

Safety and Airspace Regulation Group

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Airspace Change Proposal - Environmental Assessment

Version: 1.0/ 2016

Title of Airspace Change Proposal	Birmingham Airport Runway 33 Airspace Change
Change Sponsor	Birmingham Airport Limited
SARG Project Leader	[REDACTED]
Case Study commencement date	
Case Study report as at	04/02/2019
File Reference	

Instructions

In providing a response for each question, please ensure that the 'Status' column is completed using the following options:

- Yes
- No
- Partially
- N/A

To aid the SARG Project Leader's efficient Project Management it may be useful that each question is also highlighted accordingly to illustrate what is: **resolved** Green **not resolved** Amber **not compliant** Red as part of the AR Project Leader's efficient project management.

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1.	Introduction	
	<p>The Airspace Change Application, made under CAA CAP 725, proposes new northbound (runway 33) SIDs for aircraft departing Birmingham that use RNAV-1 navigation technologies. This proposal is due to the Rationalisation of the UK VOR Ground based infrastructure, and will contribute to Prestwick Lower Airspace Systemisation objectives which are;</p> <ul style="list-style-type: none"> • Fuel saving (of £33,000) per annum. • 105,000 tonnes reduction in CO2 • 7% reduction in Conflict alerts and an overall improvement in safety. <p>Designed to accommodate the expected 5% increase in traffic demand out to 2025, comply with future airspace strategy through the provision of Performance Based Navigation Routes, SIDs, STARs which facilitate Continuous Climbs and Continuous Descents. Facilitates User Preferred Routes Flexible Use of Airspace, and simplified boundaries between Controlled and uncontrolled Airspace.</p> <p>Analysis of this airspace change, estimates it will save over 400tonnes Fuel burn in 2023.</p> <p>An objective of this change was to minimise the environmental impacts of the change as far as possible by replicating the tracks of the existing SIDs over the ground.</p>	
2.	Guidance to the CAA	Status
2.1	Is the proposal consistent with Government policy and/or guidance from Government to the CAA?	
	<p>Guidance issued to the Civil Aviation Authority sets¹ out a framework for the environmental objectives that the CAA must consider when assessing airspace change proposals. In addition to these objectives, there may be other legitimate operational objectives, such as the overriding need to maintain an acceptable level of air safety, the desire for sustainable development or to enhance the overall efficiency of the UK airspace network, which need to be considered alongside these environmental objectives. The Government looks to the CAA to determine the most appropriate balance between these competing characteristics.</p>	

¹ For those Airspace Change Proposals being considered under the CAA's process as set out in CAP725, the relevant DfT guidance is "Guidance to the Civil Aviation Authority on Environmental Objectives Relating to the Exercise of its Air Navigation Functions, January 2014"

² National Parks and Access to the Countryside Act 1949, National Parks (Scotland) Act 2000, and "Duties on relevant authorities to have regard to the purposes of National Parks, Areas of Outstanding Natural Beauty (AONBs) and the Norfolk and Suffolk Broads Guidance Note", DEFRA 2005.

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Flights over National Parks and AONBs are not prohibited by legislation² as a general prohibition against over-flights would be impractical. Government policy focuses on minimising the over-flight of more densely populated areas below 7,000 feet (amsl), but accepts that reducing CO₂ emissions between 4,000 and 7,000 feet (amsl) can also be a consideration. However, where it is practical to avoid over-flight of National Parks and AONBs below 7,000 feet (amsl), the Guidance asks that the CAA requires sponsors to consider this when developing their proposals.

3.	Rationale for the Proposed Change	Status
3.1	Does the rationale for the ACP include environmental reasons?	Yes
	This ACP had the objective of minimising the change of as far as possible; including the environmental impacts while also focussing on minimising the noise impact on densely populated areas below 7,000feet.	

4.	Nature of the Proposed Change	Status
4.1	Is it clear how the proposed change will operate, and therefore what the likely environmental impacts will be?	Yes
	Wherever possible the proposal has sought to replicate the pre-existing procedures, therefore not causing any change to the Concept of operation at the Airport.	
4.2	Have alternative options been considered, and have the environmental impact of each alternative been assessed?	Yes
	<p>For the Whitegate SID (northbound), BAL acknowledged that it was not possible to replicate the existing SID. They propose that all traffic on the Whitegate SID, will use the LUVUM RNAV1 SID, which replicated the existing Trent conventional SID. This will minimise populations newly exposed to noise, that would be associated with a new SID, but increases overflight on what was the Trent SID, the effect of which was assessed through noise exposure contours.</p> <p>For the southbound ADMEX and UNGAP SIDs it was possible to replicate the existing pre-existing procedures. Two options were considered for aircraft departing from Runway 33 on a Southerly heading: Option 1 closely replicated the published NPR centreline, while Option 2 (BAL's proposed option) replicated the mean track flown. There was very little difference in Noise terms between these two options for lower level contours, however in the 57dBA Leq contour (that is taken as the point of onset of significant community annoyance,) there was a population decrease of 100.</p>	

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5.	Noise	Status																																																								
5.1	Has the noise impact been adequately assessed?	Yes																																																								
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5.2	Has the noise impact been adequately presented in the consultation and the submitted proposal?	Yes																																																								
Yes both Leq and SEL Noise metrics have been produced and presented for the change. In the case of the Leq analysis the following results were gained in terms of affected households and populations for the 2016 analysis:																																																										
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<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Contour Level bB(A)</th> <th>Area (Km₂)</th> <th>Population</th> <th>Households</th> <th>Area (Km₂)</th> <th>Population</th> <th>Households</th> </tr> </thead> <tbody> <tr> <td>>54</td> <td>25.6</td> <td>43,900</td> <td>18300</td> <td>25.9</td> <td>44,200</td> <td>18,500</td> </tr> <tr> <td>>57</td> <td>14.5</td> <td>21,700</td> <td>9000</td> <td>14.6</td> <td>22300</td> <td>9,300</td> </tr> <tr> <td>>60</td> <td>7.8</td> <td>8,100</td> <td>3,400</td> <td>7.8</td> <td>8000</td> <td>3,400</td> </tr> <tr> <td>>63</td> <td>4.1</td> <td>2,000</td> <td>900</td> <td>4.2</td> <td>2,000</td> <td>900</td> </tr> <tr> <td>>66</td> <td>2.3</td> <td>100</td> <td><100</td> <td>2.3</td> <td>100</td> <td><100</td> </tr> <tr> <td>>69</td> <td>1.5</td> <td>0</td> <td>0</td> <td>1.5</td> <td>0</td> <td>0</td> </tr> <tr> <td>>72</td> <td>0.8</td> <td>0</td> <td>0</td> <td>0.8</td> <td>0</td> <td>0</td> </tr> </tbody> </table>			Contour Level bB(A)	Area (Km ₂)	Population	Households	Area (Km ₂)	Population	Households	>54	25.6	43,900	18300	25.9	44,200	18,500	>57	14.5	21,700	9000	14.6	22300	9,300	>60	7.8	8,100	3,400	7.8	8000	3,400	>63	4.1	2,000	900	4.2	2,000	900	>66	2.3	100	<100	2.3	100	<100	>69	1.5	0	0	1.5	0	0	>72	0.8	0	0	0.8	0	0
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>60	8.5	8,800	3,800	8.5	9,100	3,900
>63	4.6	2500	1,100	4.6	2,500	1,1000
>66	2.6	200	100	2.6	200	100
>69	1.5	0	0	1.5	0	0
>72	0.9	0	0	0.9	0	0

6.	Emissions	Status																														
6.1	<p>Has the impact on CO₂ emissions been adequately assessed?</p> <p>Yes, CO2 emissions have been fully assessed for the proposed change in routes. Assessments were carried out with and without the change. Modelling has been completed for the base case (2016) the proposed year of implementation (2018) and a future case (2023) using forecast data with the following results:</p> <table border="1"> <thead> <tr> <th></th> <th></th> <th>With Airspace Change</th> <th></th> <th>Without Airspace Change</th> <th></th> </tr> <tr> <th>Year</th> <th>Total Movements</th> <th>Total CO2</th> <th>Total Fuel</th> <th>Total CO2</th> <th>Total Fuel</th> </tr> </thead> <tbody> <tr> <td>2016</td> <td>9941</td> <td>36727</td> <td>11549</td> <td>38,081</td> <td>11,975</td> </tr> <tr> <td>2018</td> <td>10,867</td> <td>41,056</td> <td>12,911</td> <td>42,227</td> <td>13,279</td> </tr> <tr> <td>2023</td> <td>12,037</td> <td>39,267</td> <td>12,347</td> <td>40, 540</td> <td>12,748</td> </tr> </tbody> </table>			With Airspace Change		Without Airspace Change		Year	Total Movements	Total CO2	Total Fuel	Total CO2	Total Fuel	2016	9941	36727	11549	38,081	11,975	2018	10,867	41,056	12,911	42,227	13,279	2023	12,037	39,267	12,347	40, 540	12,748	Yes
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6.2	<p>Has the impact on CO₂ emissions impact been adequately presented in the consultation and the submitted proposal?</p>	Yes																														

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Yes, the results of assessments of CO2 have been presented (as copied above) in the consultation and Airspace Change proposal documents. These are expected to generate

7.	Local Air Quality	Status
7.1	Has the impact on Local Air Quality been adequately assessed?	Yes
	No changes are expected to local air quality, as at and below 1000ft the proposed flight paths replicate the existing paths, thus no change to Local Air Quality is expected. No changes expected to the Fleet mix either.	
7.2	Has the impact on Local Air Quality been adequately presented in the consultation and the submitted proposal?	Yes
	Yes, the Impact on Local air quality has been provided through a description on Page 26 and no change is expected to this aspect.	

8.	Tranquillity	Status
8.1	Has the impact on tranquillity been adequately considered?	Yes
	Yes, tranquillity and visual intrusion impacts have been considered up to an altitude of 7,000ft in line with the requirements of CAP725.	
8.2	Has the impact on tranquillity been adequately presented in the consultation and the submitted proposal?	Yes
	Yes, the impact on tranquillity has been presented adequately, descriptively on page 27 of the consultation document.	

9.	Visual Intrusion	Status
9.1	Has the impact of visual intrusion been adequately considered?	Yes
	Yes, a summary of the assessment made of both visual intrusion and tranquillity have considerations been provided that is in line with the requirements of CAP725.	
9.2	Has the impact of visual intrusion been adequately presented in the consultation and the submitted proposal?	Yes

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Visual intrusion and tranquillity has been considered and presented in the consultation document. No National Parks or AONB's would be negatively impacted by this change.

10.	Biodiversity	Status
10.1	Has the impact upon biodiversity been adequately considered?	Yes
	There would be no expected change to biodiversity as a result of this change.	
10.2	Has the impact upon biodiversity been adequately presented in the consultation and the submitted proposal?	Yes
	Yes while biodiversity is not mentioned explicitly in the consultation document consideration is made of SSSI's and AONB's affected by the proposal.	

11.	Continuous Descent Approaches	Status
11.1	Has the implementation of, or greater use of, CDAs been considered?	Yes
	This proposal concerns changes to departure procedures, CDA's are applicable for consideration for arrival procedures therefore is not relevant.	

12.	Impacts Upon National Parks and/or AONBs	Status
12.1	Does the proposed change have an impact upon any National Parks or Areas of Outstanding Natural Beauty (AONBs)?	No
	No National Parks are impacted by the proposal, the number of AONB's impacted by the proposal is reduced as a result of this change.	

13.	Traffic Forecasts	Status
13.1	Have traffic forecasts been provided, are they reasonable, and have these been used to reflect the future impact of the proposal?	Yes
	Forecast traffic has been generated on the basis of anticipated destinations and aircraft types Traffic forecasts for the years 2018 and 2023	

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14.	Consultation	Status
14.1	If undertaken, has evidence of non-aviation stakeholder consultation been provided?	Yes
	The consultation involved engagement with the airport consultative committee and airspace change focus group in addition to parish councils, local authorities and members of parliament	
14.2	Has account been taken of the results of the environmental factors raised by consultees or has evidence been provided to indicate why this has not been possible?	Yes
	A significant level of feedback was received during the consultation regarding the position of the proposed southbound routes relative to the village of Curdworth. For this reason, the appointed procedure designers were requested to make a change, to move the route north, however, as this change occurs outside the noise contours it will not have an effect on the contours. Curdworth will remain within the Noise Preferential Routes under the terms of this change.	
15.	Compliance with CAP 725	Status
15.1	Have all environmental assessment requirements specified in CAP 725 been met, where applicable?	Yes
	Yes.	
16.	Other Aspects	Status
16.1	Are there any other aspects of the ACP, that have not already been addressed in this report, that may have a bearing on the environmental impact?	
	No	
17.	Recommendations	Status
17.1	Are there any recommendations for the Post-Implementation Review?	

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After a year of operation repeat noise assessment of the change to understand how successful it has been in minimising noise experienced by populated areas by flight paths below 7000 feet.

18.	Government Approval	Status
18.1	Is the approval of the Secretary of State for Transport required in respect of the environmental impact of the airspace change proposal?	
	No, this change does not satisfy the criteria for call in by the secretary of state.	

19.	Conclusions	
19.1	Can an overall environmental benefit be demonstrated (or justified/supported)?	
	No, since the objective of the proposal was to replicate the runway 33 SIDs to the extent possible, the environmental objective implicitly was to minimise change, rather than provide an overall noise benefit relative to the current situation.	

Outstanding Issues		
Serial	Issue	Action Required
1		
2		

Additional Compliance Requirements (to be satisfied by Change Sponsor)	
Serial	Requirement
1	

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2

Environmental Assessment Sign-off/Approval	Name	Signature	Date
Environmental Assessment completed by:	[REDACTED]	[REDACTED]	
Environmental Assessment approved by:	[REDACTED]	[REDACTED]	15/02/2019
Approver - Environment Comments:			