

# CAA CAP 1616 Options Appraisal Assessment (Phase I Initial)

<b>Title of Airspace Change Proposal:</b>	E-7 Wedgetail Airborne Early Warning (AEW) Mk 1 Orbit Area Change		
<b>Change Sponsor:</b>	MoD		
<b>ACP Project Ref Number:</b>	ACP-2020-47		
<b>Case study commencement date:</b>	<a href="#">23/03/2023</a>	<b>Case study report as at:</b>	<a href="#">06/04/2023</a>

<b>Account Manager:</b> [Redacted]	[Grey]	<b>Airspace Regulator (Engagement &amp; Consultation):</b> [Redacted]	[Yellow]	<b>IFP:</b> [Redacted]	[Orange]	<b>OGC:</b> [Redacted]	[Dark Blue]
<b>Airspace Regulator (Technical):</b> [Redacted]	[Green]	<b>Airspace Regulator (Environmental):</b> [Redacted]	[Purple]	<b>Airspace Regulator (Economist):</b> [Redacted]	[Light Blue]	<b>ATM (Inspector ATS Ops):</b> [Redacted]	[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

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**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 options (including Do Nothing (DN) / Do Minimum (DM))		Status
1.1	Are the outcomes of the Initial Options Appraisal (IOA) (Phase I) clearly outlined in the proposal?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1.1.1	Has the change sponsor completed an Initial Options Appraisal? [E12]	Yes, the Sponsor has produced a 16-page Initial Options Appraisal setting out its process. <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1.1.2	Does the Initial Options Appraisal include: - a comprehensive list of viable options; - a clear description of the baseline scenario; - an indication of the environmental impacts; - a high-level assessment of costs and benefit involved	The Sponsor provides a table listing two Options (Baseline and Option 1) on p.11 of the IOA The table referred to above gives a summary description of the baseline scenario against which it compares Option 1. The environmental impact is described as “negligible” for greenhouse gases. The IOA also asserts that there will be no noise or air quality impact from the change. The conclusion of the IOA contains a summary of the impacts, which the Sponsor assesses in more detail in Table 1: Comparison Table of the IOA.  The do-nothing baseline is a scenario where E-7 would operate in the extant E-3 orbits and aircraft are routed in advance so as to avoid the orbit areas or specific flight evels where the E-3 or E-7 are. The sponsor, however, has not fully described these current-day impacts on GAT. At Step 2B, in-line with the environmental assessment requirements for a Level M2 ACP, the sponsor has assessed the consequential impact to Fuel Burn and CO <sub>2</sub> Emissions for the baseline and design options. <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1.1.3	Has the sponsor stated on what criteria the comprehensive list of viable options has been assessed?	Table 1 contains a list of the criteria against which the options are assessed. <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1.1.4	Where options have been discounted as part of the IOA exercise, does the change sponsor clearly set out why?	The IOA does not explicitly discounted either of the options considered, though it lists Option 1 as its preferred option. <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1.1.5	Has the change sponsor indicated their preferred option(s) as a result of the IOA (Phase I - Initial)? [E12]	Yes, the Sponsor states that Option 1 is its preferred option. <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
1.1.6	Does the IOA (Phase I - Initial) detail what evidence the change sponsor will collect, and how, to fill in any evidence	The Sponsor provides no detail on its evidence collection.  The sponsor states that a quantitative assessment is not <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>

	gaps and how this will be used to develop the Options Appraisal (Phase II - Full)?	anticipated at Stage 3 given the minimal consequential impact to commercial air traffic anticipated, however, this will be confirmed at Stage 3.	
1.1.7	Does the plan for evidence gathering cover all reasonable impacts of the change? [E12]		<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

2. Impacts of the proposed airspace change		Status			
2.1	Are there direct impacts on the following:	<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>				
2.1.2	Airport/ANSPs	Not applicable	Qualitative	Quantified	Monetised
	- Infrastructure		X		
	- Operation		X		
	- Deployment		X		
	- Other(s)	X			
2.1.3	Commercial Airlines/General Aviation	Not applicable	Qualitative	Quantified	Monetised
	- Training		X		
	- Economic impact from increased effective capacity		X		
	- Fuel burn		X		
	- Other(s)	X			
2.1.4	General Aviation	Not applicable	Qualitative	Quantified	Monetised
	- Access		X		
2.1.5	Military	Not applicable	Qualitative	Quantified	Monetised

		X			
2.1.6	Wider society, i.e., wider economic benefits, capacity resilience	Not applicable	Qualitative	Quantified	Monetised
	- Noise		X		
	- Air quality		X		
	- Greenhouse gas impacts		X		
2.1.7	Other (provide details)	Not applicable	Qualitative	Quantified	Monetised
		X			
2.2	<b>Are there direct beneficial impacts on air traffic control / management systems? Provide details.</b>			<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
	No additional costs or benefits of any kind.				
2.3	<b>Where impacts have been monetised, what is the overall value (expressed in net present value (NPV)) of the project?</b>				
	No impacts monetised.				
2.4	<b>Has the sponsor provided an accurate and proportionate assessment of the proposed airspace change impacts?</b>			<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	

3. Changes in air traffic movements and projections				Status
3.1	If the proposed airspace change has an impact on the following factors, have they been addressed in the proposal?			<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
		Not applicable	Qualitative	Quantified/ Monetised
3.1.1	Number of aircraft movements	X		
3.1.2	Number of air passengers / cargo	X		
3.1.3	Type of aircraft movements (i.e., fleet mix)	X		
3.1.4	Distance travelled	X		

3.1.5	Operational complexities for users of airspace	X			
3.1.6	Flight time savings / Delays	X			
3.1.7	Other impacts	X			
	<b>Comments:</b>				
3.2	<ul style="list-style-type: none"> <li>Has the sponsor used the most up-to-date, credible and clearly referenced source of data to develop the 10 years traffic forecast and considered the available guidelines (i.e., the Green Book and TAG models) in a proportionate and accurate manner? [B11 and E11]</li> <li>Has the sponsor explained the methodology adopted to reach its input and analysis results? [B11 and E11]</li> </ul> <p>The sponsor states that the forecast of one (or two) E-7 sortie for 8 hours per day (barring sorties for infrequent exercise activities or for national security purposes) is not expected to increase over the 10-year appraisal period of this ACP. The sponsor has acknowledged the growth of commercial air traffic over the next years but reasons that it is not a consequence of this ACP and so a traffic forecast for commercial air traffic has not been presented. No quantitative modelling has been done at this stage.</p>		<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		
3.3	<p><b>Has the sponsor developed an assessment of the following environmental aspects?</b></p> <p>The GHG impacts from the design options have been described qualitatively. The sponsor states that the preferred Option 2 with dedicated E-7 orbit areas are in non-segregated airspace which GAT can route through. GAT may also be rerouted in advance such that their flight plans account for the unavailability of certain flight levels or alternatively, the E-7 may climb or descend to avoid this traffic as per mandated minimum vertical and lateral separation required. Airspace management concepts such as FUA or presence of FRA is stated to mitigate further impacts. In addition, most of the proposed E-7 areas are located within E-3 areas and therefore there are no additional impacts envisaged.</p>		<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		
		Not applicable	Qualitative	Quantified	Monetised
3.3.1	Noise	x			
3.3.2	Operational diagrams	x			
3.3.3	Overflight	x			
3.3.4	CO2 emissions		x		
3.3.5	Local air quality	x			

3.3.6	Tranquillity	x			
3.3.7	Biodiversity	x			
3.4	<b>What is the monetised impact (i.e., Net Present Value (NPV)) of 3.3? (Provide comments)</b>				

4. Economic Indicators of the ACP		Status
4.1	<b>What are the qualitative / strategic impacts described in the ACP?</b> No analysis of economic indicators undertaken	
4.2	<b>What is the overall monetised and non-monetised (quantified) impact of the proposed airspace change?</b> No impact calculated.	
4.3	<b>What is the Net Present Value of the proposed options? Has the sponsor used this information to progress/discount options? Has the sponsor provided the benefits-costs ratio (BCR) of the proposed options and used it to support the choice of the preferred options? [E44]</b> No NPV calculated.	
4.3.1	<b>If the preferred option does not have the highest NPV or BCR, then has the sponsor justified the reasons to progress this option? [B50 and E23]</b> No NPV calculated.	
4.4	<b>Have the sponsors provided reasonable justification for the proportionality of analysis above?</b> According to NATS: “the time, cost and complexity required to produce any data would not be proportionate to the change” because “any analytics would be excessively complex and unreliable to the point that the effort required would be prohibitive and any output would come with a number of CAVEATS that would make it open to challenge”.	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

5. Other aspects	
5.1	N/A

6. Summary of the Initial Options Appraisal & Conclusions	
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6.1	The Sponsor has done the bare minimum for this IOA, as it has clearly already decided what it plans to do. It needs more discussion on the plan for evidence gathering.	
<b>Outstanding issues</b>		
Serial	Issue	Action required
1	No plan for future evidence gathering (CAP 1616 Para E12)	Provide plan for evidence gathering for future stage.
2	Baseline (CAP1616 Para B27 & E20)	The sponsor should amend the baseline description so that it reflects current-day impacts.

CAA Initial Options Appraisal Completed by	Name	Signature	Date
Airspace Regulator (Economist)	██████████	██████████	06/04/2023
Airspace Regulator (Environmental)	██████████	██████████	06/04/2023