

Safety and Airspace Regulation Group

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Airspace Change Proposal - Environmental Assessment

Version: 1.0/ 2016

Title of Airspace Change Proposal	RAF Brize Norton Airspace Change Process
Change Sponsor	RAF Brize Norton
SARG Project Leader	██████████
Case Study commencement date	27/08/2020
Case Study report as at	31 Dec 2020
File Reference	ACP 2014-12

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>According to the sponsor's consultation document; the airspace around Brize Norton no longer accounts for the types and speeds of aircraft in current operational use and therefore the shape and dimensions need to be revised. This is the case as a result of the changes that have occurred to the operations and consequential aircraft fleet that the station serves in that it now provides rapid global mobility in support of UK overseas operations and exercises as well as air to air refuelling support for fast jet aircraft both on operations and in support of UK Homeland Defence.</p> <p>The airspace surrounding the class D airspace at Brize Norton is Class G (uncontrolled) airspace. RAF aircrew have identified occasions when RAF Brize Norton aircraft arriving at the aerodrome from the national airways network are required to transit through Class G airspace; this has led to safety related events.</p> <p>The sponsor wishes to make changes to the dimensions of the class D airspace surrounding the Station and introduce areas of Class E airspace + conspicuity, in order to provide the appropriate protection to aircraft arriving or departing from the airfield. The Airspace Change Proposal submitted contains new RAF Brize Norton airspace required to contain the RNAV procedures that have been designed to deconflict as far as possible those of the nearby London Oxford Airport. The sponsor confirms that the new flight procedures themselves are outside the scope of the proposal submitted.</p>	

2.	Guidance to the CAA	Status
2.1	Is the proposal consistent with Government policy and/or guidance from Government to the CAA?	Yes
	<p>The sponsor followed the applicable Air Navigation Guidance 2014, and CAP 725 Airspace Change Process. However, the sponsor has recognised that as a result of the timing of the original submission to the CAA, new guidance and process have been issued by government and the CAA respectively. It has since, sought to "take into account" the requirements of the Air Navigation Guidance 2017 and CAP 1616, in particular by increasing the degree of transparency provided to the proposals.</p> <p>For this ACP, the sponsor was not required to assess the environmental impacts of changes to military aircraft operations at Brize Norton, since these are out of scope. Only the effects on surrounding civil traffic are within environmental scope. With the change in government airspace policy, the publication of the 2017 Air Navigation Guidance and CAP 1616, the Department for Transport instructed CAA that the proposed airspace change could only continue to follow the 2014 Air Navigation Guidance and CAP 725, provided that the 54dB L_{Aeq16h} noise contour affects less than 10,000 people. The sponsor subsequently undertook environmental assessment and demonstrated that population exposure within the Brize Norton summer 2017 54dB L_{Aeq16h} contour prior to the proposed airspace change was less than 10,000 people.</p>	

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3.	Rationale for the Proposed Change	Status
3.1	<p>Does the rationale for the ACP include environmental reasons?</p> <p>The drivers of the proposed airspace change are safety related. The proposal is not intended to increase air traffic. The sponsor identified one of the major ways to reduce the Potential Risk to Life from Mid Air Collisions between RAF Brize Norton aircraft and other aircraft outside Controlled Airspace would be to provide connectivity to the airways network and ensure the associated Instrument Flight Procedures are appropriately contained. The proposal seeks to provide suitable resolution to these identified issues, by ensuring aircraft are better contained in Controlled Airspace reducing the potential conflict with unknown traffic.</p> <p>Although, the environment is not the primary rationale for the proposal, the sponsor notes that the proposal will provide “allowance of more direct routings”, which the sponsor asserted would “have positive environmental benefits”.</p>	No

4.	Nature of the Proposed Change	Status
4.1	<p>Is it clear how the proposed change will operate, and therefore what the likely environmental impacts will be?</p> <p>The process via which the final design proposal was established is set out by the sponsor in their consultation document and final proposal to the CAA. These detail (in the main) the constraints that the sponsor considered, and any subsequent actions that were taken. From this it is clear how the proposed change will operate.</p>	Yes
4.2	<p>Have alternative options been considered, and have the environmental impact of each alternative been assessed?</p> <p>The sponsor considered:</p> <p>Option 0 – Do Nothing The consideration of this option would lead to no change to the pre-existing situation and as such, the pre-existing safety issues would persist and as such the objectives of the ACP would not be achieved.</p> <p>Option 1 – Do Minimal This option involved revising the SIDs and STARs that direct traffic to controlled airspace. The intent was that shortening the SIDs and STARs would reduce the time in Class G airspace and consequential collision risk. However, this meant that departing aircraft could not achieve the height required to interface with civil inbound traffic to Southampton and Bournemouth routing through the London Terminal</p>	Yes

Control area (TMA) from the North. Similar issues were identified, but in reverse, regarding aircraft leaving controlled airspace inbound to Brize Norton. Therefore, the sponsor concluded that revised SIDs and STARs would benefit neither aircraft departing, nor the very busy civil airways sector controllers.

In addition to SID and STAR changes, Option 1 also included improved general aviation liaison with surrounding general aviation airfields and general aviation flying organisations.

Option 2 – Other airspace Design Options

As well as exploring options for additional controlled airspace, the sponsor also considered:

- Transponder Mandatory Zone (TMZ)
This included consideration of the following examples: London Stansted TMZ
London Array TMZs
- Class E controlled airspace + TMZ
- Radio Mandatory Zone (RMZ)

Taking into account traffic density and airspace equipage, the sponsor considered that the introduction of a TMZ, Class E airspace + TMZ or an RMZ would be inadequate in meeting the aims of the proposal. Therefore, this option was discounted in its entirety.

Option 3– Minimal change to class D airspace

This option considered an increase in size of the RAF Brize Norton Class D airspace CTR without the associated CTAs and airways connectivity. Whilst this addressed some of the safety concerns that the sponsor was seeking to address, in particular, it meant that the proposed SIDs and STARs would be contained within controlled airspace.

Option 4 – Establish Class D Controlled Airspace comprising a CTR and CTAs to provide airways connectivity.

Analysis of the options (by the sponsor) concluded that increasing the volume of controlled airspace by including an extension of existing Class D CTR and additional Class D CTAs was the most appropriate way to provide both airways connectivity and the containment of the proposed SIDs and STARs, in particular to contain aircraft in controlled airspace when conducting IFR approaches. This option was consulted on, where it was recognised both by the sponsor and in consultation feedback that it would have detrimental effects on other airspace users.

Modified proposal – enlarged Class D controlled airspace and Class E airspace + RMZ/TMZ

As a consequence of consultation feedback and further engagement, the submitted ACP amends the size of the Class D area compared with the original consultation and amends the shape and size of the surrounding CTAs to be a mixture of Class D and, Class E airspace with conspicuity using either Radio Mandatory Zones or Transponder Mandatory Zones.

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In all the options, the proposed RNAV procedures stay largely the same and would not affect aircraft noise associated with Brize Norton, since what variations there are, are far from the airfield and in areas where noise levels are below 51 dB L_{Aeq16h} .

All the options would have effects on surrounding traffic to greater and lesser extents. Effects considered by the sponsor included impacts on other local aerodromes and other local VFR and IFR traffic. The sponsor notes that the final proposal will not affect IFR traffic, since it will be able to use the airspace as before. The changes from the original consulted proposal have aimed to mitigate the effects on local aerodromes and VFR traffic.

The sponsor has not attempted quantify the noise effects of these changes, because of the wide variety of VFR operations, in terms of individual aircraft position and altitude, it would not be possible to quantify the changes that may occur. This is reasonable.

5.	Noise	Status
5.1	Has the noise impact been adequately assessed?	Yes
	<p>As this Airspace Change Proposal is sponsored by RAF Brize Norton, it is classified as a Military Airspace Change, under the terms of the Air Navigation Directions. Therefore, the environmental assessment required to be made of this proposed change is limited in its extent to its effects on civil air traffic. The sponsor has not quantified these changes. Through consultation and continued engagement, the sponsor has sought to minimise impacts on surrounding traffic. Consequently, although not explicitly stated in the proposal, the proposal is unlikely to result in changes to surrounding traffic that would result in changes to noise exposure above 51 dB L_{Aeq16h}.</p> <p>Having said that assessment of noise from military operations is out of scope, the Department for Transport required that the sponsor demonstrate that the 54dB L_{Aeq16h} noise contour contain less than 10,000 people, in order for this ACP to continue to be assessed with regard to the 2014 ANG and CAP 725. The sponsor computed noise contours for summer 2017 using the FAA's Aviation Environment Design Tool version 2d. The contours were based on RAF Brize Norton Traffic during a 92-day summer period for 2017. The outcome of the assessment showed that the population within the 54 dB L_{Aeq16h} contour was less than 10,000 people and thus the proposal could remain on the CAP 725 Process.</p>	
5.2	Has the noise impact been adequately presented in the consultation and the submitted proposal?	Yes
	Noise was not quantitatively assessed for consultation. However, after consultation, the requirement to assess noise in order to remain under the CAP 725 was set. The sponsor's final submitted proposal addresses this requirement and the work done in respect of it.	

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6.	Emissions	Status
6.1	Has the impact on CO₂ emissions been adequately assessed?	Yes
	<p>Notwithstanding the fact that this ACP is a Military Sponsored ACP, for which sponsors are not required to conduct environmental assessment unless their proposal impacts on any civil airspace and airspace operations; the sponsor provides a qualitative description that recognises this. The sponsor nevertheless confirms in the consultation document that the proposed change would ensure aircraft departing from and arriving to Brize Norton are able to do so using more direct routings and more efficient vertical flight profiles. The reduction in the number of avoiding action turns and re-routes due to unknown conflicting traffic will also contribute to this objective in a positive way.</p> <p>The impact of the proposal on the emissions of surrounding civil traffic has not been quantified by the sponsor, although as mentioned previously the sponsor has sought to minimise the impact on surrounding traffic. It is not possible to quantify any remaining impacts and thus the sponsor's approach is reasonable.</p>	
6.2	Has the impact on CO₂ emissions impact been adequately presented in the consultation and the submitted proposal?	Yes
	<p>As mentioned in Q6.1 above, military sponsored ACPs such as this, are not required to undertake environmental assessment unless their proposals impact on civil traffic. No quantitative assessment has been made of the impact on CO₂ emissions. However, the sponsor has provided a qualitative description of the expected effect on CO₂ in that the ACP should reduce the number of avoiding action turns and re-routes due to unknown conflicting traffic, that will contribute to the objective of reducing CO₂ emissions.</p>	

7.	Local Air Quality	Status
7.1	Has the impact on Local Air Quality been adequately assessed?	N/A
	<p>Notwithstanding the fact that this ACP is a Military Sponsored ACP, for which sponsors are not required to conduct environmental assessment unless their proposal impacts on any civil airspace and airspace operations; the sponsor provided a qualitative description that recognises this. The closest location where AQMA levels are at risk of being exceeded is Witney AQMA, an Air Quality Management Area that has been declared approximately 3.5 miles to the North East of Brize Norton. This AQMA is in an Urban area, and is designated as an AQMA as a result of road transport sources.</p> <p>Since the proposal does not seek to alter both military and civil operations below 1,000 ft altitude, it can be stated that the proposal will not have any impact of local air quality.</p>	

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7.2	Has the impact on Local Air Quality been adequately presented in the consultation and the submitted proposal?	Yes
	<p>The sponsor qualitatively assessed the impact of the proposal on Air Quality, on the basis of the fact that the number of aircraft flying locally is not intended to change as a result of the proposal, and the proposal intends to increase the efficiency of the use of the airspace through a reduction in avoiding action incidents, which potentially indicate that there might be a negligible or net improvement in local air quality. This is reasonable.</p>	

8.	Tranquillity	Status
8.1	Has the impact on tranquillity been adequately considered?	N/A
	<p>No assessment is made of the expected effect on tranquillity, however this is in keeping with the fact that in accordance with the requirements of the Air Navigation Directions, as a military sponsored Airspace Change, no environmental assessment is required to be made of the effects of the change on the environment, unless their proposals impacts on any civil airspace and airspace operations.</p> <p>Having said this, the impact on surrounding traffic is unlikely to result in any changes to tranquillity.</p>	
8.2	Has the impact on tranquillity been adequately presented in the consultation and the submitted proposal?	N/A
	See 8.1.	

9.	Visual Intrusion	Status
9.1	Has the impact of visual intrusion been adequately considered?	N/A
	<p>No assessment has been made of visual intrusion. However, as a military sponsored ACP the sponsor is not required to undertake any environmental assessments, in accordance with the requirements of the Air Navigation Directions, unless their proposals impacts on any civil airspace and airspace operations.</p> <p>Consequently, this omission is not considered to be significant, particularly, since, the sponsor has sought to minimise the effects on surrounding civil air traffic.</p>	
9.2	Has the impact of visual intrusion been adequately presented in the consultation and the submitted proposal?	N/A

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No assessment has been made of visual Intrusion. However, as a military sponsored ACP the sponsor is not required to undertake any environmental assessments, in accordance with the requirements of the Air Navigation Directions, unless their proposals impacts on any civil airspace and airspace operations. Consequently, this omission is not considered to be significant.

10.	Biodiversity	Status
10.1	Has the impact upon biodiversity been adequately considered?	Yes
	<p>No assessment is made by the sponsor of the effect of this proposal on Biodiversity. However, since CAP 725 states that it considers it unlikely that airspace changes will have a direct impact on animals, livestock and biodiversity, and given that:</p> <ul style="list-style-type: none"> • This proposal is intended to replicate the pre-existing procedures as far as possible and, • There is no requirement for Military change sponsors to assess environmental impacts beyond any expected effects on civil air traffic <p>Therefore, it considered that this omission is not significant.</p>	
10.2	Has the impact upon biodiversity been adequately presented in the consultation and the submitted proposal?	Yes
	<p>As reflected in 10.1 above, there is no requirement for military sponsors to undertake environmental assessments associated with their Airspace Change Proposals beyond completing assessments on any impacts the proposals have on civil traffic.</p>	

11.	Continuous Descent Approaches	Status
11.1	Has the implementation of, or greater use of, CDAs been considered?	Yes
	<p>The sponsor confirms in the consultation document that the proposed change would ensure aircraft arriving to Brize Norton would be able to do so using more direct routings and more efficient vertical flight profiles. The sponsor makes no further comment about this and makes no mention of any potential benefit on CDAs. Notwithstanding this, airspace designs that enable CDAs are more likely to lead to greater CDA achievement rates.</p>	

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

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Brize Norton airport is located between two AONB's. The Cotswolds AONB to the North West (closest point being approximately 1.3 Miles to the North West of the airport), while the Chilterns AONB is located approximately 19 Miles to the South East of the airport. The proposed airspace is likely to overlie portions of the Cotswold AONB to the South West of Brize Norton. However, since the procedures that this airspace is being sought to protect are a replication of those used previously, and the sponsor has undertaken to minimise impacts on surrounding traffic, any impact on the AONBs can be expected to be minimal. This is reasonable.

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?	N/A
	The sponsor clearly states that the proposed airspace change does not affect the number of flight movements or proportion of flights along any specific flight path.	
14.	Consultation	Status
14.1	If undertaken, has evidence of non-aviation stakeholder consultation been provided?	Yes
	Included in the sponsor's Stakeholder consultee list are town and county councils, Members of parliament, Conservation organisations (that include Natural England the National Trust, National Parks, and a large number of parish councils. The consultation document was made available to consultees via the Airport's website. Consultees were notified by e-mail alerting them to the consultation and how to access the consultation document. Production of the consultation document followed direct engagement with stakeholders through a series of meetings.	
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
	Environmental considerations did not feature in factors raised by consultees. The key concern raised by consultees, was the impact on other airspace users and thus the changes made post-consultation were focussed on addressing the concerns of other airspace users.	
15.	Compliance with CAP 725	Status
15.1	Have all environmental assessment requirements specified in CAP 725 been met, where applicable?	Yes

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In keeping with the fact that since this ACP is a Military Sponsored ACP, for which sponsors are not required to conduct Environmental Assessment unless their proposals impacts on any civil airspace and airspace operations; the sponsor has provided a qualitative description that recognises this. In addition, the sponsor undertook a quantitative assessment of noise exposure at Brize Norton for summer 2017, in order to demonstrate that the population exposed to at least 54 dB L_{Aeq16h} was less than 10,000 people, such that the proposal could continue under CAP 725.

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?	Yes
	N/A	

17.	Recommendations	Status
17.1	Are there any recommendations for the Post-Implementation Review?	Yes
	It is recommended that the sponsor monitor and record any traffic conflicts occurring that result in flight procedures discontinued, and if possible, the result impact, e.g. the additional flight time and distance covered, which constitute adverse impacts on the environment.	

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 proposal does not meet the criteria set out, requiring approval of the Secretary of State for Transport.	

19.	Conclusions	Status
19.1	Can an overall environmental benefit be demonstrated (or justified/supported)?	No
	This proposal is intended to improve safety by providing modern satellite-based instrument flight procedures and to reduce the risk of a mid-air collision in the areas surrounding these procedures. Efforts have been made within the proposal to enable shorter (more direct)	

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flights and also to provide better (more stable) flight paths. These two factors, taken together, may result in an environmental benefit compared with current operations, however, these have not been quantified.

Outstanding Issues

Serial	Issue	Action Required
1		
2		

Additional Compliance Requirements (to be satisfied by Change Sponsor)

Serial	Requirement
1	
2	

Environmental Assessment Sign-off/Approval	Name	Signature	Date
Environmental Assessment completed by:	[Redacted Name]	[Redacted Signature]	04/01/2021
Environmental Assessment approved by:	[Redacted Name]	[Redacted Signature]	31/12/2020

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Approver - Environment Comments: