

CAA Decision Log

Airspace Change Proposal Title	Biggin Hill Introduction of RNAV IAP to Runway 03
Airspace Change Proposal Reference	ACP-2013-08
Change Sponsor	London Biggin Hill Airport
AIS Submission Target Date	
CAA Decision Target Date	23 Dec 2022

Instructions

In providing a response to each question and/or status, the following colour coding should be used:

- COMPLIANT/NOT APPLICABLE
- NOT COMPLIANT/ACTION REQUIRED
- ISSUE/CONCERN TO HIGHLIGHT

Executive Summary

The airspace change proposal looks to introduce an Area Navigation (RNAV) Instrument Approach Procedure (IAP) to Runway 03 at London Biggin Hill Airport (LBHA). At present an aircraft requiring an instrument approach to Runway 03 must perform an IAP to Runway 21, acquire the required visual references, then perform a visual circling manoeuvre to reposition onto the final approach to land for Runway 03. Although safe the sponsor proposes that this manoeuvre is an inefficient method of operating, particularly in poor weather, and can lead to extensive delays to successive inbound flights and to aircraft awaiting departure. Biggin Hill Airport is situated in Class G airspace which is surrounded by pre-existing airspace structures and a relatively densely populated area. As well as the London Terminal Manoeuvring Area (TMA) overhead, it is in close proximity to Gatwick and Heathrow Airports, with some large towns and cities nearby. With IFR arrivals to Biggin Hill coming through the TMA from the east, some of the proposed options were deemed not viable due to their impact on Gatwick Airport or overflying heavily populated areas.

The aim of the proposal is to provide an instrument approach capability to Runway 03 and utilise the enhanced navigational capabilities of the generation of business aircraft currently operating at LBHA, thereby enabling approaches in poorer weather conditions than can currently be achieved. The objective of the proposal is to lower the height at which an aircraft can descend to on an approach to Runway 03 before having to perform a Missed Approach Procedure and potentially divert to another aerodrome. The minimum obstacle clearance

height (OCH) at which the visual manoeuvre can be carried out is dependent on the category (size and performance capability) of the aircraft and, for smaller aircraft (Category A), may be as low as 551ft above the aerodrome elevation. The proposed Global Navigational Satellite System (GNSS) Lateral Navigation (LNAV) non-precision approach has an OCH of 443ft for Category A, B and C aircraft.

No new airspace constructs are required as the proposal commences the GNSS RNAV IAP in the London TMA then continues in Class G airspace. The proposed IAP has been significantly redesigned since original concept, to amongst other things take into consideration interactions with adjacent airports and gliding operations at RAF Kenley. The interactions with Gatwick airport and constrained airspace available mean that the final IAP proposed has been amended to be a non-precision approach only.

At the bequest of the sponsor for more immediate feedback, and cognisant of the Covid-19 climate and its devastating impact on the aviation industry as a whole, the CAA recognised the sponsor's request for more immediate feedback on the progress of their proposal and the original Operational Assessment was completed on 17 Nov 2020. This was undertaken out of sequence and before the Instrument Flight Procedure (IFP) Regulator had an opportunity to formally assess the final submitted design. To realise this the assessment was written mindful of a 'best case scenario' and made the assumption that there were no issues with any aspect of the IFP design.

The original Operational Assessment states that owing to the cumulative impact of safety related issues surrounding the proposed Instrument Approach Procedure (IAP) in a constrained funnel of Class G airspace, and the consequential impact and risk to other airspace users, mitigated to a much lesser degree than that originally envisaged by the sponsor or appropriate in this scenario and location, that it is recommendation of the Case Officer that the ACP is refused regardless of the outcome of the IFP assessment.

However, pursuant to The Civil Aviation Authority (Air Navigation) Directions, Direction 5(2) 'the CAA may make its approval of a proposal subject to such modification and conditions as the CAA considers necessary'. To that end, and subject to no issues being raised by the IFP assessment, the CAA was content to recommend the proposed IAP if the mitigation of Advanced Use of the Air Traffic Monitor (ATM) was reintroduced and successfully incorporated into Biggin Hill's supporting Safety Argument. Advanced Use of the ATM would be considered suitable mitigation, primarily in regard of autonomous, transiting, non-transponding Visual Flight Rules (VFR) aircraft in the Class G airspace, and would support already agreed provisions for CAS infringement in regard of Heathrow and Gatwick Airports departing Instrument Flight Rules (IFR) traffic.

Following design changes leading up to the ACP Addendum submission, the CAA received Addendum IFP Assessment package V3.2 on 09 Sep 2020. CAA IFP Regulation assessed V3.2 providing a CAA technical report, along with the APDO IAP chart, coding table, and feedback form to the sponsor's APDO on 09 Mar 2021. This provided considerations on the way ahead and clarification on how design criteria should be implemented, in particular to the intermediate segment. Several concerns were highlighted including a request for the non-compliant segment to be redesigned. The sponsors APDO responded to the CAA technical report on 24 Sep 2021, submitting V3.3. In this the CAA concerns over the complexity and non-standard nature of the proposal, including the request for the non-compliant segment to be redesigned, had not been addressed. The sponsor was informed of this in a meeting on 14 Jan 2022 prior to being informed in writing.

Following a request from the sponsor, the CAA created Draft Safety Conclusions summarising the outstanding issues, why the current proposal cannot be approved and the CAA's reasons for those conclusions and shared these with the sponsor in a meeting on 03 Mar 2022. As per the sponsors request, they were afforded a period to reflect on the conclusions and provided an opportunity to inform the CAA

if there was any reason why they believed the CAA's conclusions to be wrong. The sponsor provided the CAA with feedback to these conclusions on 30 Jun 2022.

This feedback has been fully considered (see CAA analysis of LBHA response to CAA observations on 03 RNAV App - Annex dated 30 June 2022) and incorporated into a Final Operational Assessment.

Due to the number of issues raised and still outstanding in the final IFP submission, Addendum IFP Assessment Package v3.3, the CAA does not accept that the impacts on human factors and pilot workload have been suitability mitigated within this proposal. Additionally, the already high workload due to the factors sighted in the report are compounded and further increased for pilots arriving from outside of the UK, where IAPs are wholly contained within controlled airspace. It is important to note that it is the cumulative impact of the concerns raised which give rise to the Case Officer's recommendation that the proposal cannot be approved.

In the respect of the Air Navigation Order (2016) Article 187(2) 'the CAA must not notify or approve an instrument flight procedure unless it is satisfied that the procedure is safe for use by aircraft'. The LBHA Runway 03 IAP as proposed diverges from the ICAO principles for the design of IFPs, namely safe, simple, and economical of both time and airspace. The use of minimum segment lengths, non-compliant intermediate segment, procedure complexity and chart clutter will result in increased pilot workload and are a cause for concern. The cumulative effect of the issues raised above amounts to an IAP with serious safety issues which have not been addressed by the sponsor. The CAA's primary duty is to maintain a high standard of safety in the provision of air traffic services, which takes priority over all other duties. To that end, and for the reasons detailed above and in the Operational Assessments, it remains the recommendation of the Case Officer that this ACP is refused.

PART A – Airspace Change Process – Stages 1 to 4

A.1	hyperlink to CAA website	
A.2	hyperlink to CAA SharePoint site	
A.3	Stage 1 Framework Briefing Minutes and Documents	22/04/2015
A.4	Stage 2 DEVELOPMENT Focus Group Minutes	Jun-Jul/2015
A.5.1	Stage 3 CONSULTATION Documents	18/11/2015
A.5.2	Stage 3 SUPPLEMENTARY CONSULTATION Documents	27/02/2017
A.6	Date	Activity

22 Apr 2015	Framework Briefing
Jun – Jul 2015	Stakeholder Focus Groups
18 Nov 2015 – 26 Feb 2016	Consultation
27 Feb 2017 – 10 Apr 2017	Supplementary Consultation
22 May 2017	ACP Submission
27 Jul 2017	Safety Case Submission
01 Sep 2017	CAA 'stop the clock'
03 Jul 2020	Addendum and Engagement Report submitted
09 Sep 2020	Addendum IFP Assessment Package v3.2 submitted
15 Oct 2020	Addendum materials including missing/updated documents and safety case Issue 5 submitted. These are taken as 'final submission for assessment'.
20 Oct 2020	Environmental Assessment completed
11 Nov 2020	Consultation Assessments completed
17 Nov 2020	Operational Assessment completed
09 Mar 2021	CAA Assessment of Addendum IFP Package v3.2 sent to sponsor's APDO
24 Sep 2021	Addendum IFP Package v3.3 submitted
11 Jan 2022	Draft Assessment of Addendum IFP Package v3.3 circulated internally. Issues from v3.2 not addressed.
14 Jan 2022	Meeting with Sponsor to share concerns with draft IFP assessment

	08 Feb 2022	Draft Safety Conclusions written	
	03 Mar 2022	Meeting with Sponsor to share Draft Safety Conclusions	
	30 Jun 2022	Sponsor response to Draft Safety Conclusions submitted	
	22 Nov 2022	Final Operational Assessment incorporating feedback completed	
	22 Nov 2022	CAA analysis dated 22 Nov 2022 of LBHA response to CAA observations on 03 RNAV App - Annex dated 30 Jun completed	
A.7	Are there any additional process requirements of the Civil Aviation Authority (Air Navigation) Directions 2017 (as amended) (the “Air Navigation Directions”) and/or the Air Navigation Guidance 2017 which apply to this airspace change, and have they been complied with?		N
PART B – Airspace Change Process – STAGE 5			
B.1	Was a Public Evidence Session required for this proposal?		N/A
B.1.1	PES does not apply to CAP 725 proposals.		
B.2	Were any requests made for this decision to be called-in by the Secretary of State?		N/A
B.2.1	No-call in window was opened because the proposal was submitted in summer 2017, before the call-in procedures were added to the Directions.		
B.3	Does the Secretary of State call-in criteria apply to this proposal?		N
B.3.1	On the face of it the call-in criteria do not apply to this proposal in any event.		
B.4	Has the Secretary of State decided to call-in this proposal? NOTE: if ‘Yes’ the content of this log concerns the recommendations linked to the ‘minded-to’ decision that has been presented to the Secretary of State.		N/A
B.4.1			

B.5	Approval Status for SME Regulatory Assessments NOTE: this captures RAG status only – full details contained within each of assessment (hyperlinks inserted below)		
ATM Safety	<i>ISSUE TO NOTE</i>	<u>Environmental</u>	<i>APPROVED</i>
Economic Assessment & Statement	<i>NOT APPLICABLE</i>	IFP	<i>NOT APPROVED</i>
<u>Original Consultation</u>	<i>APPROVED</i>	<u>Initial Operational</u>	<i>APPROVED</i>
<u>Supplementary Consultation</u>	<i>APPROVED</i>	<u>Final Operational</u>	<i>NOT APPROVED</i>
B.5.1	The case officer has assessed this as an issue to highlight because although the ATM Inspector was satisfied with the safety case (i.e. with the overarching principle of introducing an instrument approach) that assessment was conducted before the safety assessment of the IFP design which has since been assessed as not to maintain a high standard of safety.		
B.6	Other Relevant Documents (title and hyperlinks to be inserted) Jon Round CAA – 03 response 30.06.22 <u>located here</u> BHAL response to CAA observations on 03 RNAV App – Annexe – 30.06.22 <u>located here</u> CAA analysis dated 22 Nov 2022 of LBHA response to CAA observations on 03 RNAV App - Annex dated 30 June 2022 <u>located here</u>		
B.7	Is the proposal in accordance with the relevant legal and policy framework , including: • the Air Navigation Directions; • the Airspace Modernisation Strategy; • section 70 of the Transport Act 2000; • the Air Navigation Guidance 2014; and • CAP 725 and associated publications?	<i>N</i> <i>does not</i> <i>deliver our</i> <i>AMS</i>	

B.7.1	The objective of this proposal meets 4 of the Objectives of “ends” of CAP 1711/our AMS and seeks to deliver against Initiative 8. However, the proposal does not deliver the AMS’s objective or end of maintaining and enhancing high aviation safety standards. In accordance with the Government transition arrangements from CAP 725 to CAP 1616, this ACP had already been consulted upon at the transition date (consultation dates in 2015 and summer 2017) and therefore was able to remain under CAP 725 and Air Navigation Guidance 2014. The transition arrangements are located on the CAA website here. CAP 725 has been followed.
B.8	CAA consideration of factors material to our decision whether to approve the change (Section 70 factors). <u>NOTE:</u> the left column captures RAG Status only and the right column captures a summary of the rationale – full details will be contained within the regulatory decision document (CAP).
Safe operation of aircraft 70(2)(a)	The proposal diverges from ICAO principles for the design of IFP, namely, safe, simple and economic in time and space. The use of minimum segment lengths, non-compliant intermediate segment, procedure complexity and chart clutter will result in increased pilot workload and are a cause for concern. The cumulative effect of the issues raised above and in the Final Operational Assessment amounts to an IAP with safety issues which have been raised with but not addressed by the sponsor.
Efficient use of airspace and expeditious flow of air traffic 70(2)(a)	The proposal is intended to reduce the number of delays and to enable aircraft approaching Runway 21 to land without the need to acquire the required visual references, perform a visual circling manoeuvre to reposition onto the final approach and to land on Runway 03. This would improve the efficiency of the use of airspace and be a more expeditious flow of traffic. Additionally, the proposal does not include the creation of new or modified existing airspace structures. The intention is to commence the IAP in the pre-existing airspace structure of the London TMA and continue beneath in Class G airspace. In this respect the CAA is satisfied that the most efficient use of airspace has been secured, notwithstanding the safe operation of aircraft as detailed above.
SoS guidance on environmental objectives 70(2)(d)	The proposal is looking to implement a new IAP to Runway 03 at LBHA, therefore new tracks over the ground will be flown and accordingly communities affected who were not previously overflowed. The sponsor has considered this in the design phase and subsequently from consultation feedback and looked to amend the flight path accordingly to reduce the environmental impact to as great a degree as possible within the constraints of the proposed design and location. The proposal does however afford ‘respite’ to communities on the approach to Runway 21 who are currently overflowed by all IAPs to LBHA.
Satisfy requirements of aircraft operators/owners	In this respect 7 of the 25 airport users targeted for consultation responded, all supporting the proposal along with 3 non-targeted aviation stakeholders. However, 85% of both targeted and non-targeted

70(2)(c)	aviation stakeholders over both consultations, including national bodies, objected to the proposal based primarily upon the perceived risk of mid-air collision (MAC). The sponsor has looked to mitigate these risks to as low as reasonably practicable by, pending a successful outcome, offering to provide transponders for the gliders at Kenley, Traffic Collision Avoidance Systems (TCAS), Letters of Agreement (LoAs) with adjacent ANSPs, existing procedures, and charting and notification. In addition the sponsor has introduced Advanced use of the ATM. Earlier in the process the sponsor was advised by the CAA that it would be unlikely to be able to conclude that the proposal maintained a high standard of safety without Advanced use of the ATM being a part of the supporting Safety Argument as this coupled with the other allowances would be considered suitable mitigation, primarily in regard of autonomous, transiting, non-transponding VFR aircraft in the Class G airspace, and support the already agreed provisions for CAS infringement in regard of Heathrow and Gatwick airport's departing IFR traffic.
Interests of any other person 70(2)(c)	The CAA examined several anticipated impacts, including the environmental impact on the public created by new tracks over the ground, and the impact on airfields and other specific activities within or adjacent to the proposal. The sponsor has looked to mitigate environmental impacts where possible, including redesigning the proposed IAP, and has initiated LoAs with adjacent airfields such as Redhill and Kenley. Gatwick airport are content that procedures are in place to cater for an aircraft incursion into their CTA should such a scenario occur. The CAA is satisfied that the interests of other persons has been taken into account.
Integrated operation of ATS 70(2)(e)	In this respect, the proposal has been coordinated with NATS. Manager ATM Procedures confirmed suitable mitigation is in place against Heathrow departures and a suitable concept of operations (CONOPS) has been drafted for integration of aircraft inbound to LBHA through the London TMA. The CAA is content that the integrated operation of ATS has been facilitated.
Interests of National Security 70(2)(f)	There are no impacts for national security.
International obligations 70(2)(g)	None has been notified.
B.9	Conclusions in respect of requirement to ensure that the amount of controlled airspace is the minimum required to maintain a high standard of air safety and, subject to overriding national security or defence requirements, that the needs of all airspace users is reflected on an equitable basis.

	NOTE: this section only applies if the CAA is classifying or amending the classification of UK airspace.	
B.9.1	N/A	
PART C – Stage 5 Recommendation		
C.1	Taking the above information into account, what is your recommendation to the decision-maker for this proposal?	
C.1.1	The sponsor was afforded the opportunity to comment on the CAA's draft safety conclusions and this recommendation, and this feedback has been fully considered in the Final Operational Assessment and CAA analysis of the sponsor's response. However, due to the number of issues raised and still outstanding in the final IFP submission, Addendum IFP Assessment Package v3.3, the impacts on human factors and pilot workload have not been suitability mitigated within this proposal. Additionally, the already high workload due to the factors sighted in the report are compounded and further increased for pilots arriving from outside of the UK, where IAPs are wholly contained within controlled airspace. It is important to note that it is the cumulative impact of the concerns raised which give rise to the Case Officer's recommendation that the proposal cannot be approved. The Air Navigation Order (2016) Article 187(2) states 'the CAA must not notify or approve an instrument flight procedure unless it is satisfied that the procedure is safe for use by aircraft'. The LBHA Runway 03 IAP as proposed diverges from the ICAO principles for the design of IFPs, namely safe, simple, and economical of both time and airspace. The use of minimum segment lengths, non-compliant intermediate segment, procedure complexity and chart clutter will result in increased pilot workload and are a cause for concern. The cumulative effect of the issues raised above amounts to an IAP with safety issues which have not been addressed by the sponsor. The CAA's primary duty is to maintain a high standard of safety in the provision of air traffic services, which takes priority over all other duties. To that end, and for the reasons detailed above and in the Operational Assessments, it is the recommendation of the Case Officer that the final version of the proposal received, which is the subject of this decision is refused.	
C.2	Are there any Recommendations and/or Conditions for the change sponsor to address prior to implementation (if approved)?	Y
C.2.1	The CAA and DfT, as co-sponsors, have commissioned a UK Airspace Change Masterplan. LBHA has submitted an ACP as part of that Masterplan which aims to design and introduce new and/or revised departure and arrival routes that will fully and properly integrate with the new London Terminal Area architecture which will result from the airspace modernisation programme. The Masterplan process will enable that ACP to be developed in liaison with interdependent airports (especially Gatwick) from a whole aviation system perspective and allow interdependencies and trade-offs between different objectives to be considered in a coordinated way.	

C.3	Are there any specific requirements in terms of the data to be collected by the change sponsor for the Post Implementation Review (if approved)?	Y
C.3.1	If the ACP is approved by the CAA decision maker the sponsor is to ensure that all instances of the following are recorded and reported regardless of severity or outcome: 1) Conflict of IAP aircraft with any other aircraft (including gliders) whilst performing an approach. 2) Any reports of inadvertent penetration of CAS (e.g. weather induced, navigational error, avoiding action, TCAS resolution etc) 3) Any reports of issues in performing the approach by a pilot, whether a landing was successfully performed or a MAP is conducted, or not. Any MOR or AIRPROX data related to these or any other IAP approach related issues, including conflict in Class G airspace, are to be provided.	
C.4	Are any other consents and approvals needed in order to permit the intended operation (title and hyperlinks to be inserted)?	N
C.5	Are there any other comments/observations for the decision maker?	Y
C.5.1	<i>Correspondence to CAA from Residents located here</i> <i>Correspondence to CAA from Bromley Council located here</i> <i>Replies to external correspondence handled by AREE and External Response.</i>	

PART D – Draft Regulatory Decision – Comment (for Level 1 Airspace Change Proposal's only)		
D.1	Was a Draft Regulatory Decision published for this proposal?	Y
Not applicable for CAP 725 proposals. However, draft safety conclusions were shared with the sponsors who was given an opportunity to make comments which the Case Officer has taken into account before reaching final conclusions.		

D.2	Was any feedback received in relation to the Draft Regulatory Decision?	Y
See above		
D.3	Has the Draft Regulatory Decision been amended in light of feedback received?	Y
The Case Officer's conclusion remains not to recommend this proposal.		
PART E – Final Regulatory Decision – Comment/Approval		
Technical Regulator / Case Officer		22/11/2022
Manager Airspace Regulation comments: support the assessment of the Case Officer and would not recommend approving this ACP. London Biggin Hill Airport (LBHA) is situated in a congested area of airspace. Within this ACP, LBHA have developed and proposed a complex Instrument Approach Procedure (IAP). This complexity has been created though proposing a design where there are multiple points of divergence from standard design practices. It is probable the congested nature of this environment has in part informed the development and proposal of this complex non-standard design. However, whilst the IAP proposal developed may be possible in a different context, agree when applied to LBHA's context this has the effect of creating a cumulative safety concern which has not been satisfactorily resolved. This is particularly highlighted when considering the workload demanded when a pilot is undertaking a non-standard approach, in the context of the demands of operating within the congested Class G environment.		
Manager Airspace Regulation		16/12/2022
Head AAA comments and regulatory decision: This ACP has been running for an unusually long time. The CAA has allowed the sponsor numerous attempts to address the many complex and at times opposing challenges to arrive at a satisfactory and safe proposal. The fact that the sponsor does not agree with the CAAs assessment of safety and has therefore not sought or been able to address the extant points is now the deciding reason to bring this		

proposal to a conclusion and to not approve it. It is the CAA's clear judgement that with regard to safety, which the CAA is required to prioritise over all other factors, this is a complex and unsatisfactory proposal with an accumulation of negative contributing factors.

This change is not approved.

It is the CAAs hope that a solution can be found to this challenge, by LBHA involvement in the masterplan ambitions for the modernisation of the London Terminal Area architecture which is underway with the airspace modernisation programme.

Head AAA			19/12/2022
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