

Safety and Airspace Regulation Group

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Airspace Change Proposal - Environmental Assessment

Version: 1.0/ 2016

Title of Airspace Change Proposal	London Oxford Airport Proposal for Revised Airspace and Instrument Flight Procedures
Change Sponsor	London Oxford Airport
SARG Project Leader	[REDACTED]
Case Study commencement date	13 August 2020
Case Study report as at	10 November 2020
File Reference	ACP-2014-03

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>London Oxford Airport (LOA) lies 40 miles to the north-west of the Greater London and halfway to the UK’s industrial heartland in the Midlands. It is the only commercial airport between London Heathrow (LHR) and Birmingham (BHX) and is the Thames Valley area’s primary regional and business aviation airport. Given the improved capability to monitor traffic at critical areas of flight, ATCOs have observed that safety has often been compromised, particularly when General Aviation (GA) aircraft are operating to the North of the aerodrome without speaking to ATC, when it has been necessary on occasion to turn traffic inbound to Oxford to avoid unknown conflicting traffic. On Many occasions Oxford report having to break aircraft from their final approach to ensure safe separation from conflicting traffic. As a result, enhancing the levels of Safety for aircraft operating close to the airport is the principal driver for this change proposal. The Change Proposal seeks to resolve:</p> <ul style="list-style-type: none"> • Create a “known traffic environment” to enhance the safety of IFR traffic arriving at London Oxford Airport from the North to Runway 19 and minimise the number of instances where avoiding action or break-off instructions have an adverse effect on controller and pilot workload. • Improved interaction between Brize Norton and London Oxford flight procedures. The existing procedures are complex, and this creates a more intensive workload for Air traffic Controllers from both airports. • A requirement to future-proof the existing Instrument Flight procedures in accordance with the CAA’s Future Airspace Strategy (now the Airspace Modernisation Strategy). • Since the airport started providing a radar surveillance service, Air traffic controllers can now see the significant numbers of aircraft that operate close to the airport without making contact by radio, thus highlighting occasions when safety is eroded. • This proposal proposes to introduce RNAV (GNSS) Instrument Flight Procedures (IFP’s) as these approaches are expected to enhance the current operation and future-proof the airport for the decades ahead. Further to this submission the airport also plans to make a request detailing the new airspace design and RNAV (GNSS) approach procedures, and the introduction of a Transponder Mandatory Zone (TMZ) to protect these procedures for Runway 19. 	

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>Guidance issued to the Civil Aviation Authority¹ sets 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</p>	

¹ DfT, Guidance to the Civil Aviation Authority on Environmental Objectives Relating to the Exercise of its Air Navigation Functions, January 2014

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.

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 balances this with CO₂ emissions between 4,000 and 7,000 feet (amsl). 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 encourages this.

As a change being progressed under CAP725, this change needs to be consistent with the requirements of the Air Navigation Guidance 2014. Those requirements include those relating to Noise, those relating to Climate change and emissions, those relating to Local air quality (Nitrogen dioxides), Tranquillity and Visual intrusion & Biodiversity.

The sponsor has included detail in either their submission or their consultation document that relates to:

- Noise,
- Climate change Fuel burn/CO₂ Emissions
- Local Air Quality
- Visual Impact and Tranquillity – Where the airspace is likely to impact on an Area of Outstanding Natural Beauty
- Areas of Outstanding Natural Beauty

Noise: The sponsor provided a quantitative assessment, providing modelled noise contours from 54dB L_{Aeq16h} to 72 dB L_{Aeq16h} for an average summer day

Climate change: A qualitative assessment of the effect on CO₂ is provided by the sponsor based on the fact that under the proposal traffic will be able to depart and arrive at the airport using more direct routings with more efficient vertical profiles and a reduction in missed approaches will also contribute positively to this benefit.

Local air quality: A qualitative assessment of the expected impact of the change proposal on local air quality is provided, there are two AQMA's declared by West Oxfordshire District Council, however neither are located in close proximity of the proposed change, and both have been declared on the basis of pollutants from road traffic sources.

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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3.	Rationale for the Proposed Change	Status
3.1	Does the rationale for the ACP include environmental reasons?	No
	The ACP rationale is to enhance safety and has no direct environmental rationale.	
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
	<p>The sponsor states that the objectives of their proposal are</p> <ul style="list-style-type: none"> • Introduction of a Transponder Mandatory Zone to enhance safety for aircraft on the final approach for Runway 19 and when in the visual circuit. • Improve interaction between Brize Norton (BZN) and London Oxford Airport (LOA) flight procedures. • Introduce RNAV (GNSS) approach procedures to both runways at LOA; that replicate the existing procedures and include: <ul style="list-style-type: none"> o Revised missed approach procedures for both runways. • New hold areas (the racetrack pattern flown by aircraft waiting for a slot to land) to the northwest and southeast of the airport. <p>The sponsor reports (in their consultation document) that there are inherent safety and cost benefits to their use of RNAV technology:</p> <ul style="list-style-type: none"> • Safer and more efficient Air Traffic Control (ATC) services because fewer controller interventions are required to separate and re-route aircraft that have come into conflict with one another. • More accurate routes are flown making it easier to predict flight patterns and providing improved stabilisation of aircraft on approach. More stabilised approaches are safer and can generate less noise as aircraft perform fewer corrections to their vertical and lateral flight profile, and • Greater operational efficiency; accurate track keeping means less fuel burned, fewer flying hours, lower CO2 emissions and an improved chance of a successful first approach during bad weather conditions as the aircraft will be in the optimum position to make a safe landing on the runway when possible. The sponsor is seeking to amend the following aspects of their current operation as part of this proposal: as part of this change proposal. • The sponsor's final proposal was to introduce a RNAV (GNSS) approach procedures, new hold areas and to enclose these within a TMZ. 	

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4.2	Have alternative options been considered, and have the environmental impact of each alternative been assessed?	Yes
	<p>In addition to the proposed instrument flight procedures, the airport has considered the following airspace options as part of this proposal development:</p> <p>Option 1: Do Nothing The airspace around London Oxford is traditionally a busy portion of airspace and is designated an Area of Intense Aerial Activity. The “Do Nothing” option would continue to allow unfettered access to all classes of GA users and a suitable radar service could be provided to those aircraft that choose to contact London Oxford Airport. However, ‘Do Nothing’ would not deliver any of the safety benefits associated with this ACP.</p> <p>Option 2: Do Minimal London Oxford Airport has sought to consider changes that would have a minimal impact on other aircraft operating in the area providing the safety objective could be achieved. The airport has actively progressed the option of implementing a Listening Squawk and also conducted improved local liaison in an attempt to mitigate any collision risk on final approach. The meetings that took place however did not generate any tangible comment on how best to mitigate any collision risk on final approach. The airport concluded that whilst these initiatives have generated some improvement in the situation for London Oxford Airport and its local flyers, many of the aircraft that operate within the area are transiting aircraft unfamiliar with local issues. Option 2 therefore was concluded by the sponsor to not be a viable solution and the environmental impact was not assessed.</p> <p>Option 3: Establish a Radio Mandatory Zone Oxford considered establishing a Radio Mandatory Zone, the size of which was designed to be the minimum necessary to achieve the level of protection required. Any such zone would extend from the surface to 3,500ft above mean sea level and laterally would include the danger areas D129 when the area was inactive. The airspace would have excluded Enstone aerodrome and Hinton-in-the-Hedges Aerodrome, but the proposal would have provided protection only for the NDB hold and Oxford aerodrome visual circuit and not the final approach path. Consequently, the environmental impact was not assessed.</p> <p>Option 4: Introduce Class D Airspace. The sponsor conducted formal consultation on its preferred option which was to introduce a volume of Class D airspace. However, this option generated significant objection from other airspace user groups who saw its introduction as prohibitive to their flying operations.</p> <p>London Oxford subsequently modified their Option 4 proposal, replacing the proposed Class D Airspace with a TMZ, and assessed the environmental impact of their modified proposal.</p>	

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5.	Noise	Status
5.1	Has the noise impact been adequately assessed?	Yes
	<p>The FAA's Environmental Design Tool (or AEDT) was used to carry out noise modelling for the submission, based on London Oxford Traffic Data for 92-day summer period (16th June – 15th September 2016) as is standard. This information was gathered for Runway 19/01 (the longest runway available at the airport). Aircraft details including available aircraft types were input into AEDT and differentiation was made between departure and arrival profiles. Where specific aircraft types were not available, within the model, comparative aircraft models were used. The Modelling utilised traffic data for traffic experienced at the airport over three separate weeks using the summer period of 2016 which allowed for the production of contours on the basis of an "average" summer day to be input into the model (on the basis of a 75/25% runway split).</p> <p>London Oxford Airport does not host any night flights so in accordance with the requirements set out in CAP1616, no SEL footprints were required to be produced, a fact acknowledged by the sponsor.</p> <p>The resulting L_{Aeq16h} noise contours were illustrated within the Consultation document, with levels between 54dB and 72dB L_{Aeq16h} plotted. These contours are for the current situation and show that noise at or above 54dB L_{Aeq16h} extends out to 2.5NM from the runway ends. This is in the area where aircraft are stabilised on the approach path and thus proposed ACP will not alter noise exposure at or above 54dB L_{Aeq16h}.</p>	
5.2	Has the noise impact been adequately presented in the consultation and the submitted proposal?	Yes
	<p>The methodology used to produce Leq Contours (as set out above) was explained in the consultation document. The document also explained that the outcome of the modelling exercise (as described above) meant that specific noise modelling of the new RNAV Procedures was not required. As set out above L_{Aeq16h} noise contours were provided for levels between 54 and 72dB L_{Aeq16h}.</p> <p>In addition to the presentation of contours, details of household numbers within each of the contour bands referenced above was provided, with the underlying population data based on 2016 Census information supplied by CACI referenced as the source.</p>	
6.	Emissions	Status
6.1	Has the impact on CO₂ emissions been adequately assessed?	Yes
	<p>The sponsor recognises the Department for Transport objectives in relation to climate change and acknowledges that the proposed change sought to enable traffic departing and arriving into the airport to get more direct routes and more efficient vertical flight paths, both of which would be expected by the sponsor to contribute to the achievement of the governments climate change objective in a positive way. However, the sponsor acknowledges that these benefits must be weighed against the number of aircraft that are predicted to choose not to</p>	

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	<p>route through the new airspace and will therefore fly a longer route as a result of the change. In the sponsors' estimation, only a minimal impact is expected.</p> <p>These factors could have been quantified, however the sponsor elected not to, and presented acceptable qualitative statements to evidence this aspect of their proposed change.</p>	
6.2	<p>Has the impact on CO₂ emissions impact been adequately presented in the consultation and the submitted proposal?</p>	Yes
	<p>The expected impact on CO₂ emissions is presented qualitatively, based on the assessment of the fact that the new proposed routes are more direct and on the basis of the reasonable expectation that there may be fewer broken off approaches. As stated above, on balance only a minimal effect is expected, which appears to be reasonable.</p>	

7.	Local Air Quality	Status
7.1	<p>Has the impact on Local Air Quality been adequately assessed?</p>	Yes
	<p>CAP725 emphasises that aircraft operations below 3,000ft contribute to local air quality, with the portion of aircraft operations below 1,000ft contributing most to local air quality. The sponsor has qualitatively assessed the expected impact on local air quality, on the basis that the proposal "does not include any increase in traffic, combined with the more efficient use of the airspace and reduced failed approaches all indicate that if anything, there will be a negligible or net improvement in local air quality." This is an adequate and acceptable assessment.</p>	
7.2	<p>Has the impact on Local Air Quality been adequately presented in the consultation and the submitted proposal?</p>	Yes
	<p>The qualitative assessment set out above is presented in the sponsor's consultation document. Given the nature of the change this is considered an adequate and acceptable assessment.</p>	

8.	Tranquillity	Status
8.1	<p>Has the impact on tranquillity been adequately considered?</p>	N/A
	<p>The sponsor identifies that the proposal does not include any increases in traffic, that it should result in a reduction in failed approaches, and lead to more efficient use of the airspace, thus it is anticipated that there will be a marginal improvement in tranquillity. This is reasonable.</p>	

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8.2	Has the impact on tranquility been adequately presented in the consultation and the submitted proposal?	Yes
	The sponsor provides a qualitative assessment of tranquillity (as set out above) which is acceptable given the nature and likely effect of the proposal.	

9.	Visual Intrusion	Status
9.1	Has the impact of visual intrusion been adequately considered?	N/A
	The sponsor identifies that the proposal does not include any increase in traffic, should result in a reduction in failed approaches, and lead to more efficient use of the airspace, thus it is anticipated that there will be a marginal improvement in visual intrusion.	
9.2	Has the impact of visual intrusion been adequately presented in the consultation and the submitted proposal?	Yes
	The sponsor provides a qualitative assessment of visual intrusion (as set out above) which is acceptable given the nature and likely effect of the proposal	

10.	Biodiversity	Status
10.1	Has the impact upon biodiversity been adequately considered?	N/A
	No mention is made of biodiversity by the sponsor, however as CAP725 states: - it is considered unlikely that airspace changes will have a direct impact on biodiversity, therefore this is considered acceptable. Additionally, the sponsor indicates that proposal is not expected to impact on any National Parks or AONB's. (see 12.1 below)	
10.2	Has the impact upon biodiversity been adequately presented in the consultation and the submitted proposal?	Yes
	Since the proposal is not expected to have any impact on biodiversity, it is acceptable that this was not mentioned in the consultation or the submitted proposal.	

11.	Continuous Descent Approaches	Status
11.1	Has the implementation of, or greater use of, CDAs been considered?	Yes

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The sponsor does not explicitly mention CDA's, however in relation to CO₂ assessment they state that "This airspace change will ensure aircraft departing from and arriving into LOA are able to do so using more direct routings and more efficient vertical flight profiles" the implication of which is that continuous descent approaches are likely given the nature of the proposed change.

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
	This proposal is unlikely to impact on any National Parks as there are none located close to the proposal. The closest site to the change proposal that holds a nature designation is that of the Cotswolds Area of Outstanding Natural Beauty (or AONB). The border of this designated site lies approximately 3 miles to the West of the airport.	

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 acknowledges that the ACP is not driven by a desire to increase the number or aircraft movements at London Oxford. However, it is acknowledged that if the proposal is successful, the provision of controlled airspace would be attractive to some commercial operators who do not currently choose to utilise LOA. Actual traffic movements data has been provided for the period 2012 – 2016 split into the different operation types. From this information some traffic predictions are derived, regarding the likely future growth in (for example) training flights and business aviation flights. However, no overall traffic forecast is provided, and no traffic increase was considered as part of the environmental assessment. Based on uncertainty in forecasting any traffic growth as a consequence of the proposed change, this is reasonable.	

14.	Consultation	Status
14.1	If undertaken, has evidence of non-aviation stakeholder consultation been provided?	Yes
	The sponsor lists both aviation and non-aviation stakeholders that have been consulted with in their consultation document as part of this change proposal. Bodies include National Bodies (such as the Campaign for the Protection of Rural England, and parish councils). Consultation was carried out using a consultation document that was distributed to consultees via the Airport's website having first contacted organisations directly during a period of preliminary stakeholder engagement. The sponsor reports that stakeholders were given	

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	<p>the opportunity to comment on the proposal with responses being submitted by e-mail, post, and also in person during public drop-in sessions, which the sponsor advertised on the airports website and took place on the 21 and 27 February 2016. These sessions were hosted by RAF Brize Norton on behalf of the airport.</p> <p>The sponsor reported their intention to publish a consultation feedback report on their website and such a report was published and is referred to within this document (see 14.2 below)</p>	
14.2	<p>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?</p>	No
	<p>The sponsor mentions within their consultation feedback report that the “disproportionate size” of the Controlled airspace was noted by consultees as being requested on the basis of the volume of aircraft traffic predicted. As a result of this feedback, that came from aviation consultees; the overall volume of airspace being requested was reduced.</p>	

15.	Compliance with CAP 725	Status
15.1	<p>Have all environmental assessment requirements specified in CAP 725 been met, where applicable?</p>	Yes
	<p>Yes, the sponsor has provided assessment (to varying levels of detail) of Noise, CO₂ emissions), local air quality, visual impact and tranquillity and the impact on Areas of Outstanding Natural Beauty.</p>	

16.	Other Aspects	Status
16.1	<p>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?</p>	No
	<p>None.</p>	

17.	Recommendations	Status
17.1	<p>Are there any recommendations for the Post-Implementation Review?</p>	Yes

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The sponsor is recommended to assess the actual impact of the proposed change. This could take the form of recording the number of failed approaches as well as the number of operations that use the proposed instrument procedures.

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
	<p>The proposal must be satisfied that one of the following criteria is met by an airspace Change proposal before it is eligible for the Secretary of State to call it in:</p> <ul style="list-style-type: none"> • is of strategic national importance or, • could have a significant impact (positive or negative) on economic growth of the United Kingdom, or • could both 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 L_{Aeq16} and have an identified adverse impact on health and quality of life, or • could lead to any volume of airspace classified as Class G being reclassified as Class A, C, D or E. <p>On 8 September 2020, the CAA received a request for the airspace change decision to be called in by the Secretary of State. The CAA has assessed the LOA Proposal against the call-in criteria in the Directions (and shown above), taking account of the DfT's Guidance, and found that it does not meet any of the exceptions in the 2017 Directions, and also does not meet any of the call-in criteria. These findings are published in CAP1970.</p>	

19.	Conclusions	
19.1	Can an overall environmental benefit be demonstrated (or justified/supported)?	No
	<p>The rationale for the proposal is to enhance safety and has no direct environmental rationale. Having said that, the sponsor has sought to ensure that the airspace change would ensure aircraft departing from and arriving into London Oxford Airport are able to do so using more direct routings and more efficient vertical flight profiles. This is anticipated to result in a reduction in the numbers of approaches that are broken off and conducted again that is expected to contribute to reducing CO₂ emissions, although the reduction was not quantified.</p>	

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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:	██████████	██████████	19/11/2020
Environmental Assessment approved by:	██████████	██████████	10/12/2020
Approver - Environment Comments: n/a			