

tCAA CAP 1616 Options Appraisal Assessment (Phase I Initial)

Title of Airspace Change Proposal:	Keevil BVLOS (Permanent)		
Change Sponsor:	MOD		
ACP Project Ref Number:	ACP-2021-006		
Case study commencement date:	14/02/2022	Case study report as at:	25/02/2022

Account Manager: [Redacted]	[Grey]	Airspace Regulator (Engagement & Consultation): [Redacted]	[Yellow]	IFP: N/A	[Yellow]	OGC: Nil	[Dark Blue]
Airspace Regulator (Technical): [Redacted]	[Green]	Airspace Regulator (Environmental): [Redacted]	[Purple]	Airspace Regulator (Economist): [Redacted]	[Light Blue]	ATM (Inspector ATS Ops): N/A	[Red]

Instructions

To aid the SARG project leader's efficient project management, please highlight the "status" cell for each question using one of the four colours to illustrate if it is:

Resolved - GREEN
 Not Resolved – AMBER
 Not Compliant – RED
 Not Applicable - GREY

Guidance


The broad principle of economic impact analysis is **proportionality**; is the level of analysis involved proportionate to the likely impact from that ACP? There are three broad levels of economic analysis; qualitative discussion, quantified through metrics, and monetised in £ terms. The more significant the impact, the greater should be the effort by sponsors to quantify and monetise the impact.

1. Background – Identifying the impact of the shortlist of options (including Do Nothing (DN) / Do Minimum (DM))		Status
1.1	Are the outcomes of the options' scenarios clearly outlined in the proposal?	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1.1.1	Has the change sponsor produced an Options Appraisal (Phase I - Initial) which sets out how they have moved from the Statement of Need to the airspace change design options? [E12]	Yes, the Sponsor explained the SoN and options considered in detail in the IOA. <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1.1.2	Does the list of options include a description of the change proposal?	Yes, the description was included for each of the proposed options which are as follows: Option 1 - Use Existing Airspace Structure (DZ) Option 2 - Danger Area (simple design) Option 3 - Danger Area (multi-sector design) <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1.1.3	Has the sponsor stated on what criteria the longlist of options has been assessed?	Yes, the IOA addresses all the criteria that the longlist of options has been assessed. <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1.1.4	Where options have been discounted, does the change sponsor clearly set out why?	At this stage, the only option that has been discounted is the do-nothing option due to the fact that it did not meet all the DPs. The reasons are explained in the Design Principle Evaluation document in detail. <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1.1.5	Has the change sponsor indicated their preferred option in the Options Appraisal (Phase I - Initial)? [E8]	The Sponsor's current preferred option is a Danger Area of a simple design (Option 2). <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1.1.6	Does the Initial Options Appraisal (Phase I - Initial) detail what evidence the change sponsor will collect, and how, to fill in any evidence gaps and how this will be used to develop the Options Appraisal (Phase II - Full)?	The Sponsor stated in the IOA that they'd run a further refinement and develop the dimensions and procedures for Option 2 to ensure it does not adversely contribute to the funnelling of aircraft. The Sponsor also added in the Environmental Assessment document that they'd endeavour to determine traffic numbers more accurately in the next stage. It is also stated in the same document that the Sponsor would continue searching for methods to allow quantitative assessments where possible. <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1.1.7	Does the plan for evidence gathering cover all reasonable impacts of the change? [E12]	Yes, the Sponsor considered all the impacts outlined in CAP 1616 Appendix E Table E2. <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

2. Direct impact on air traffic control		Status			
2.1	<p>Are there direct cost impacts on air traffic control / management systems? If so, please provide below details of the factors considered and the level in which this has been analysed.</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.1	<i>Examples of costs considered (please add costs that have been discussed, and any reasonable costs that the Airspace Regulator (Technical) feels have NOT been addressed)</i>				
		Not applicable	Qualitative	Quantified	Monetised
2.1.2	Infrastructure changes	X			
2.1.3	Deployment	X			
2.1.4	Training	X			
2.1.5	Day-to-day operational costs / workload / risks	X			
2.1.6	Other (provide details)				
2.1.7	<p>Comments: The IOA indicates that there isn't any direct cost for airports or ANSPs associated with the proposed options.</p>				
2.2	<p>Are there direct beneficial impacts on air traffic control / management systems? If so, please provide details and how they have been addressed:</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2.1	<i>Examples of benefits considered</i>	Not applicable	Qualitative	Quantified	Monetised
2.2.2	Reduced work-load	X			
2.2.3	Reduced complexity / risk	X			
2.2.4	Other (provide details)	X			
2.2.5	<p>Comments: The IOA indicates that there isn't any direct benefit impact for airports or ANSPs associated with the proposed options.</p>				
2.3	<p>Where monetised, what is the net monetised impact on air traffic control (in net present value) over the project period? N/A</p>				

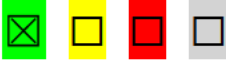
2.4	Are the direct impacts on air traffic management analysed accurately and proportionately? N/A	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
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3. Changes in air traffic movements / projections		Status			
3.1	What is the impact of the ACP on the following and has it been addressed in the ACP proposal?	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>			
		Not applicable	Qualitative	Quantified	Monetised
3.1.1	Number of aircraft movements		X	N/A	N/A
3.1.2	Type of aircraft movement		X	N/A	N/A
3.1.3	Distance travelled		X	N/A	N/A
3.1.4	Area flown over / affected		X	N/A	N/A
3.1.5	Other impacts		X	X	X
3.1.6	<p>Comments: The IOA states that when the Glidersite/DZ is active, Option 1 might lead to a slight increase in the amount of aircraft routing in between Melksham and the Keevil DZ and contribute to the funnelling effect between Bristol and Salisbury Plain. It is also mentioned a lesser number of aircraft do opt to route through the southern gap between the Keevil DZ and D123 which may now require alternative routing via the North. The Sponsor highlighted this could be achieved with low flying military helicopters. For Option 2 and 3, the IOA states there might be some reduction in traffic North of Keevil and hence an increase to the current use of the Keevil airspace which in turn would slightly reduce the route length, fuel consumption and aircraft congestion north of Keevil. It is also noted that there might be an increase in aircraft opting to route through the Keevil overhead whilst the Danger Area is active.</p> <p>The IOA also indicates there could be more aircraft routing around or over the airspace if they are not equipped with or qualified to operate a radio. The Sponsor estimated the cost to gain a FRTOL approximately £250 and purchase of the airband radio as £200 in case pilots will choose to use any associated crossing services.</p>				
3.2	Has the forecasting of traffic done reasonably using best available guidance (e.g. DfT WebTAG, the Green Book, Academic sources...etc?)	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>			
3.3	What is the impact of the above changes (3.1) on the following factors below?				

		Not applicable	Qualitative	Quantified	Monetised
3.3.1	Noise		X		
3.3.2	Fuel Burn		X	N/A	N/A
3.3.3	CO2 Emissions		X		
3.3.4	Operational complexities for users of airspace	X			
3.3.5	Number of air passengers / cargo	X			
3.3.6	Flight time savings / Delays		X		
3.3.7	Air Quality		X		
3.3.8	Tranquillity		Not assessed		
3.4	<p>Are the traffic forecast and the associated impacts analysed proportionately and accurately according to available guidelines (e.g. WebTAG or the Green Book?)</p> <p>In the first phase of options appraisal, the minimum requirement for the Sponsor is determined as the qualitative discussion of the associated impacts. As the Sponsor touched on the impacts listed in CAP1616 Appendix E – Table E2, it can be concluded that impacts analysis is conducted proportionately and accurately according to the guidelines.</p> <p>It should however be noted that the Sponsor has confused the assessment of local air quality with the assessment of greenhouse gases and CO2. Additionally, the sponsor has not considered the impact on tranquillity or biodiversity.</p>				
3.5	<p>What is the total monetised impact of 3.3? (Provide comments)</p> <p>N/A</p>				

4. Benefits of ACP					Status
4.1	Does the ACP impact refer to the following groups and how they are impacted by the ACP?				
		Not applicable	Qualitative	Quantified	Monetised
4.1.1	Air Passengers	X			
4.1.2	Air Cargo Users	X			

4.1.3	General aviation users		X	N/A	N/A
4.1.4	Airlines	X			
4.1.5	Airports	X			
4.1.6	Local communities		X		
4.1.7	Wider Public / Economy		X		
4.1.8	<p>Comments: According to the IOA, any additional airspace around Keevil might require an additional 0.7Nm worth of fuel per aircraft type. However, the Sponsor anticipated any future airspace activation around Keevil would not result in either an increase of CO2 emissions nor greenhouse gas emissions. For the pilots who are not qualified to use an airband radio, there would be a cost for additional training.</p> <p>With the proposed options, the Sponsor stated transiting pilots who normally route around Keevil might choose to cross through the overhead using a crossing service, slightly reducing their route length, fuel consumption and aircraft congestion north of Keevil.</p>				
4.2	How are the above groups impacted by the ACP, especially (but not exclusively) looking at the following factors below:				
4.2.1	Improved journey time for customers of air travel	N/A			
4.2.2	Increase choice of frequency and destinations from airport	N/A			
4.2.3	Reduced price due to additional competition because of new capacity	N/A			
4.2.4	Wider economic benefits	N/A			
4.2.5	Other impacts	N/A			
4.2.6	<p>Comments: N/A</p>				
4.3	<p>What is the overall monetised impacts associated with 4.1 and 4.2 the above? N/A</p>				
4.4	<p>What are the non-monetised but quantified impacts of the above? N/A</p>				
4.5	<p>What are the qualitative / strategic impacts described above? According to the IOA, in order to comply with current MAA regulation, segregated airspace is required to facilitate BVLOS operation of military RPAS between Keevil and EG D123; the principal operating airspace already utilised for military BVLOS activity.</p>				

4.6	What is the overall monetised benefits-costs ratio (BCR) of the policy? Is it more than 1? N/A	
4.7	Have the sponsors provided reasonable justification for the proportionality of analysis above? Yes, the sponsor provided the minimum criteria for the first phase of options appraisal which is the qualitative discussion of the impacts. In terms of noise, it is stated that powered aircraft passing through the area would not exceed 30 per day and therefore unlikely exceed the lowest observed adverse effect level (LOAEL). Besides, the Sponsor underlined that due to an undetermined number and type of aircraft transiting through the Class G airspace, no data was able to be collected to accurately determine noise impact or GHG emissions to set a base standard. The Sponsor used ADS-B data in order to estimate the change in the traffic and their conclusion is that very few, if any commercial traffic would be impacted.	
4.8	If the BCR is less than 1, are the quantitative and qualitative strategic impacts proportional to the costs of the ACP? N/A	

5. Other aspects	
5.1	-

6. Summary of Assessment of Economic Impacts & Conclusions		
6.1	The IOA conducted for the proposed options for enabling BVLOS RPAS operations from Keevil Airfield was in line with the outlined requirements of CAP1616 Appendix E. The Sponsor adopted a proportionate approach and based the IOA around a qualitative discussion of the reasonable impacts. It is stated that due to the lack of quantifiable information available for noise and traffic figures along with the aircraft type, it wasn't possible for the Sponsor to come up with a reasonable cost benefit analysis at this stage. The Sponsor provides monetisation of the costs in terms of the additional requirements to purchase a FRTOL and or a radio. However, it is also stated that the Sponsor would endeavour to search for technical methods to determine traffic numbers more accurately for Stage 3A and further develop on quantitative and monetised analysis where possible.	
Outstanding issues?		
Serial	Issue	Action required

1	The IOA does not address the description for the do-nothing option.	The Sponsor must include the fully described do-nothing option in the IOA along with the proposed options. COMPLETE AND SATISFACTORY
2	There are some acronyms used throughout the IOA which are not explained in footnote or elsewhere.	A Glossary would be helpful to understand the technical acronyms used in the IOA. RECOMMENDATION
3	Do-nothing option is numbered Option 1 in the Design Principle Evaluation Document but because it is discounted and not assessed in the IOA Option 1 is changed to Use Existing Airspace Structure. Likewise Option 2 and Option 3 are changed in the IOA because two different options are considered under Option 2; DA simple design and multi-sector design. However, it causes inconsistency.	The Sponsor should be consistent throughout different documents in order to avoid misinterpretation. COMPLETE AND SATISFACTORY

CAA Initial Options Appraisal Completed by	Name	Signature	Date
Airspace Regulator (Economist)	[REDACTED]	[REDACTED]	25/02/2022