

CAA Decision Log

Airspace Change Proposal Title	Gatwick Airport Reduced Night Noise Trial
Airspace Change Proposal Reference	ACP-2018-62
Change Sponsor	Gatwick Airport Ltd
AIS Submission Target Date	29/09/2023
CAA Decision Target Date	28/09/2023
<p><i>Instructions</i></p> <p>In providing a response/RAG status for each question, please ensure that one of the following options is used:</p> <ul style="list-style-type: none"> Compliant Not Compliant or action required Issue or concern to highlight to Decision Maker N/A 	
<p>Executive Summary</p> <p>Gatwick Airport proposes to run a trial for night-time arrivals to determine if the use of PBN routes can reduce the noise impact of outlier flight arrival events.</p> <p>The airspace trial proposes the use of 8 instrument flight procedures using the <i>RNP1 with RF turns</i> standard of performance. These procedures will be utilised by those aircraft suitably equipped from 0130- 0500 hours (local time) each night, for a period of 6 months (from 0130hrs 11th January 2023 to 0500hrs 12th July 2024), and includes easterly and westerly arrivals to each runway end of the south (main) runway (08R/26L).</p> <ul style="list-style-type: none"> <i>Issue/opportunity to be addressed</i> <p>Compared to current operations, GPS-based routes have the potential to reduce outliers. Gatwick intend to conduct a trial to explore the benefits of using GPS-based arrival routes at night to reduce the number of outliers and therefore improve the overall noise situation. The aim is to compare the noise environment during the trial to the pre-trial situation. The trial will also contribute information towards future airspace design by providing objective information on the benefits and drawbacks of PBN routes, identifying any unexpected consequences that may arise and providing an opportunity to test new community engagement processes. The routes will be implemented as PBN procedures based on RNP1 criteria.</p> <ul style="list-style-type: none"> <i>Desired outcome</i> <p>The trial will be expected to last for 6 months, starting on 11th January 2024. It is planned to operate between 01:30-05:00 (local time) and will include both easterly and westerly arrivals. The trial routes will be in areas which are currently overflown by aircraft at night. Noise monitors will be used to compare the pre-trial and trial situations. The desired outcome is to collect data to evaluate the noise impact of the use of PBN routes for night-time arrivals. It is also desired that the use of these PBN IFPs will reduce the noise impacts on local stakeholders (particularly with respect to outlier events).</p>	

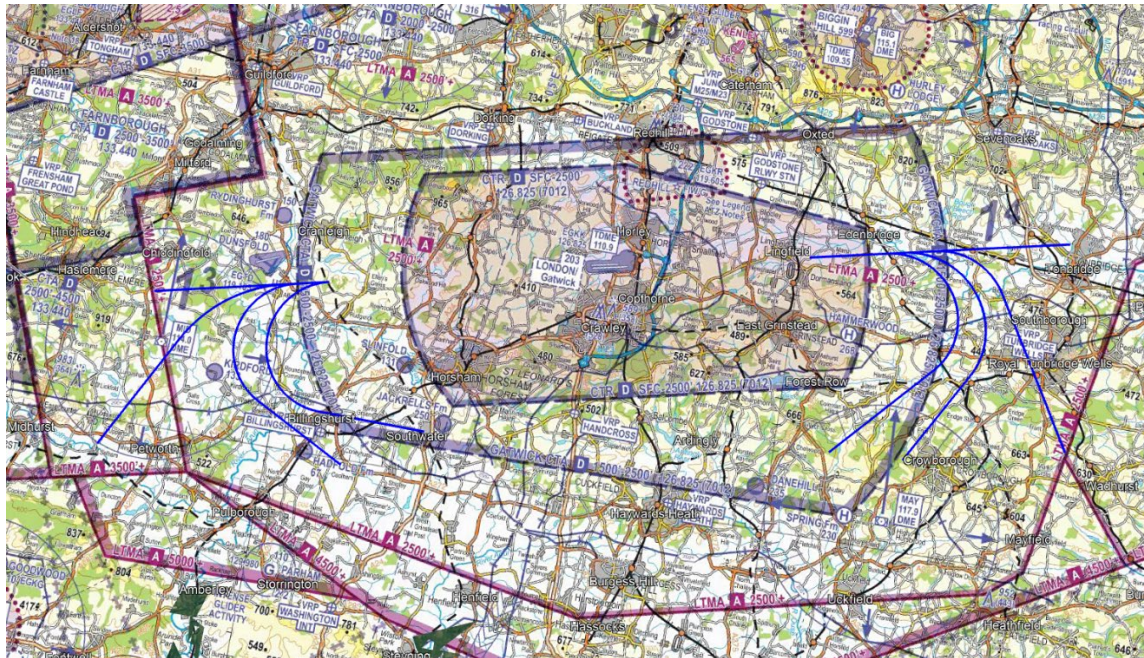
- **Challenges/Risks**

That sufficient data is collected to determine the impacts, and that sufficient outliers are captured in the data sample.

- **Recommendation**

Recommend approval of the trial so that the impacts can be evaluated.

All IFPs are contained within the extant Gatwick CTA/CTR, and are within the existing vectoring swathe for arrivals. Proposed IFPs are in blue below.



PART A – Airspace Change Process - GATEWAYS

A.1	Airspace Change Portal https://airspacechange.caa.co.uk/PublicProposalArea?pID=87	
A.2	CAA SharePoint site [REDACTED]	
A.3	Statement of Need 00_Statement of Need - 224899. DAP1916-2093.pdf	
A.4	Stage 1 DEFINE Gateway - n/a (trial)	n/a

A.5	Stage 2 DEVELOP & ASSESS Gateway - n/a (trial)	n/a
A.6	Stage 3 CONSULT Gateway - n/a (trial)	n/a
A.7	<i>If there is anything worth highlighting to the decision maker in terms of the change sponsors progression through the Gateways, please insert relevant narrative here. – N/A</i>	
PART B – Airspace Change Process – STAGE 5		
B.1	Was a Public Evidence Session required for this proposal?	N/A
B.1.1	<i>N/A - trial</i>	
B.2	Were any requests made for this decision to be called-in by the Secretary of State?	N/A
B.2.1	<i>N/A - trial</i>	
B.3	Does the Secretary of State call-in criteria apply to this proposal?	N/A
B.3.1	<i>N/A - trial</i>	
B.4	Has the Secretary of State decided to call-in this proposal? No. 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
B.4.1	<i>Insert narrative and hyperlinks to any relevant documentation as required.</i>	
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 Review		APPROVED
Environmental		APPROVED
Final Options Appraisal Assessment		NOT APPLICABLE
IFP		APPROVED
Engagement & Consultation		APPROVED
Operational		APPROVED
B.5.1	<i>IFP assessment completed</i>	
B.6	Other Relevant Documents (title and hyperlinks to be inserted) [Examples suggested below, but not an exhaustive list]	
<i>Trial Submission Pack / ACP</i>		<i>IFP Submission pack</i>

B.7	Has the relevant legal and policy framework to the airspace change process been taken into account, including the Air Navigation Directions 2017 (as amended) (“the Directions”), the relevant provisions of the Transport Act 2000, the Air Navigation Guidance 2017, CAP 1616, associated publications and the Airspace Modernisation Strategy?		Y
B.7.1	All relevant legislation as listed above has been taken into account and complied with. The proposal is in accordance with the Airspace Modernisation Strategy and will provide data to inform design options for future FASI-S airspace changes being planned by Gatwick Airport (in separate ACPs).		
B.8	CAA consideration of factors material to our decision whether to approve the change (Section 70 factors). <u>NOTE:</u> this captures RAG Status only – full details will be contained within the Decision Document		
Safe operation of aircraft 70(2)(a)	Efficient use of airspace and expeditious flow of air traffic 70(2)(a)	SoS guidance on environmental objectives 70(2)(d)	Satisfy requirements of aircraft operators/owners 70(2)(c)
Interests of any other person 70(2)(c)	Integrated operation of ATS 70(2)(e)	Interests of National Security 70(2)(f)	International obligations 70(2)(g)
B.8.1	<p>This proposal is aligned with the Section 70 safety and efficiency objectives; the use of PBN procedures is aligned with the AMS. However no safety and efficiency benefits are claimed.</p> <p>This proposal is aligned with the Section 70 environmental objectives since its main objective is reduction of noise impacts of flights below 7000ft due to outliers.</p> <p>The use of PBN approach procedures by this proposal is aligned with the Section 70 Integrated operation of ATS, and is aligned with the AMS.</p> <p>Interests of National Security – N/A.</p> <p>International obligations – N/A.</p>		
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. <u>NOTE:</u> this section only applies if we are classifying or amending the classification of UK airspace.		
B.9.1	No change to the volume of airspace is proposed.		

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 CAA recognises the potential that the use of PBN procedures could have in reducing the number and severity of noise impacts due to outlier arrival flights. The objective of the trial is to gather data to determine if the number of flights with significantly different arrival profiles is reduced and evaluate the associated change in noise impact. As such the CAA has decided to approve the airspace trial.	
C.2	Are there any Recommendations and/or Conditions for the change sponsor to address prior to implementation (if approved)?	Y
C.2.1	<ol style="list-style-type: none"> 1. Before the effective AIRAC, Gatwick Airport Ltd must complete a validation simulation and submit the validation simulation report, including a validation of the navigation database, to the CAA. 2. During the progress of the trial, flight trajectories (horizontal and vertical) of all aircraft (whether participating in the trial or not) must be recorded during the trial hours. This data to be submitted to the CAA Airspace Regulation Technical Regulator for analysis every 4 weeks. 3. Engagement activities should continue with local stakeholder groups and participating airlines during the trial, with publication of summary interim results after 3 months. 4. The CAA Airspace Regulation Technical Regulator for this airspace change proposal should be updated regularly on the progress of the above engagement activity and the nature of any feedback/complaints received (initially every 2 weeks). 5. The sponsor should correct the '<i>RNN Trial Submission Pack (Version 2.1)</i>' and all other associated documents, removing references to the 8 trial PBN arrival procedures to the airport's northern runway. 6. The sponsor should provide details on the expected frequency (both absolute and as a percentage of total traffic during the trial period) of flights participating in the trial based on estimates of aircraft capability of flying the sponsor's preferred PBN specification which is RNP-1 with RF legs. 7. The sponsor should provide 60 dB LAmax footprints illustrating the loudest and most frequent types of aircraft that will be participating in the trial for each of the 8 trial PBN arrival procedures. Alternatively, where footprints are anticipated to be similar between the trial PBN arrival procedures (e.g., in terms of areas and locations), the sponsor should provide a robust rationale with appropriate supporting evidence as justification. 8. The sponsor should specify that the noise modelling performed does not comply with CAP 2091, CAA Policy on Minimum Standards for Noise Modelling Category A standards which apply to Gatwick Airport. Any differences in the methodology followed must be identified and explained to ensure transparency. 9. The sponsor should convey the anticipated noise impacts of the trial to any communities and their representatives that may be affected <u>before</u> the trial commences (if approved). Affected communities should be identified on the basis of the noise impacts. 10. The sponsor should discuss and agree with the CAA on the data to be collected for the pre-trial baseline and during the trial period, including any criteria that will be used to determine whether the objectives of the trial have been met. 	

	11. The sponsor should discuss and agree with the CAA on the data to be collected for any additional assessments that may be required to demonstrate the operational performance of PBN routes and noise impacts, which may then be used to inform future airspace design change proposals.	
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)?	N
C.3.1	<p>The sponsor has proposed the following metrics as ‘success criteria’ to determine if PBN is successful in removing outliers. They will be measured using recorded data at noise monitor locations and will be calculated for each aircraft type participating in the trial:</p> <ul style="list-style-type: none">Objective 1: Reduce the loudest outliers¹ by 90%.Objective 2: Reduce the lowest altitude outliers by 90%. <p>How this is calculated is illustrated below for Objective 1:</p> <ul style="list-style-type: none"><u>Pre-trial</u> at each noise monitor for each aircraft type, calculate the loudest 5th percentile – i.e. the noise level above which are the loudest 5% of aircraft (e.g. 70dB).<u>During the trial</u>, count how many noise events for the same aircraft type are above that limit (in this case, 70dB) and see if the proportion of events has reduced by 90%.	
C.4	Are there any other comments/observations for the decision maker?	N
C.4.1	None.	
PART D – Draft Regulatory Decision – Comment (for Level 1 Airspace Change Proposals only)		
D.1	Was a Draft Regulatory Decision published for this proposal?	N/A
D.1.1	If applicable, insert narrative providing a summary.	
D.2	Was any feedback received in relation to the Draft Regulatory Decision?	N/A
D.2.1	N/A	

¹ For the purpose of the trial, outliers are defined as those in the ‘worst performing’ 5% of aircraft, i.e. the loudest 5% (within the aircraft category) or the lowest 5%.

D.3	Has the Draft Regulatory Decision been amended in light of feedback received?				N/A
D.3.1	N/A				
PART E – Final Regulatory Decision – Comment/Approval [Delete signatory rows below dependent on Decision Maker]					
Technical Regulator					20/12/2023
Manager Airspace Regulation comments					
This is a trial that is primarily aimed at reducing the noise impact to the local communities and support the development of future proposals whilst introducing PBN procedures. As such this trial both supports the AMS and satisfies section 70 requirements. I would therefore recommend approving this 6-month trial subject to the conditions noted above. Significantly these conditions include the requirement to monitor impacts and stakeholder feedback throughout the course of the trial and then to update the CAA at regular intervals to ensure the effects of this trial are kept under review.					
Manager Airspace Regulation					21/12/2023
Head AAA comments and decision: This trial has long been discussed; it is an important recognition of the ambition to minimise noise disturbance. I am satisfied that the lengthy conditions will ensure that it receives close scrutiny throughout. Approved.					
Head AAA					21/12/2023

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