

Gama Aviation 



Kings College Hospital (KCH) - Provision of PinS Instrument Flight Procedures

ACP-2023-027

ENGAGEMENT REPORT (CAP1616 STAGE 3)

26 APRIL 2024

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1 Introduction

1.1 Background

This document is the Engagement report for Airspace Change Procedure (ACP) ACP-2023-027 sponsored by Gama Aviation Plc. Gama Aviation operates the AW169 helicopter service for Air Ambulance Charity Kent Surrey Sussex (AACKSS) under the ring-fenced Specialist Aviation Services AOC.

This ACP concerns Kings College Hospital (KCH) which is the primary Major Trauma Centre for AACKSS. The proposal is to introduce an Instrument approach and departure to the hospital using Helicopter Point-in-Space (PinS) criteria.

The PinS procedure will supplement the existing Visual Flight Rule (VFR) procedures, which will remain the primary means of approach.

This ACP is being conducted in accordance with CAP1616. The ACP is being progressed under CAP1616h (a pre-scaled ACP).

This document is the Engagement report, part of Stage 3 of the ACP.

1.2 Early engagement

Prior to the main engagement described in Section 2, some “early engagement” was held with NATS in meetings on 22 April 2022, 5 July 2023 and 2 Aug 2023. An email summary was produced from the first meeting and minutes from the 2nd which are included in the evidence pack.

This engagement focussed on the integration of KCH procedures into the London City CTR which was generally seen as feasible but with several factors to be considered.

2 Description of engagement

2.1 Introduction

A 6-week engagement was held, as described in the engagement strategy. As part of this, engagement material was distributed to identified organisations. Both documents are available on the airspace change portal, [here](#).

This was a targeted engagement aimed at aviation stakeholders.

The engagement was concluded successfully on 26 February 2024 and the results are described below.

A full list of stakeholders contacted for the engagement, including the early engagement with NATS, is given in Annex B.

2.2 Updates during the engagement

In addition to the main engagement described in the engagement strategy, the following updates were made and additional engagement undertaken:

- A meeting was held with London City to discuss their concerns raised in their engagement response. As a result a change to the Missed Approach Procedure is proposed as shown in Annex A. Further engagement was held and this is documented in Annex A.
- NATS were contacted to discuss holding a meeting to agree the means of coordination of Kings and more widely. NATS agreed to this and it was held on 12 April 2024. At this meeting, NATS agreed to look into the impacts on LCY 09 arrivals in more detail. Biggin Hill was also present since use of the procedure could also impact the Biggin Trial of RNP APCH to RWY 03 and their existing operations to RWY 21.
- Further coordination was held with Biggin Hill including sharing the proposed revised missed approach procedure. New south-bound departure routes were added to reduce impact on Biggin Hill when it is busy on RWY21.
- London (Battersea) Heliport were contacted directly since it had not responded to the engagement. A verbal conversation was held. They stated that they are happy with the proposal as long as use of the procedure is coordinated by NATS.

2.3 Engagement results

There were 7 replies to the engagement from a range of organisations as shown below.

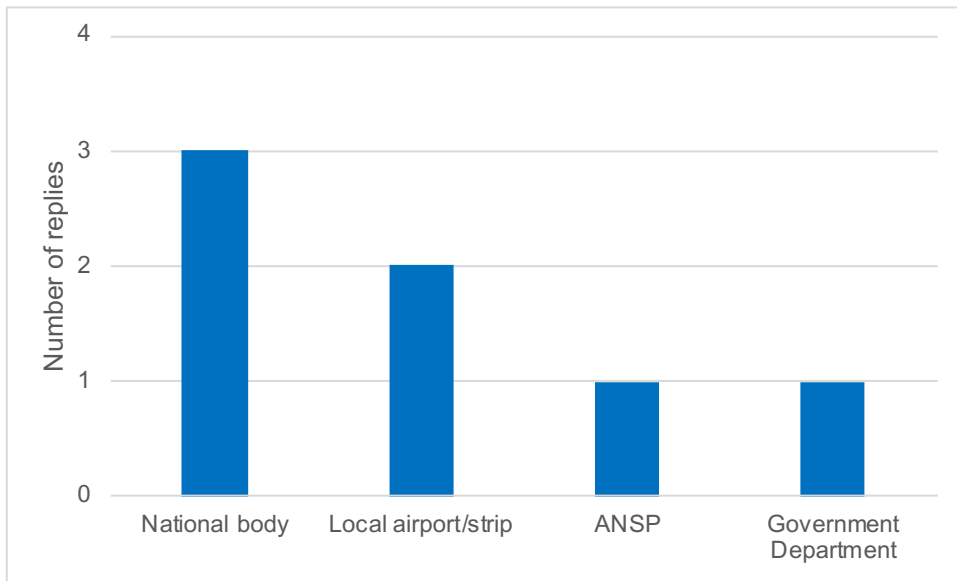


Figure 1: Number of different types of organisations replying to the engagement

The following views were received, including one objection.

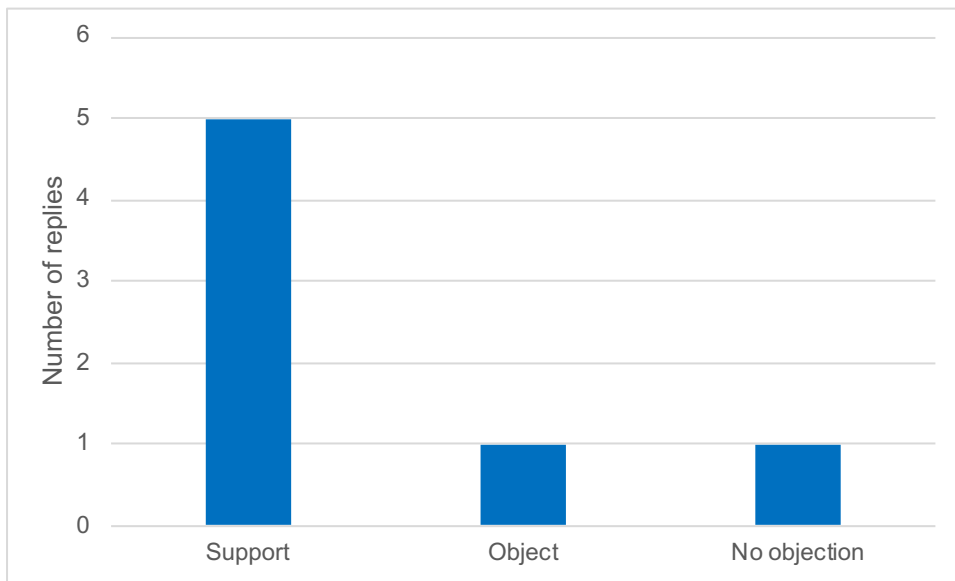


Figure 2: Number of different types of view in the replies to the engagement

3 Engagement responses

3.1 Overview

The 7 engagement responses are summarised below. The feedback raised is given in Annex A with responses.

ID	Name	Organisation	View	Main response comment
R1	[REDACTED]	British Helicopter Association	Support	This will benefit the population of UK by providing faster access to critical hospital care. See comment 1 in Annex A.
R2	[REDACTED]	NPAS	Support	The use of PINs will reduce the number of aircraft operating low level in poor weather and enables full use of the IFR capabilities of modern helicopters
R3	[REDACTED]	Biggin Hill Airport	Support	Biggin Hill Airport supports this proposal. See comment 2 in Annex A
R4	[REDACTED]	NATS	Support	
R5	[REDACTED]	London City Airport	Object	See comment 3 in Annex A
R6	[REDACTED]	NATS NERL plc	Support	Specialist Aviation Services have engaged with NERL from an early stage of their process to deliver PinS approaches to support HEMS activity within the London area. See comment 4 in Annex A
R7	[REDACTED]	Ministry of Defence	No objection	The proposed ACP has no significant impact upon military operations or freedom of manoeuvre.

Table 1: Summary of engagement responses

3.2 Summary of actions from engagement

The engagement feedback, summarised in Annex A with responses given to the comments, has resulted in the following main actions or changes to the ACP:

- Update missed approach procedure as shown in Annex A.
- Hold coordination meeting with NATS and local airports to agree the means of coordination of Kings and more widely.

4 Local stakeholder data

The engagement also reported local aircraft numbers, movements, operating conditions and electronic conspicuity (EC) data for local airfields and operators. The following information was received. This has been used in the safety assessment supporting the airspace change application.

Organisation	Approx. how many movements per year do you operate, or operate from your base?	What weather conditions do you typically operate in?	How often do you operate in marginal VMC conditions?	Do the operating aircraft have Electronic Conspicuity?	What airborne surveillance and/or EC solution do you/they use?
Biggin Hill Airport	50000	VMC & IMC	Often	Most (70% or more)	Mode A, C or S Transponder

Table 2: Local stakeholder information received

5 Conclusions

The engagement for the KCH ACP (ACP-2023-027) was successfully conducted in accordance with the engagement strategy. 7 replies were received including one objection to the ACP. Significant responses were received from Biggin Hill airport and London City airport, these were followed up with direct discussions.

A number of actions have resulted from the engagement, listed in Section 3.2.

A Detailed feedback received during engagement

ID	No.	Concern	Response
R1	1	This will rely on close coordination with other airfields, Battersea Heliport, and the London TMA controllers. The mentioned Letters of Agreement will set the conditions and requirements and therefore there are no safety concerns	We are working with the relevant stakeholders to agree these working arrangements. Meetings are ongoing with NATS and local airports to agree coordination procedures.
R3	2	<p>Biggin Hill Airport ATC continues to work with KSS to ensure the following;</p> <ol style="list-style-type: none"> 1. All KSS aircraft intending to use the PinS to/from King's College Hospital will communicate with Biggin Hill Airport, during the airports operating hours, as the PinS Approach is in direct conflict with the Biggin Hill Airport Instrument Approach. 2. As the 21 ILS Approach to Biggin Hill is the only available instrument Approach to the airfield, only Category A aircraft will be given priority over Biggin Hill air traffic. 3. Any KSS aircraft conducting training, using the PinS Approach, will not impede or delay aircraft inbound to Biggin Hill Airport. Training should be conducted at a mutually convenient time, during the Airports operating hours, or outside of these hours. 4. The use of the ALKIN Hold, as indicated in the engagement material, will be co-ordinated with Biggin Hill ATC, during the hours of operation of the airport. 5. As indicated in this engagement material (Impact on other Airspace Users), it is agreed that there will be a robust Letter of Agreement between the Biggin Hill Airport and KSS, with regards to interactions between present and future Approaches to/from Biggin Hill Airport (EGKB ACP-2019-86 & ACP-2023-75). 	<p>Coordination procedures will be agreed, once NATS has confirmed what services it will provide.</p> <p>Noted.</p> <p>Agreed.</p> <p>Coordination procedures will be agreed as indicated above.</p> <p>Coordination procedures will be agreed as indicated above</p>
R5	3	Thank you for the opportunity to comment on the proposed PinS helicopter instrument approach procedure to Kings College Hospital. London City Airport (LCY) appreciates the social importance for this initiative and will endeavour to engage with your ACP work throughout the process. We do have concerns that while the instrument procedures are being used that in some circumstances it will have a significant impact on LCY operations. We feel there needs to be more engagement in the following areas:	

	<p>Stated use of procedure Your initiative aims to allow for an additional 100 patient transfers a year. We would like a little more detail on this. We think this could mean an extra 200 flights as most will be a one way drop off? We also wonder if some flights that can be made today will make use of the procedure once it is introduced if the weather is poor but still Visual Flight Rules (VFR). This would be a sensible safety decision. So, the number of times the procedures (arrival and departure) are used could be greater than 200? We assume if the weather conditions require the use of the instrument approach that the instrument departure is likely to be used too, although there may be occasional exceptions to this.</p> <p>Impact on LCY Runway 09 arrivals Our initial assessment is that arriving aircraft to LCY Runway 09 will need to be delayed somehow while the KCH procedures are in use. It is estimated that a helicopter would take approximately 15 minutes to fly the KCH procedure including the missed approach and that a space in the LCY arrival sequence would need to be made to accommodate this. This is a severe operational restriction.</p> <p>Impact on LCY future operations (LCY ACP CAA ref ACP-2018-89) for Runway 27 departures LCY is proposing as part of the LTMA coordinated future airspace initiatives to introduce departures from Runway 27 that turn right (<i>sic</i>) after take-off and then head southeast. These would appear to be in conflict with the KCH procedures and it may not be possible to use them when the KCH procedures are in use. This would be a significant operational restriction. Design restriction to have the entire KCH approach in controlled airspace. We understand that NATS advised that the entire KCH approach should be inside the LCY CTR/CTA. We feel that the decision to follow this advice may have overly constrained the design options and that there may have been options that reduced the impact on LCY operations but still achieved the KCH ambitions.</p> <p>Design restriction to future proof the KCH approach for 'proceed visual' PinS By designing the approach to allow for future 'proceed visual' PinS operations we think that this has also limited the design options, again possible missing an opportunity to minimise the impact on LCY. The 'proceed VFR' criteria gives far greater flexibility in the placement of the final approach to the landing site, or an adjacent approach point, as it is not tied to a specific geometry to the landing site.</p>	<p>Additional information on movements provided below.</p> <p>Whilst impact on 09 arrivals cannot be avoided (since KCH is within 3nm of the LCY R09 arrival track), the missed approach can be moved away and this is proposed to be done as shown below. It is noted that all LCY 09 arrivals will need coordination with Biggin arrivals and therefore the additional impact of HEMS should not be significant.</p> <p>Keeping the approach inside the CTR/CTA is our preferred option for safety to minimise flight in class G. The proposal for a "27 DEP left turn" in ACP-2018-89 is noted and several departure options are presented there. The proposal will require safety assessment to "ensure deconfliction from Heathrow departures and Gatwick and Biggin Hill air traffic flows" so it appears that further work is required. At this stage it is not clear how the PinS could avoid this option wherever it is placed.</p> <p>The approach direction is not impacted by the "proceed visual" ambition but more by local factors including the nearby church, noise sensitive areas and, to the South, Crystal Palace masts. To avoid all these would require an approach from the South West which would significantly add the track miles for the approach.</p>
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		<p>We appreciate that a ‘proceed visual’ PinS approach may allow for flights in poorer weather conditions. However, this is not currently allowed in the UK and given the densely populated urban landing site at KCH we wonder if this would be appropriate, and therefore approved if there were a change of CAA policy.</p> <p>Conclusion</p> <p>In conclusion, LCY appreciates the desire to have these instrument approach procedures but we object to this particular proposal on the basis that the design options could be explored further and that the proposed procedures result in a significant operational impact on LCY flights.</p>	<p>Additionally, it is noted that the reference of a change to “proceed visually”, rather than “proceed VFR”, is related to a review of the applicable weather minima and not an attempt to reduce the procedure minima.</p>
R6	4	<p>Specialist Aviation Services have engaged with NERL from an early stage of their process to deliver PiNS approaches to support HEMS activity within the London area. They have reacted positively to feedback provided, ensuring that the impact to other airspace users is minimised as practicably as possible.</p> <p>Due to the separation requirements, as detailed in CAP493, there will be an unavoidable impact to operations at London city, Biggin Hill and London Heliport. However, during the conditions that the PiNS approach can be expected to be used, primarily poor weather, these CAT A priority flights would in all likelihood be operating SVFR where the same separation requirements are applied.</p> <p>By having a published procedure, the NERL (LTC) Operation, primarily Thames Radar, will be better placed to provide the services required as it will bring consistency and predictability to how these flights will be managed and therefore there can be an expected workload benefit due to the simplification of coordination between multiple agencies.</p> <p>Whilst we have some queries detailed below, subject to a satisfactory response and continuation of the positive engagement between all parties then NERL is supportive of this ACP.</p> <p>Slide 2</p> <p>SAS have indicated that the PinS approach will be used for approximately 100 additional flights per year, averaging 2-3 per week, which from our initial assessment will limit the impact to other airspace users and can be accommodated within the existing management of the airspace. There is some expectation that training flights may be required and NERL request that</p>	<p>KCH sits inside the London City CTR which is Class D Airspace. All flights to the hospital, whether IFR, SVFR or VFR, will be in receipt of a Radar Control Service with separation applied as required.</p> <p>Noted</p> <p>Use of training flights may be coordinated with NATS and this will be discussed in the planned meeting.</p>

	<p>these are pre-notified to ensure appropriate staffing within the operation is in place to accommodate these non-priority activities.</p> <p>Slide 5 NATS welcomes the addition of the seconding holding point at KC440. This will provide additional flexibility to Thames Radar, who are responsible for the safe integration of both London City and Biggin Hill IFR inbounds, in addition to the integration of low level VFR and SVFR operations.</p> <p>Slide 6 NATS is in agreement that Option A, holding at KCM02, should be the preferred option as it provides greater deconfliction with operations at Biggin Hill. Both option A and B will have an impact to London City RWY09 operations, however this would be no different to today in poor weather where their category A flights would be operating SVFR and the same separation criteria would apply.</p> <p>What is the expected altitude at KCM01? This is needed to understand the impact, if any, to IFR arrivals London Heathrow.</p> <p>Slide 7 What is the expected altitude at KC810 and coordinates for the furthest west point of the departure? This is needed to understand the impact, if any, to IFR RWY27 arrivals and RWY 09 departures at London Heathrow.</p> <p>Slide 11 NATS welcomes the positive engagement between SAS and Biggin Hill. As the provider of the Approach Surveillance function for Biggin Hill it will be key that NERL (LTC) are involved in these conversations going forwards.</p>	<p>Noted</p> <p>Noted. The suggested change in the missed approach procedure will provide even greater deconfliction from Biggin Hill operations, both for RWY21 and RWY03. Additionally, this proposed change, will reduce the impact on London City RWY09 operations as the hold is positioned more than 3nm south of the RWY09 approach route.</p> <p>The MAP is redesigned below so this waypoint is no longer in the Heathrow CTR.</p> <p>This waypoint will be at or below 1500ft. An additional height constraint could be added if required.</p> <p>Noted</p>
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Stated use of the procedure

Additional information was provided on likely movements, and how they might impact London City RWY 09.

In 2023, there were 53 occasions where the HEMS teams went to a scene by road and then accompanied the patient into Kings during London City's normal operating hours. It is unlikely that all of these patients could have been taken by helicopter, even if these procedures were available. It is estimated that to fly from ALKIN to land, or fly clear of the RWY09 approach route (using the revised missed approach procedure), would take approximately 10 minutes. As LCY have assessed that RWY09 is used for approximately 1/3 of their operations it is estimated, from the total figure above, that a maximum of some 18 Category "A" flights a year could have an impact on the LCY RWY09 arrivals. There may also be a small number of flights by other operators that affect RWY09 arrivals.

The number is also not expected to increase significantly. Whilst AACKSS has an ambition to increase its two helicopter operations from 12/24 hours to 18/24 hours to match the availability of the medical teams, the additional hours (– 0600-0800 and 2000-2400) would only increase the likelihood that a patient might be flown to hospital, not the overall number of patients. Otherwise AACKSS has no plans to increase operations and the sponsor is not aware of any plans by other operators to increase their hours. Noting the observation from NERL, it is recognised that there may be a few additional occasions where it is preferable to use the available approach procedure, either to assist with controller workload or for safety in marginal VFR conditions. This is not expected to place any significant burden on the RWY09 operations at London City.

It is also accepted that aircraft departing from Kings will integrate with all other airspace users, and this has been incorporated into the procedure designs and forms the basis of the discussions on flight co-ordination arrangements.

Impact on LCY Runway 09 arrivals

As a result of the engagement feedback, to minimise impact on LCY 09 arrivals, a change to the missed approach procedure was implemented. This takes the aircraft directly south away from 09 operations and ends in a hold (KCM03) that is more than 3nm from the 09 arrival track. Although used infrequently, it will reduce the impact of any missed approaches on LCY 09 arrivals. The revised procedure is shown below.



Figure 3: Revised MAP procedure shown on CAA VFR 1:250000 chart

Following this revision, there was further engagement with LCY who requested that the following statement be added to this report:

LCY appreciates the importance of Cat A Hospital flights and will continue to work with AAKSS and KCH on this proposal. We accept that the proposed number of flights at introduction is small, however, without a greater understanding of how each flight impacts the LCY operation in terms of delay minutes, ATS workarounds/procedures, and knock on operational impacts, we do not know how big an impact this new procedure will make. We believe there is further work needed to determine how and if these flights can be integrated safely into the airspace and this should determine the likely delay/CO2/Noise impacts for LCY aircraft if the application were successful. We suggest that this work is done now before the next stage of the ACP, and may need to involve the use of ATS simulations/analysis by the ATS provider

NATS. Each KCH flight during LCY operational hours will probably delay one third of present arrivals and also potentially one third of future departures based the airports proposals as part of the coordinated future airspace work for all London airports.

Since becoming aware of the initiative we have worked to investigate these issues but unfortunately the airport was not engaged directly at the earlier stages of work. We appreciate that the ACP is being conducted under a fast-track process due to the low number of flights and therefore limited impact to the general public in terms of noise, etc, However, we wonder if this process fits well for this particular application given the complex nature and constraints of the LHR/LCY operations/airspace.

Following this request, a meeting was held with LCY, NATS and Biggin Hill on 12 April 2024. At this meeting, NATS agreed to investigate the further impact on LCY 09 arrivals of the PinS operations, including the gap in arrival traffic that would be required to allow a PinS approach.

Additional departure routes

If LCY are on RWY09, then Redhill would most likely be using RWY07. This led to the decision that from the hold at KCM03 it would seem most appropriate to route towards ITSUM and then transition to the approach procedure for RWY07 at Redhill. The logical extension of that was to create this option when conducting an easterly departure from the helideck, namely – KC700 – KC420 – KC430 – KC710 – ITSUM. This avoids Biggin Hill’s approach for RWY21, and by adding a transition to the procedure we can also create the required separation from the proposed RNP IAP for RWY03.

Both for reasons of minimising impacts on Biggin Hill and flight efficiency, additional routes were added whereby a departure into a westerly wind might also allow an aircraft to route towards the south west. The existing departure, KC800 – KC810 – KC840 with KC820 – KC420 – ALKIN was supplemented with the additional option from KC840 – KCM03 - ITSUM. In the event that Biggin Hill are particularly busy on RWY21, it potentially allows an aircraft to make a downwind approach to Redhill RWY07 and employ circling minima to land on RWY25, thereby minimising the effect on their operations as much as possible.

As a consequence of introducing these two extra departure routes, in whichever direction the helicopter takes off from the pad, there is an option to depart via ALKIN or ITSUM giving the controlling authority and other aviation stakeholders the maximum flexibility in sequencing departures from KCH. The resulting four departure routes proposed are shown below.



Figure 3: Easterly departure procedure via ALKIN shown on VFR 1:250000 chart



Figure 4: Easterly departure procedure via ITSUM shown on VFR 1:250000 chart

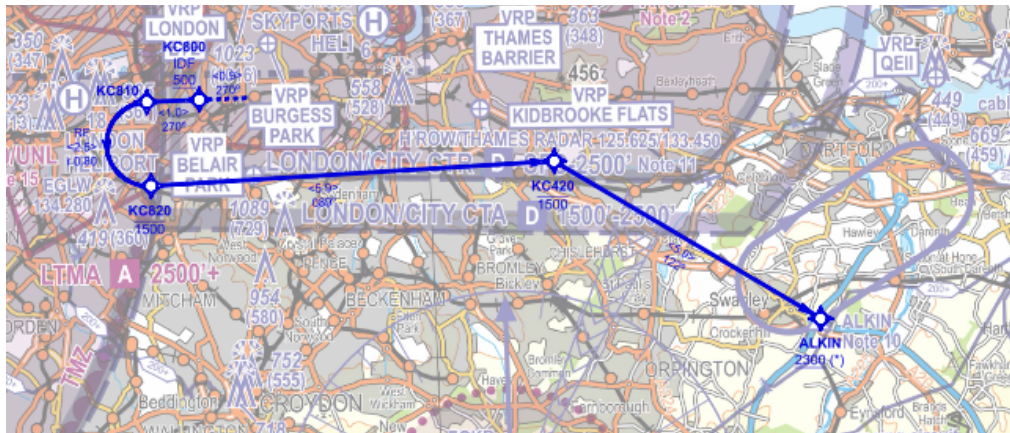


Figure 5: Westerly departure procedure via ALKIN shown on VFR 1:250000 chart

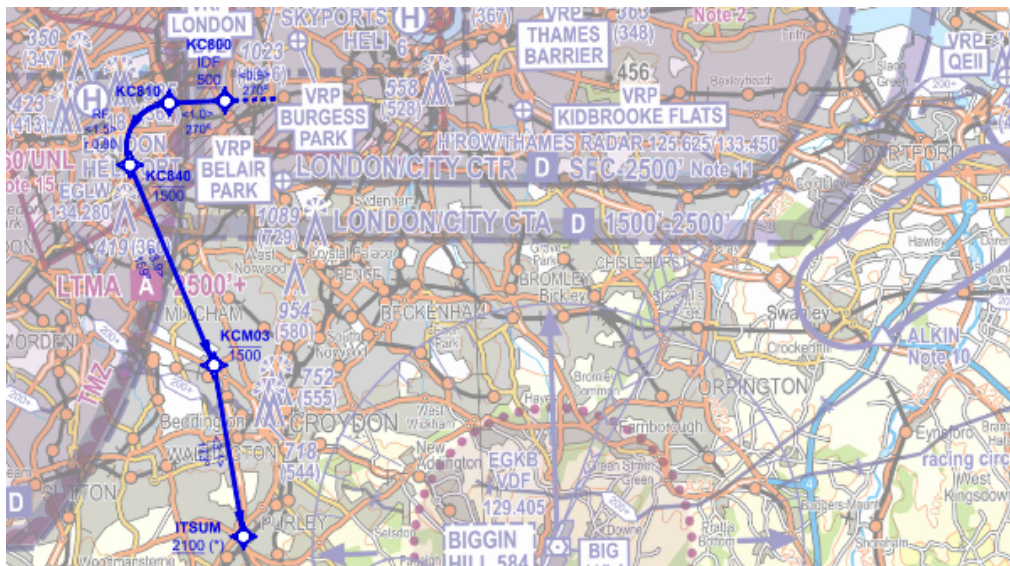


Figure 6: Westerly departure procedure via ITSUM shown on VFR 1:250000 chart

B Full list of stakeholders from engagement

This list includes stakeholders from the early engagement with NATS.

Organisation	Contact Name	Email
Airlines UK	[REDACTED]	[REDACTED]
Airport Operators Association (AOA)	[REDACTED]	[REDACTED]
Airfield Operators Group (AOG)	[REDACTED]	[REDACTED]
Aircraft Owners and Pilots Association (AOPA)	[REDACTED]	[REDACTED]
Airspace Change Organising Group (ACOG)	[REDACTED]	[REDACTED]
Association of Remotely Piloted Aircraft Systems UK (ARPAS-UK)	[REDACTED]	[REDACTED]
British Airways	[REDACTED]	[REDACTED]
BAe Systems	[REDACTED]	[REDACTED]
British Airline Pilots Association (BALPA)	[REDACTED] [REDACTED]	[REDACTED] [REDACTED]
British Balloon and Airship Club	[REDACTED]	[REDACTED]
British Business and General Aviation Association (BBGA)	[REDACTED]	[REDACTED]
British Gliding Association (BGA)	[REDACTED]	[REDACTED]
British Helicopter Association (BHA)	[REDACTED]	[REDACTED]
British Microlight Aircraft Association (BMAA)	[REDACTED]	[REDACTED] [REDACTED]
British Skydiving	[REDACTED]	[REDACTED]
Drone Major	[REDACTED] [REDACTED]	[REDACTED] [REDACTED]

General Aviation Alliance (GAA)	[REDACTED]	[REDACTED]
Guild of Air Traffic Control Officers (GATCO)	[REDACTED] [REDACTED]	[REDACTED]
Helicopter Club of Great Britain (HCGB)	[REDACTED]	[REDACTED]
Heavy Airlines	[REDACTED]	[REDACTED]
Honourable Company of Air Pilots (HCAP)	[REDACTED]	[REDACTED]
Light Aircraft Association (LAA)	[REDACTED]	[REDACTED]
Low Fare Airlines	[REDACTED]	[REDACTED]
Military Aviation Authority (MAA)	[REDACTED]	[REDACTED]
Ministry of Defence - Defence Airspace and Air Traffic Management (MoD DAATM)	[REDACTED]	[REDACTED]
NATS	[REDACTED] [REDACTED]	[REDACTED]
Navy Command HQ	[REDACTED]	[REDACTED] [REDACTED]
PPL/IR (Europe)	[REDACTED]	[REDACTED] [REDACTED]
UK Airprox Board (UKAB)	[REDACTED]	[REDACTED] [REDACTED]
UK Flight Safety Committee (UKFSC)	[REDACTED]	[REDACTED]
United States Visiting Forces (USVF), HQ United States Country Rep-UK (HQ USCR-UK).	[REDACTED]	[REDACTED]
Dorset and Somerset AA	[REDACTED]	[REDACTED]
Essex and Herts AA	[REDACTED]	[REDACTED]
Biggin Hill	[REDACTED]	[REDACTED]

Heathrow Airport	[REDACTED]	[REDACTED]
His Majesty's Coastguard (HMCG)	[REDACTED]	[REDACTED]
Kings College Hospital	[REDACTED]	[REDACTED]
London City	[REDACTED]	[REDACTED]
London (Battersea) Heliport	[REDACTED]	[REDACTED]
London Gatwick Airport	[REDACTED]	[REDACTED]
Kenley Gliding Site	[REDACTED]	[REDACTED]
London Air Ambulance	[REDACTED]	[REDACTED]
National Police Air Service (NPAS)	[REDACTED]	[REDACTED]
Redhill Aerodrome	[REDACTED]	[REDACTED]
The Children's Air Ambulance (TCAA)	[REDACTED]	[REDACTED]
NATS	[REDACTED] [REDACTED] [REDACTED] [REDACTED]	[REDACTED] [REDACTED] [REDACTED] [REDACTED]