

# CAA Environmental Assessment and Statement

<b>Title of airspace change proposal</b>	SAIP AD5
<b>Change sponsor</b>	NATS
<b>Project no.</b>	ACP-2017-77
<b>SARG project leader</b>	██████████
<i>Case study commencement date</i>	27/05/2019
<i>Case study report as at</i>	05/07/2019
<p><i>Instructions</i></p> <p>To aid the Decision process the status column of each question has been highlighted accordingly to illustrate if it is:</p> <div style="display: flex; justify-content: center; gap: 20px;"> <div style="border: 1px solid black; background-color: #00FF00; padding: 5px; text-align: center;">Resolved</div> <div style="border: 1px solid black; background-color: #FFA500; padding: 5px; text-align: center;">Partially Resolved</div> <div style="border: 1px solid black; background-color: #FF0000; padding: 5px; text-align: center;">Not Resolved</div> <div style="border: 1px solid black; background-color: #D3D3D3; padding: 5px; text-align: center;">Not Applicable</div> </div>	
<b>1. Introduction</b>	
	<p>This is a Level 1 ACP that seeks to introduce airspace changes in the following areas:</p> <ul style="list-style-type: none"> <li>• Provide CAS and ATS routes for Birmingham arrivals and departures via MOSUN</li> <li>• Provide an offload route and appropriate CAS for some traffic inbound to Heathrow</li> <li>• Establish or revise 4 high level ATS routes in west end sector group</li> <li>• Amend TRA 002, in conjunction with the MOD.</li> </ul>

Although the base level of the lowest area of proposed new CAS is FL65 the sponsor provided sufficient statistical evidence at Stage 2 to support a position that changes to commercial traffic patterns below 7000ft would be minimal and therefore any visual or noise impact would be indiscernible. The CAA accepted this argument at the Stage 2 Gateway and therefore for the purposes of environmental assessment only this ACP has been assessed as a Level 2, reflecting CO<sub>2</sub> emissions data only.

Issue or opportunity to be addressed, and the cause

The proportions of eastbound flights using the southern flow increased after the Irish FIR implemented Free Route Airspace in 2010. This proportion-change means some Heathrow arrivals need to be “stack swapped” from the OCK hold to the BNN hold more often and at short notice, causing tactical complexity for NATS Swanwick LAC S23 (Brecon) & LTMA controllers.

There is an opportunity to add an additional flow in the “gap” between the two main flows, linking central/northern Eire diagonally NW/SE across Wales towards the London area (for some LTMA arrivals and also for UK overflights).

Desired outcome

Partial redressing of the balance between the main flows, reducing complexity for Brecon & LTMA controllers.

Additional flight planning options for airline operators, whether landing in the UK or overflying.

Reduction in flightplan/actual track miles flown in UK air space with consequential fuel/emissions and route charge savings for aircraft operators.

Specific challenges

Managing the proportions of traffic using the new system of flows so that no single flow causes issues to the network.

**2. Nature of the Proposed Change**

2.1	Is it clear how the proposed change will operate, and therefore what the likely environmental impacts will be?	Yes
	This proposal would Establish flight plannable Direct Routes (or DCTs) across North Wales MTA for high level overflights. These DCTs would not alter traffic patterns below 7,000ft and have the potential to reduce fuel uplifted	

	and burnt (and therefore CO <sub>2</sub> emitted) by high level aircraft overflying the UK, between the UK (North Wales MTA) flights to destinations to the West of the UK.	
<b>3. Secretary of State Call-in Noise Criterion</b>		
3.1	Is the proposal likely to meet the Secretary of State's criterion for call-in on noise impacts? If yes, has the additional assessment on that criterion been undertaken and what are the results? If no, what is the rationale for that conclusion?	No
	The criterion, as set out in the DfT's Air Navigation Guidance (2017) <sup>1</sup> is that the proposed airspace change could lead to a change in noise distribution resulting in a 10,000 net increase in the number of people subjected to a noise level of at least 54 dB <sup>2</sup> <u>as well as</u> having an identified adverse impact on health and quality of life. <sup>3</sup>	
	The changes associated with this are above 7000ft. It is therefore unlikely to cause a change to noise distribution resulting in a 10,000 net increase in the number of people subjected to a noise level of at least 54 dB (A) as well as having an identified adverse impact on health and quality of life.	
<b>4. Statement of Need</b>		
4.1	Does the Statement of Need include any environmental factors?	Yes
	The statement of need includes the desired outcomes of reducing flight plan track miles flown in UK airspace with consequential fuel/emissions and route charge savings for aircraft operators. Also, the Design Principle of: avoiding low level (below 7000ft) changes over land where possible has been adopted for this change.	
<b>5. Design Principles</b>		
5.1	Does the final set of Design Principles include any environmental objectives?	Yes
	The final Design Principles adopted include the following:- <ul style="list-style-type: none"> <li>Avoid Low Level changes over land where possible as a Level B Design Principle at Priority B. (ie. The second highest level</li> </ul>	

<sup>1</sup> The DfT's call-in criteria are set out in The Civil Aviation Authority (Air Navigation) Directions 2017, Section 6, paragraph (5). These Directions are replicated in Annex D of the DfT's Air Navigation Guidance 2017,

<sup>2</sup> LAeq 16h noise exposure.

<sup>3</sup> The assessment of the numbers of people affected and the associated adverse impacts on health and quality of life of the airspace change proposal should be carried out by the sponsor in accordance with the requirements set out in the DfT's Guidance.

	priority.	
5.2	Does the proposal explain how and to what extent the final airspace design achieves any environmental Design Principles?	Yes
	An evaluation of the compliance of options against the design principles is provided by the sponsor, in the design principle evaluation document. However, at the information level provided many of the options appear to achieve the same level of compliance, for example: EGBB 1A was rejected, while EGBB 1B was accepted and progressed. These two options achieved the same level of compliance with design principles according to the Design principle valuation document.	
5.3	Were there any proposed environmental Design Principles that were rejected from the final set? If so, is the rationale for rejecting those Principles reasonable?	Not known.
	No indication is provided of Design Principles that were considered and rejected. A high level of detail of how stakeholder feedback has influenced the adopted Design Principles has been provided this does not contain details relevant to the evaluation of design principles relative to one another.	
5.4	Were there any design options during the airspace change process that might have better met the environmental Design Principles than the final proposal as submitted to the CAA? If so, is the rationale for rejecting those options set out?	Partial
	High level assessment of compliance with design principles has been provided (Red, Amber Green) no detail beyond this. The detailed assessment output has only been provided for the progressed option for analysis in webTAG, no quantitative details of assessment of alternative options has been provided. Details on the reasoning associated with the selection of the progressed option have been provided in the Step 4A "Update design", "Update and submit submission at step 4A however no detail is provided of options that options that were subsequently not progressed.	
<b>6. Options Appraisal</b>		
6.1	Have environmental impacts been adequately reflected and assessed in the Options Appraisal?	Yes
	The design Principles against which this ACP has been assessed include...DP3 Environmental Avoid low level changes and DP4 Reduce flight plan mileage and associated fuel uplift /burn where appropriate. Consideration of the possible design principles including the environmental principle is provided on the effect on Noise and quality of life, Greenhouse gases and fuel burn for each of the options as part of the stage 2 "Develop and Assess" step 2B options appraisal submission. This particular design principle is assigned priority B as part of the Design Principle consideration under stage 2.	

6.2	Is the final proposal as submitted to the CAA the airspace design option that also produced the best environmental impacts as assessed by the Options Appraisal? If not, does the rationale for selecting the preferred option adequately explain this choice?	Yes
	Yes, due to the complexity of the design options progressed and the lack of detail provided against the Design Principles Evaluation at stage 2 the supplementary submission by the sponsor of the assessment of the full suite of environmental benefits, is both valuable and welcome. However, it does not include details relating to the prioritisation of certain options over and above other options.	
<b>7. Noise [for Level 1 and Level M1 airspace change proposals]</b>		
7.1	<b>Has the noise impact been adequately assessed and presented in the consultation material and the final submission to the CAA, taking account of scalability and proportionality?</b>	No
	No. In accordance with the requirements of CAP 1616; No noise assessment has been undertaken or is required for this change. Although a Level 1 ACP the proposed changes will not have a discernible impact on traffic below 7,000 feet and the ACP has been scaled as a Level 2 for environmental purposes. Level 2 ACPs are not required to produce Environmental assessments beyond providing an assessment of their impact on Greenhouse gases as CO2 Emissions.  <i>In particular and with reference to the DfT's Altitude-Based Priorities, has the sponsor considered (and assessed if necessary) noise impacts up to 7,000ft?</i>	
7.2	If a noise assessment has not been undertaken by the sponsor, has this decision been adequately explained and evidenced in both the consultation material and the final submission to the CAA, and is the rationale reasonable?	Yes
	The airspace change is a high-level change that proposes changes above 7,000 feet. It therefore falls outside the requirements for noise assessment. With the possible exception of noise considerations made as part of a tranquillity assessment. The need or otherwise for a tranquillity assessment is triggered by the potential impact on Snowdonia National Park, and the Shropshire Hills, Llyn Peninsula and Anglesey and Clewydian Range AONBs. The sponsor submitted supplementary evidence at Stage 2, including aircraft movements data, to demonstrate that the introduction of CAS (FL65-145) would likely impact only a small number of GA aircraft. This traffic amounts to less than 7% of annual traffic. Redistribution of this traffic to below 7000ft is highly unlikely to result in modelled noise levels that fall within the noise modelling software's reliability limit.	
7.3	Summary of anticipated noise impacts from the final proposed airspace change.	Yes
	For the purposes of environmental assessment this change has been scaled as a Level 2 change as it is proposed to take effect at levels above 7,000ft. Therefore, in accordance with CAP 1616, there is no requirement for formal assessments of noise. In relation to tranquillity	

	<p>assessment CAP 1616 makes no clear statement regarding the vertical position of the change, however it does state on page 121 of CAP1616 that the requirements for Level 1 proposals as:</p> <p>AONBs and National Parks – impacts upon tranquillity – explicit consideration of any changes to routes and/or traffic patterns that may affect either an Area of Outstanding Natural Beauty (AONB) or a National Park, with specific regard to impacts upon tranquillity. Therefore, an assessment may be required should the Change be confirmed as a Level 1 ACP following the Gateway assessment meeting.</p> <p>Cap1616 states that for the purposes of airspace change proposals, the impact of tranquillity need only be considered with specific reference to Areas of outstanding /Natural Beauty (or (AONBs) and National Parks unless other areas for consideration are identified through community engagement. Community feedback did not specifically reference the impact on these areas therefore no design Principles were adopted regarding them.</p> <p>The need or otherwise for a tranquillity assessment is triggered by the potential impact on Snowdonia National Park, and the Shropshire Hills, Llyn Peninsula and Anglesey and Clewydian Range AONBs. The sponsor submitted supplementary evidence at stage 2, including aircraft movements data, to demonstrate that the introduction of CAS (FL65-145) would likely impact only a small number of GA aircraft. This traffic amounts to less than 7% of annual traffic. Redistribution of this traffic to below 7000ft is highly unlikely to result in modelled noise levels that fall within the noise modelling software’s reliability limit.</p>	
<b>8. CO<sub>2</sub> Emissions</b>		
8.1	Has the impact on CO <sub>2</sub> emissions been adequately assessed and presented in the consultation material and the final submission to the CAA, taking account of scalability and proportionality?	<b>Partial</b>
	An assessment of CO <sub>2</sub> Emissions has been completed for this change. It has been completed based on the output of airspace modelling using Airtop, (NATS fast time model) with the output converted to a fuel burn figure using NATS’ Kerosene Emissions in The TMA (KERMIT) model that uses Eurocontrol’s Base of Aircraft Data (or BADA) performance model as an input. These are both credible and valid sources of aircraft performance data. The output of the modelling exercises has been input to WebTAG in accordance with the requirements of CAP1616. However, the detailed output of the modelling exercises has not been provided to the CAA. A summary of the fuel burn impacts as assessed for the main traffic flows is provided however this only gives annual fuel burn and CO <sub>2</sub> reductions while CAP 1616 requires per flight values to be provided.	
8.2	If an assessment of the impact on CO <sub>2</sub> emissions has not been undertaken by the sponsor, has this decision been adequately explained and evidenced in both the consultation material and the final submission to the CAA, and is the rationale reasonable?	<b>N/A See above</b>

	Not applicable see above.	
8.3	Summary of anticipated impact on CO2 emissions from the final proposed airspace change.	Yes
	A summary of the anticipated impact of the ACP is provided in the consultation document and detailed through the WebTAG submission.	
<b>9. Local Air Quality [for Level 1 and Level M1 airspace change proposals]</b>		
9.1	Has the impact on Local Air Quality been adequately assessed and presented in the consultation material and the final submission to the CAA, taking account of scalability and proportionality?	N/A
	For environmental purposes this ACP has been scaled as a Level 2 change. CAP1616 requires only Fuel Burn/CO2 assessment for level 2 Changes.	
9.2	If an assessment of the impact on Local Air Quality has not been undertaken by the sponsor, has this decision been adequately explained and evidenced in both the consultation material and the final submission to the CAA, and is the rationale reasonable?	N/A
	For environmental purposes this ACP has been scaled as a Level 2 change. CAP1616 requires only Fuel Burn/CO2 assessment for level 2 Changes	
9.3	Summary of anticipated impact on Local Air Quality from the final proposed airspace change.	N/A
	For environmental purposes this change has been scaled to be considered as a Level 2 Change for which Local Air quality assessment is not required.	

<b>10. Tranquillity [for Level 1 and Level M1 airspace change proposals]</b>		
10.1	With specific reference to Areas of Outstanding Natural Beauty and National Parks - Has the impact on tranquillity been adequately considered and presented in the consultation material and the final submission to the CAA, taking account of scalability and proportionality?	Yes
	No noise assessment required to be carried out as part of this ACP as it has been scaled as a Level 2 ACP. The sponsor has additionally submitted a document that the CAA accepted at stage 2 that provides details of why the ACP will not have a measurable noise impact as a result of the vertical position types and number of aircraft likely to fly at levels below 7,000ft.	
10.2	If consideration of the impact on tranquillity has not been undertaken by the sponsor, has this decision been adequately explained and evidenced in both the consultation material and the final submission to the CAA, and is the rationale reasonable?	N/A
	According to CAP1616, assessment of impacts on tranquillity are not required for this ACP as it has been scaled as a Level 2 ACP. CAP1616 only requires assessment of CO <sub>2</sub> and fuel burn for Level 2 ACP's	
10.3	Summary of anticipated impact on tranquillity from the final proposed airspace change.	N/A
	According to CAP1616, assessment of impacts on tranquillity are not required for this ACP as it has been scaled as a Level 2 ACP. CAP1616 only requires assessment of CO <sub>2</sub> and fuel burn for Level 2 ACP's	
<b>11. Biodiversity [for Level 1 and Level M1 airspace change proposals]</b>		
11.1	Has the impact on biodiversity been adequately assessed and presented in the consultation material and the final submission to the CAA, taking account of scalability and proportionality?	N/A
	According to CAP1616, assessment of impacts on biodiversity are not required for this ACP as, for the purposes of environmental assessment, it has been scaled as a Level 2 ACP. CAP1616 only requires assessment of CO <sub>2</sub> and fuel burn for Level 2 ACP's	



11.2	If assessment of the impact on biodiversity has not been undertaken by the sponsor, has this decision been adequately explained and evidenced in both the consultation material and the final submission to the CAA, and is the rationale reasonable?	N/A
	According to CAP1616, assessment of impacts on Biodiversity are not required for this ACP as, for the purposes of environmental assessment, it has been scaled as a Level 2 ACP. CAP1616 only requires assessment of CO <sub>2</sub> and fuel burn for Level 2 ACP's	
11.3	Summary of anticipated impact on biodiversity from the final proposed airspace change.	N/A
	According to CAP1616, assessment of impacts on Biodiversity are not required for this ACP as, for the purposes of environmental assessment, it has been scaled as a Level 2 ACP. CAP1616 only requires assessment of CO <sub>2</sub> and fuel burn for Level 2 ACP's	
<b>12. Traffic Forecasts</b>		
12.1	Have traffic forecasts been provided, are they reasonable, and have these been used to reflect the anticipated environmental impacts of the proposal?	Yes
	<i>If the proposal has an aim of increasing traffic numbers over and above what would be achieved without the proposal, then the sponsor should provide two sets of forecasts for determining impacts – one set that assumes no implementation and therefore normal growth and a second set that assumes implementation and therefore “enhanced” growth.</i>	
<b>13. Consultation</b>		
13.1	Has the sponsor taken account of any environmental factors (noise, CO <sub>2</sub> emissions, local air quality, tranquillity or biodiversity) raised by consultees or has evidence been provided to indicate why this has not been possible?	N/A
	For the purposes of environmental assessment only this ACP has been scaled as a Level 2 ACP. Therefore, in accordance with CAP1616, only assessment of CO <sub>2</sub> and fuel burn are required. This has been provided for this ACP together with additional evidence that noise assessment is not possible due to the nature and proposed location (vertically) of the change.	
13.2	Has the sponsor taken account of any consultation response submitted by ICCAN? If so, what are the outcomes?	N/A

	<p>ICCAN did not provide any consultation response in relation to this ACP. ICCAN is yet to produce any guidance on noise related issues. The only Best Practice Guidance that has been issued by ICCAN <u>specifically relates to the topic of consultation process/practice</u> which is considered in the CAA's Consultation Assessment report rather than within this Environmental Assessment report.</p>	
<p><b>14. Public Evidence Session (if held)</b></p>		
14.1	<p>If a Public Evidence Session has been held, was any <u>new</u> evidence on potential environmental impacts presented?</p>	N/A
	<p>It was determined that it was not proportionate to hold a Public Evidence Session for this ACP.</p>	
14.2	<p>If so, was the new evidence relevant and material to the CAA's consideration of the environmental impacts of the submitted airspace change proposal?</p>	N/A
<p><b>15. Compliance with policy and guidance from Government or the CAA</b></p>		
15.1	<p>Has the sponsor satisfied all relevant policy and/or guidance from either the Government, ICCAN or the CAA, with regards to environmental impacts of the proposed airspace change?</p>	Partial
	<p>The sponsor has not satisfied all relevant policy with regards to the environmental impacts of the proposed Level 1 ACP. However, the sponsor provided acceptable justification, through statistical aircraft movements data, to support the ACP being viewed as Level 2 for environmental perspective.</p>	
15.2	<p>Has the sponsor adequately considered the DfT's Altitude-Based Priorities<sup>4</sup>?</p>	Yes
	<p>Yes. This ACP has been assessed as only affecting traffic flows at and above 7,000ft which according to the altitude priorities only requires assessment of CO<sub>2</sub> and fuel burn. Quite correctly therefore, CO<sub>2</sub> and fuel burn were the main focus of assessment for this ACP.</p>	

<sup>4</sup> Paragraph 3.3, DfT's Air Navigation Guidance 2017

16. Other aspects		
16.1	Are there any other aspects of the airspace change proposal that have not already been addressed in this report but that may have a bearing on the environmental impact?	No
17. Recommendations		
17.1	Are there any recommendations for conditions or undertakings to be included with the CAA's decision?	No
17.2	Are there any recommendations for the Post-Implementation Review requirements?	Yes
	Records of aircraft known to be operating at and below 7,000 feet as a result of this change should be maintained by the sponsor. Details of co-ordination requirements for traffic transiting the SAIP AD5 airspace to lower levels should also be maintained.	

18. Summary of Assessment of Environmental Impacts & Conclusions		
Outstanding issues?		
Serial	Issue	Action required
1		

2		
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Environmental assessment and sign-off and approval statement	Name	Signature	Date
Environmental assessment and statement completed by:	██████████ ██████████	██████████	7/7/2019
Environmental assessment and statement approved by:	██████████ ██████████	██████████	02/08/2019
<p>Programme Head – Environment comments: I note that the sponsor has provided rationale for why options have been progressed but no rationale for those that have not been. Given that the impacts are above 7,000ft this does not give me cause to not agree with their environmental work.</p>			