has begun the descent as instructed by INT.

3.8 Final Approach Procedures

3.8.1 Final Approach Separation

FIN is responsible for applying both radar and wake turbulence **separation** on final approach until touchdown.

The radar separation minima are described in [SEP 1.3](#) and wake turbulence separation between aircraft on final approach shall be applied in accordance with MATS Part 1 (CAP 493).

The 'catch-up' or compression that occurs after the leading aircraft passes 4 NM from touchdown must be factored into the spacing provided to ensure that radar and wake turbulence separation are provided until touchdown. In most cases, adding 1 NM to the required **separation** between aircraft and maintaining this until 4 NM from touchdown will act as a sufficient buffer.

***Note 1:** FIN shall not assume Reduced Separation in the Vicinity of an Aerodrome is being applied without coordination.*

***Note 2:** Aircraft performing a visual approach are responsible for their own wake turbulence separation.*

If either radar or wake turbulence separation are eroded below the required minima, the approach must be discontinued.

3.8.2 Final Approach Spacing

FIN is responsible for applying final approach **spacing** until 4 NM from touchdown, accounting for any 'catch-up' due to speed/performance differences. The requirement to apply radar and wake turbulence **separation** until **touchdown** (see above) overrides any spacing guidance or agreement.

The minimum spacing of aircraft on final approach shall be 4 NM. In routine operations on runway 23, FIN will endeavour to achieve spacing of at least 6 NM to allow 1 departure between each arrival. When runway 05 is in use, this should be increased to 8 NM.

Regular coordination with AIR is required to increase or decrease spacing on final to maximise efficiency. A minimum of 15 NM gap must be used ahead of and behind a known emergency aircraft.

***Note:** Due to a lack of rapid exits, 6 NM spacing applied to 4 NM from touchdown is not usually sufficient for a departure on runway 05, hence 8 NM shall be the norm to account for the catch-up as the preceding arrival slows down. However, FIN may apply 7 NM spacing **until touchdown** which should achieve the same effect.*

Controllers should note that a reduced landing rate and therefore increased spacing is required during LVP – see guidance in [GEN 2.2.5](#).

3.8.3 Vectoring to Final Approach

3.8.3.1 Runway 23

Due to high terrain to the north of the runway 23 ILS, special vectoring procedures are established to reduce GPWS terrain alerts with reference to the Campsie line ([APC 1.2](#)) which intersects the ILS at 9.5 NM from touchdown. These procedures apply to any vectored precision or non-precision approach (including SRA).

For an arrival that Glasgow vectors such that it will remain south of the Campsie line, descent may be issued to 3000 ft prior to establishing the localiser. Once issued descent below 3500 ft, this traffic must remain south of the Campsie line, requiring close attention to achieve a timely turn to final.

Alternately, traffic shall not be descended below 3500 ft while north of the Campsie line or being vectored towards this area. Glasgow should aim to establish this traffic before 11 DME to allow descent on the glidepath. If unable to do so, descent to 3000 ft is only permitted when the aircraft is established on the localiser or where within 1NM of the localiser and expected to establish within 11 NM from touchdown.

Traffic may be issued descent below 3000 ft only within the FAVA.

For reasons of noise abatement, instrument aircraft for runway 23 should not be cleared below 2000 ft prior to establishing the final approach track.

3.8.3.2 Runway 05

For reasons of noise abatement, Jet aircraft for runway 05 should not be cleared below 2000 ft prior to establishing the final approach track. Propellor aircraft for runway 05 may be cleared to 1600 ft before joining the final approach track.

Traffic vectored on the south-side of the airport for runway 05 are at risk of breaching the agreed buffer between Glasgow and Prestwick if left on a long downwind leg. FIN must turn traffic to ensure 2.5 NM separation against the Prestwick Local Area.

3.8.4 Speed Control

Speed control may be applied on a tactical basis to the extent determined by the Radar Controller. When established on final approach until 4 NM from touchdown, traffic should typically be instructed to fly 160 KIAS unless coordinated with AIR. For aircraft unable to maintain 160 +/- 5 kts, FIN shall ascertain the final approach speed and inform AIR.

3.8.5 Final Approach Vectoring Area (FAVA)

Subject to other restrictions, FIN is permitted to descend traffic below the minimum levels on the ATC Surveillance Minimum Altitude Chart (ATCSMAC) within the final approach areas (subject to noise abatement rules) if the aircraft is:

- Within the FAVA
- Established on the final approach track, OR
- at an intercept of 40° or less and cleared to intercept the final approach track.
- South of the Campsie line (runway 23)

3.8.6 Visual Approaches for IFR Traffic

APC should not suggest visual (or self-positioning) approaches, and such requests must only be approved if they will not delay following aircraft.

FIN must ensure they coordinate with AIR no later than 10NM from touchdown for traffic conducting a visual approach. Where coordination with AIR has taken place, provided the aircraft has reported visual with the airfield and the position of traffic permitting, aircraft may be cleared for a visual approach subject to the following limitations:

- For aircraft who’s MTWA exceeds 5700 kg, aircraft must establish the final approach track by 5 NM, and shall not be cleared below 1500 ft (AAL) until on final.

When clearing an aircraft for a visual approach, if necessary, the pilot may be given a level restriction to keep the aircraft within CAS (or to comply with terrain safety rules). Recommended wake turbulence spacing shall be passed if the pilot is visually positioning behind another aircraft and wake turbulence spacing is required.

3.8.7 Non-Precision Approaches

Aircraft flying a non-precision approach will usually be vectored as usual then depending on the approach type will be cleared for the procedure as per the relevant chart. QNH should be restated to the pilot and read back even if previously provided when descending to an altitude.

Example: “ABC123, cleared VOR/DME Approach runway 05, QNH XXXX”

Example: “ABC123, cleared VOR/DME Approach runway 23, QNH XXXX. Maintain 3500 ft until established.”

A 10 NM range check must be given to AIR. Once on final approach the aircraft will be transferred to AIR.

3.9 Missed Approach Procedures

The Standard Missed Approach procedures are published in the UK AIP and detailed below.

Runway	Approach	Missed Approach Procedure
05	ILS/LOC/ VOR/NDB	Continuous climb to 3000 ft. Initially straight ahead to 3000 or I-UU DME 5 (GOW 5.9) whichever is <u>earlier</u> . Then right turn to GLW or GOW.

		<i>Aircraft that have not achieved 2000 ft by I-UU DME 5 (GOW 5.9) turn right on track 095 until 2000 ft then right to GLW/GOW.</i>
	SRA	<i>Continuous climb to altitude 3000 ft. Initially straight ahead to 3000 or I-UU DME 5 (GOW 5.9) whichever is earlier. Then right turn to GLW or GOW.</i>
23	ILS/LOC/SRA	<i>Continuous climb to 3000 ft. Initially straight ahead to 2500 ft or I-OO DME 2.6 (GOW 3.0), whichever is <u>later</u>. Then left turn to hold at GOW or GLW.</i>
	NDB	<i>Continuous climb to 3000 ft. Initially on QDR 227 to 2500 ft or I-OO DME 2.6 (GOW 3.0), whichever is <u>later</u>. Then left turn to hold at GOW or GLW.</i>
	VOR	<i>Continuous climb to 3000 ft. Initially on GOW R233 2500 ft or I-OO DME 2.6 (GOW 3.0), whichever is <u>later</u>. Then left turn to hold at GOW or GLW.</i>

3.9.1 ATC Actions for Missed Approaches

- AIR will first sound the UKCP Go-Around alarm and take any actions to prevent an immediate collision.
- Where separation is eroded, AIR will urgently contact FIN who shall be responsible for instructions to ensure radar separation.
- FIN will issue further instructions and contact frequencies for all aircraft.
- APC must ensure departures return to the SID track and vertical profile before handoff to area control. FIN or INT must therefore work any traffic that has been vectored off the SID profile.

3.10 Transfer of Communication Procedures

Transfer of communication will be affected by Scottish in the correct order of aircraft for each inbound route.

Aircraft will be transferred to Glasgow APC in sufficient time for contact to be established before reaching the holding facility so that heading or holding instructions may be passed. If this is not possible, Scottish may coordinate a heading with APC or instruct the aircraft to hold.

Chapter 4 Outbound Procedures

4.1 General

The separation between departing aircraft is the responsibility of Glasgow ADC and is normally achieved by the application of timed intervals between successive departures, as derived from the Departure Speed Group Table (see [SEP 1.2](#)).

Glasgow APC will work non-ATS Route IFR departures and traffic unable to comply with a SID. INT will assume all coordination responsibilities with ADC regarding these and will typically assume responsibility for provision of radar service.

4.2 Departures Subject to Release

AIR is to obtain a **departure release** from **INT** prior to issuing take-off clearance for:

- LUSIV/TRN/TLA departures from runway 05;
- Non-standard IFR departures;
- VFR/SVFR departures;
- when required by Glasgow APC;
- whenever the AIR controller intends to depart successive aircraft which would be separated by less than the specified time interval;
- aircraft not on the speed table, plus the subsequent departure. (This information shall be specifically coordinated in the release request);
- where the following aircraft is 3 groups faster than the leading aircraft. (This information shall be specifically coordinated in the release request).
- whenever the AIR controller requires an aircraft to deviate from the NPR;
- aircraft departing immediately prior to and following a change of runway direction;

The Glasgow AIR controller must obtain a departure release from **FIN** before clearing aircraft in any of the following categories for take-off:

- the next IFR departure following an IFR/SVFR missed approach, touch-and-go or low approach;

Glasgow AIR will normally clear all other departures for take-off without prior reference to APC. Excluding TRN/LUSIV SIDs from runway 05, departures will be transferred direct to the appropriate Scottish sector, unless otherwise instructed by APC.

The AIR controller will inform INT if an aircraft is observed to deviate from the SID to the extent that departure separation may be eroded.

4.3 APC Responsibilities

INT is responsible for monitoring Glasgow departures and providing radar and/or vertical separation for:

- departures on the same or conflicting routes, when requested by Glasgow ADC;
- all inbounds below MSL against departures;
- non-standard departures;
- departures within the Glasgow Designated Area up to FL 90

4.3.1 Glasgow Designated Area

The Glasgow Designated Area is documented in [APC 1.2.3](#). INT is responsible for ensuring separation for all inbound in this area against departures (at FL90 and below). Departures in this area with Scottish control are handled by up to 3 different controllers and therefore Glasgow should not rely on coordination to resolve conflicts.

Separation for an inbound can be ensured with a radar check on the relevant departures, though if doing so for extended periods (more than 5 minutes in every 30 minute block). INT is expected to proactively work with AIR to reduce the effect on departure rate.

4.3.2 LUSIV/TRN (runway 05)

LUSIV/TRN (non jet) departures from runway 05 cross the arrival vectoring pattern from LANAK and climb to 6000 ft. This traffic is subject to departure release from INT and is transferred to INT after departure. INT shall transfer this traffic to Galloway at or climbing to 6000 ft once clear of inbound traffic.

4.4 TLA Departures (runway 05)

Non-jet TLA departures (RWY 05) are transferred directly to Talla sector. The route of these departures is not separated from traffic at LANAK and is therefore subject to departure release from INT. When releasing this traffic, INT will need to vector arriving traffic prior to LANAK to ensure separation, prevent holding and facilitate climb.

4.5 Verification of Mode C

The first radar controller to be in contact with the aircraft is responsible for verifying the Mode C readout, in accordance with the procedures detailed in MATS Part 1, Chapter 5 - therefore aircraft must also be instructed to report their passing altitude (if omitted from the first call) to verify the Mode C readout (readout has to be +/- 200 feet from the reported altitude).

4.6 Non-Standard IFR Departures

Non-standard IFR departures include non-ATS Route departures via SIDs, non-ATS Route departures not via SIDs and ATS Route network departures unable to confirm with a SID. Both types are coordinated between GMC and INT.

4.6.1 Non-ATS Route Network Departures via SIDs

Traffic via CLYDE and ROBBO will leave controlled airspace at the Scottish TMA boundary. GMC is permitted to issue these SIDs with a clearance to leave controlled airspace. No coordination is required.

4.6.2 Non-ATS Route Network Departures not via SIDs

GMC will initially coordinate these departures with INT, who will be expected to issue a local squawk at this point. INT may choose to pass after departure instructions now or inform GMC that they will be provided at the holding point with the release.

Depending on direction of travel, INT shall decide whether the traffic is best worked by INT or FIN. Most departures should be worked by INT, however occasionally low level routes

towards the final approach may be more appropriately worked by FIN. If being worked by FIN, coordination should take place before INT issues a release and after departure instructions.

Until this traffic leaves controlled airspace, it must remain within the confines of airspace delegated to Glasgow.

4.6.3 Non-Standard ATS Route Network Departures

Where traffic is unable to comply with the restrictions of a SID, GMC will coordinate a non-standard instruction/routing with INT but will obtain a squawk code from UKCP.

INT may choose to pass after departure instructions now or inform GMC that they will be provided at the holding point. GMC will issue a 6000 ft initial climb if not given alternative instructions.

It is expected that INT will work this traffic after departure to identify and undertake SSR validation/verification and then provide vectoring onto an appropriate route equivalent to the SID track for the direction of flight. The receiving Scottish sector should be informed of such traffic being worked by Glasgow, but a release is not required.

Traffic should be transferred to the appropriate Scottish departure sector control once on an appropriate radar heading and should be instructed to “report your heading to Scottish Control...”.

4.7 Transfer of Departures

If INT requires to work departures that are normally transferred to Scottish Control, they shall coordinate with AIR which departures they wish to work, the frequency for transfer, and when this arrangement shall cease.

4.7.1 Silent Handover

If Glasgow APC elect to work a departure, it may be transferred by **silent handover** to Scottish provided it is climbing to the SID altitude, following the agreed route, and separated from all local area traffic.

Transfer of communications must take place before the local area boundary.

Glasgow APC are cautioned of the TLA 6B (non-jet) SID off runway 05, which initially climbs to 5000 ft to separate against GOSAM departures from Edinburgh. The step-climb to 6000 ft does not occur in the Glasgow Local Area. If electing to work this traffic INT **must** monitor this traffic to ensure it does not climb above 5000 ft.

4.8 Vectoring of Departures

By Glasgow APC

INT is responsible for monitoring departures and ensuring separation against inbound traffic. In particular, they shall resolve any conflict between TRN/LUSIV non-jet SID departures and arrivals before transfer to Galloway, or shall vector arriving traffic to provide at least 5 NM separation from traffic on the SID or until vertical separation exists.

Departures may be vectored by Glasgow APC within the local area to achieve separation without coordination with area control. This traffic must be resumed own navigation on the SID track by the local area boundary, else coordinated. Glasgow shall take due care not to erode the separation provided by the departure interval applied by AIR.

By Scottish

TRN/LUSIV departures transferred to Galloway are not permitted to be vectored off the SID track until MSL+1 or higher.

NORBO departures from runway 23 can be turned left by Galloway after XETUN or 4000 ft. If turning below MSL, Galloway is responsible for separating against prior departures and arrivals released to Glasgow.

For all other departures, Scottish control shall not vector off the SID until the traffic is at MSL or higher.

4.9

Climb above SID Levels

Glasgow APC is not to climb outbound aircraft above the SID altitude without prior coordination with the appropriate Scottish departure sector.

LOW | LOW LEVEL OPERATIONS

Chapter 1 General Principles

1.1 Provision of Air Traffic Services

INT is responsible for all VFR and SVFR aircraft operating within the Glasgow CTR/CTA.

INT may, subject to controller workload and suitable radar and VHF coverage, offer UK Flight Information Services (UK FIS) to aircraft operating outside controlled airspace within 40 NM of Glasgow.

ADC is delegated responsibility for VFR aircraft operating within the ATZ below 1500 ft.

1.2 Coordination

1.2.1 Departure Coordination

GMC is permitted to clear traffic wishing to depart VFR via the following routes, without prior coordination:

- Alexandria
- Ardmore Point (runway 05)
- East Kilbride
- Greenock (runway 23)

GMC shall issue clearance by the relevant exit lane not above 2000 ft and may utilise a code in the 2615-2617 range. GMC will notify INT of the callsign, aircraft type, allocated squawk and route of any such cleared aircraft. Where GMC has utilised all squawks, they will contact INT for a squawk allocation.

GMC will coordinate with INT to obtain all other VFR/SVFR clearances and code allocations. GMC will inform AIR of all departure clearances issued.

AIR will obtain a release from INT for all VFR/SVFR departures.

1.2.1.1 Runway 23

For all exit lanes when runway 23 is in use, the following restrictions are to be specified in the clearance.

Via	Instruction
Greenock	Remain south (of the south bank) of the River Clyde
Alexandria	Remain south of the River Clyde until West of the River Leven
East Kilbride	Remain south of the A726 and A727

1.2.1.2 Runway 05

For all exit lanes when runway 05 is in use, GMC will specify the following restrictions are to be specified in the clearance.

Via	Instruction
Ardmore Point	Remain north (of the north bank) of the River Clyde
Alexandria	Remain north of the River Clyde and East of the River Leven
East Kilbride	Remain north of the A726 and A727

1.2.2 Arrival Coordination

INT will coordinate with AIR with regards to traffic wishing to operate within or in the vicinity of the ATZ. INT will notify FIN of all traffic relevant to the final approach or missed approach tracks.

1.2.3 Circuit Traffic

AIR shall inform INT when the circuit becomes active and again when it is no longer active. INT is responsible for informing FIN.

1.3 SSR Code Allocations

1.3.1 Glasgow

Glasgow is allocated the local SSR code range of 2601-2617. GMC will issue codes 2615-2617 to VFR traffic departing VFR via exit lanes, without coordination with INT. If insufficient unique codes are available for airborne traffic, INT may 'reclaim' these codes from GMC.

Aircraft within the vicinity of the Glasgow CTR/CTA may select the listening code of 2620. This indicates that the aircraft is maintaining a listening watch on Glasgow Radar's frequency (119.100 MHz), however the Mode A and C readout displayed must be considered unvalidated and unverified, respectively.

1.3.2 Edinburgh

Edinburgh is allocated the local SSR code ranges 0430-0437 and 0441-0443.

Aircraft within 10 NM of the Edinburgh CTR or operating underneath the Edinburgh CTA may select the code 0440. This indicates that the aircraft is maintaining a listening watch on Edinburgh Radar's frequency (121.205 MHz), however the Mode A and C readout displayed must be considered unvalidated and unverified, respectively.

1.3.3 Prestwick

Prestwick Radar is allocated the code range 4501 – 4517. The Prestwick Conspicuity squawk is 4520, which is considered unvalidated.

1.3.4 Leuchars

Aircraft operating in the vicinity of Leuchars being worked by Leuchars ATC may display a Leuchars squawk code between the ranges of 7403-7427. The conspicuity squawk for Leuchars is 7402, which is to be considered unvalidated.

1.3.5 Scottish Information

Aircraft in receipt of a Basic Service from Scottish Information (119.875 MHz) shall be assigned the squawk 7401. the Mode A and C readout displayed must be considered unvalidated and unverified, respectively.

Chapter 2 Airspace

2.1 Classification

The Glasgow Control Zone (CTR) is classified as Class D from surface to 6000 ft. Glasgow CTA 1 and 2, plus the delegated portion of Scottish TMA 1 and 5 are also class D airspace. Aircraft are permitted to operate in VMC and IMC conditions under either VFR or SVFR as appropriate under the authority of Glasgow APC.

Glasgow is also delegated authority for the western portion of Scottish TMA 7 (4000 - 6000 ft) and the entirety of Scottish TMA 6 (3000 – 6000 ft), both of which are Class E. VFR aircraft may operate in this airspace without contacting or monitoring Glasgow APC. IFR traffic in this airspace is provided Radar Control service, whilst VFR traffic in contact with Glasgow shall receive UK Flight Information services.

2.2 Visual Reference Points (VRPs)

The following VRPs are for use by aircraft operating to and from Glasgow.

VRP	
Alexandria	555920N 0043435W
Ardmore Point	555817N 0044157W
Baillieston	555110N 0040522W
Barrhead	554800N 0042330W
Bishopton	555408N 0043006W
Dumbarton	555640N 0043406W
East Kilbride	554550N 0041020W
Erskine Bridge	555513N 0042746W
Greenock	555650N 0044505W
Inverkip Power Station	555354N 0045312W
Kilmacolm	555340N 0043739W
Kilmarnock Railway Station	553645N 0042954W
Kingston Bridge	555122N 0041611W

Chapter 3 VFR Operations

Aircraft shall normally enter the Glasgow CTR via published VRPs. Utilisation of the entry/exit lanes is suitable for a clearance of 'not above 2000 ft'. From other directions, controllers should consider local terrain prior to providing altitude restrictions – remaining aware that the terrain in the CTR is as high as 1897 ft.

To permit VFR flight in IMC conditions, an entry/exit lane system has been established (see LOW 3.2 below).

Details of inbound VFR traffic should be passed to AIR and transfer of control and communication shall take place either when visual with the airfield, or on an appropriate visual route via the entry/exit lanes.

SVFR inbounds will be retained by APC until such time as APC can safely integrate the aircraft into the inbound stream, maintain standard separation, and when the aircraft has become number one to land; to ensure that it cannot execute any manoeuvre which will erode the separation against the aircraft ahead.

3.1 Penetration of ATZ

VFR/SVFR fixed-wing aircraft shall be coordinated with AIR prior to entering the ATZ. INT will coordinate a course of action with AIR that will facilitate the safe passing of the aircraft through the ATZ and transfer communication prior to the ATZ boundary (unless otherwise agreed). Any crossing overhead the airfield below 2000 ft should be made at the landing threshold of the runway in use.

3.2 Entry/Exit Lanes

To permit aircraft to operate to and from Glasgow in IMC but not under, VFR entry/exit lanes have been established for use under specific conditions:

- North (main): A lane 3NM wide following the River Clyde from the ATZ to the northwest boundary of the CTR. Entry/Exit via **Greenock** VRP (south of river) or **Ardmore Point** VRP (north of river).
- North (branch): A branch of the above, 3NM wide from near the **Alexandria** VRP via the River Leven to **Dumbarton** VRP to join the main lane. (exact points defined by coordinates)
- South: A lane 3NM wide from **East Kilbride** VRP following the A726/A727 to the ATZ.

Use of the above lanes are subject to clearance from INT irrespective of weather conditions. Clearance must be obtained before entering the lane.

Aircraft using these lanes must remain clear of cloud and in sight of the ground or water, not above 2000 feet on the Glasgow QNH and with visibility of not less than 3km.

The AIP publishes that aircraft using the lanes shall keep the centreline on its left unless otherwise instructed by ATC. On VATSIM, ATC are encouraged to explicitly specify which side aircraft are to remain on.

Pilots always remain responsible for ground clearance.

3.3 Helicopter Operations

3.3.1 Overflight Procedures

Helicopters wishing to operate in the Glasgow CTR/CTA will be cleared on direct routings under VFR (or, when requested at night in the Glasgow Control Zone, on Special VFR clearance in accordance with the procedures for Special VFR flights).

VFR helicopters may be only routed overhead with the prior approval of the AIR controller.

Once this approval from the AIR controller has been received, the pilots of helicopters will receive a required VFR clearance across the airfield.

Note: *There is no specific helicopter VRPs, so helicopters obtain entry through a published VRP then are simply asked to report to the field.*

Before the helicopter reaches the ATZ; INT is to coordinate the flight with the AIR controller and confirm; direction of flight, contact frequency after crossing (if not INT), current squawk. INT remains responsible to pass necessary information regarding aircraft making IFR approaches until such crossing traffic is transferred over to ADC.

AIR will retain control of the transiting aircraft until clear of any conflicts, once the controller is happy that there are no conflicts that may present, the AIR controller can then transfer the aircraft back to APC for onward clearance.

3.3.2 Inbounds and Outbounds

3.3.2.1 Manoeuvring

While helicopters are operating on the manoeuvring area extreme caution must be exercised regarding wingtip/rotor blade clearance and turbulence.

3.3.2.2 Use of Runways

The threshold of the runway in use shall be the default location for departing and arriving helicopters.

Direct departures from the Gama apron may be permitted by familiar controllers only if specifically requested by the pilot. Departures routing across the runway are not to be permitted when an inbound aircraft is within 4NM of the threshold.

Standard wake turbulence separation requirements must be applied between a helicopter movement and the traffic which precedes it.

3.3.2.2.1 After Landing

After landing, helicopters will ground taxi or air taxi to their alighting point by the Juliet apron or the Gama apron.

3.3.2.3 Outbound Procedures

Standard MATS Part 1 (CAP 493) wake turbulence separation procedures must be applied between a helicopter movement and the traffic which precedes it.

3.4 SVFR Procedures

SVFR visual circuits are subject to agreement between AIR and INT. Only one SVFR aircraft is permitted in the visual circuit at a time. INT shall provide a 20 NM range check to AIR on IFR arriving aircraft. When an IFR aircraft is approximately 20 track miles from the airport the SVFR aircraft must be instructed to leave the circuit or land to maintain standard separation between IFR and SVFR aircraft.

SVFR aircraft transiting the zone must route overhead the airfield and remain clear of the extended centreline. SVFR aircraft are not permitted to fly inside of the Glasgow CTR if the reported airport visibility is less than 3km and the cloud ceiling is less than 1000 feet.

Only one SVFR aircraft is permitted in the North lanes or South lane at any time.

GLOSSARY

Abbreviation	Section
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	Estimated Approach Time
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
KIAS	Knots Indicated Airspeed
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
UKCP	UK Controller Plugin

* 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.