

CAA CAP 1616 Options Appraisal Assessment (Phase III Final)

Title of Airspace Change Proposal:	Enabling RPAS out of a nominated diversion airfield		
Change Sponsor:	Ministry of Defence		
ACP Project Ref Number:	ACP-2023-022		
Case study commencement date:	01/10/2024	Case study report as at:	13/01/2025

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			Status
1.1	Has the change sponsor developed the full options appraisal into a final options appraisal to consider any revised impacts due to the updated final design option and/or changes in data using the same approach as in the earlier stages? [CAP 1616f: 5.12-5.16]	Yes. The sponsor has developed a final options appraisal which is unchanged from the full options appraisal as stakeholders during the formal engagement and consultation period did not offer any arguments, feedback or suggestions for changing the design.	☒ ☐ ☐ ☐

1.2	Is the criteria and methodology used for analysing the impacts and the presentation of the information consistent with those adopted previously? [CAP 1616f: 5.13]	Yes the sponsor has used a consistent methodology and criteria throughout the ACP.	   
1.3	Has the change sponsor used the most up-to-date, credible, and clearly referenced sources of data with modelling carried out in line with relevant best practice? [CAP1616f: 5.14]	Yes the sponsor has used a range of data sources and reference materials: • Charts: Aeronautical Chart ICAO 1:500,000, Sheet 2171CD Southern England and Wales, Ed 50 • Regulation: RA 2320 – Flight Procedures: Role Specific S2 and Certified Remotely Piloted Air Systems; CAP 7 Unmanned Aircraft System Operations in UK Airspace - Policy and Guidance; https://www.caa.co.uk/CAP1616SUP CAP1616f: Guidance on the Permanent Airspace Change Process CAP 1616i Environmental Assessment Requirements and Guidance for Airspace Change Proposals • Airfield/flight data: Table 03 Aircraft Movements PDF.rdl (caa.co.uk); Eurocontrol Forecast 2023-2029; UK MIL AIP AD 2 – EGYM; RAF Marham ATC for MATZ crossing data for the 12 months Oct 2022 – Sep 2023 (inclusive) • Environmental/Planning: European leaflet Natura 2000.pdf (defra.gov.uk);	   

		Magic Map Application (defra.gov.uk); https://www.nationalparks.uk/; Areas of outstanding natural beauty (AONBs) designation and management - GOV.UK; www.gov.uk); Air Quality Management Areas (AQMAs) - Defra, UK; Local Authority Details - Defra, UK https://uk-air.defra.gov.uk/aqma/details?aqma_ref=1654#1259; View and track planning applications View and track planning applications Borough Council of King's Lynn & West Norfolk (west-norfolk.gov.uk); MyNearest Borough Council of King's Lynn & West Norfolk (west-norfolk.gov.uk); Noise Action Plan (2019): Agglomerations (Urban Areas) (publishing.service.gov.uk); https://www.westnorfolk.gov.uk/download/downloads/id/2491/sadmp_plan_adopded.	
1.4	Is the source of data and reference material clear in the final options appraisal? [CAP 1616f: 5.16]	Yes the sponsor details the sources in para 20.3.	☒ ☐ ☐ ☐
1.5	Has the change sponsor provided a rationale for any updates made to the final design option? [CAP 1616f: 5.17]	The final design option was not modified.	☐ ☐ ☐ ☒

1.6	Has the change sponsor clearly described all the changes that have been made following the consultation and why they are required? [CAP 1616f: 5.17]	The sponsor has stated why the final design option was not modified, following the responses received at Stage 3 and other responses that were brought forward from Stage 2.	   
1.7	Has the change sponsor assessed whether any of the environmental impacts have changed? [CAP 1616f: 5.18-5.19]	As the change sponsor is the MOD, they are only responsible for assessing the consequential environmental impact on civil air traffic. The sponsor has assessed that the airspace design will have a negligible impact on noise, CO ₂ emissions, local air quality, tranquillity & biodiversity.	   
1.8	Has the change sponsor performed the environmental assessment and presented related information in a manner consistent with that used throughout the consultation process? [CAP 1616f: 5.19]	The sponsor has assessed the consequential environment impact of the ACP. The full environmental assessment has been linked to this document and the sponsor has provided a summary of the (negligible) impacts in section 18.	   
1.9	Has the change sponsor provided a final assessment of the impacts on safety? [CAP 1616f: 5.20-5.23]	Yes the sponsor has provided information on the safety considerations of this ACP.	   
1.10	Does the final safety assessment include: - A description of the scope of the proposed airspace change - Identification of the new and changing hazards - Identification and quantification of the risks arising from those hazards - Proposed mitigations to address the identified risks [CAP 1616f: 5.22]	The sponsor states that, in accordance with MRPs, the MOD is producing an Airspace Integration Safety Argument (AISA) for the introduction of Protector into UK airspace, for which the MAA is the regulatory authority. Regulation, both military and civil, requires that operation of the Protector RPAS BVLOS is segregated in uncontrolled airspace, which is the purpose of the airspace structures proposed by this ACP. Additional safety assessment to consider the interaction between the proposed airspace and the class C CAS above from FL195 will be finalised to inform the required LoA between the MOD and NATS	   

2. Potential Impacts					Status
2.1	Has the change sponsor conducted a final options appraisal of the proposed airspace change using the following metrics and level of analysis? [CAP 1616f: 5.12]				☒ ☐ ☐ ☐
2.1.1	Communities	Not applicable	Qualitative	Quantified	Monetised
	- Noise		X		
	- Local air quality		X		
2.1.2	Airport/ANSPs	Not applicable	Qualitative	Quantified	Monetised
	- Infrastructure	X			
	- Operational	X			
	- Deployment	X			
	- Other(s)	X			
2.1.3	Commercial Airlines/General Aviation	Not applicable	Qualitative	Quantified	Monetised
	- Training	X			
	- Increased effective capacity	X			
	- Fuel burn		X		
	- Other(s)	X			
2.1.4	General Aviation	Not applicable	Qualitative	Quantified	Monetised
	- Access		X		
	- Increased effective capacity	X			
	- Fuel burn		X		
2.1.5	Wider society	Not applicable	Qualitative	Quantified	Monetised

	- Greenhouse gas emissions		X		
	- Tranquillity		X		
	- Biodiversity		X		
	- Capacity/resilience	X			
2.1.6	Military	Not applicable	Qualitative	Quantified	Monetised
	-		X		
2.1.7	Other	Not applicable	Qualitative	Quantified	Monetised
	-	X			

3. Economic Indicators			Status
3.1	Has the change sponsor provided traffic forecasts for year 1 and year 10? [CAP 1616f: 3.22]	The sponsor has linked information on airfield/flight data for RAF Marham for the 12 month period Oct 22-Sep 23 and also Eurocontrol forecasts for 2023-2029.	☒ ☐ ☐ ☐
3.2	Has the change sponsor valued all relevant costs and benefits of the proposed airspace change using: - Net present value (NPV) - Benefit cost ratio (BCR) - Cost benefit analysis (CBA)? [CAP 1616f: 3.43]	Due to the level and nature of this ACP, including monetisation and quantification of costs/benefits is not proportional and therefore not needed.	☐ ☐ ☐ ☒
3.3	When appraising costs and benefits of the proposed airspace change, has the change sponsor assessed them incrementally against the baseline scenarios? [CAP 1616f: 3.45]	Yes the sponsor has assessed the Baseline (1 and 10 years) against the design option (1 and 10 years) for a range of criteria.	☒ ☐ ☐ ☐

3.4	Has the change sponsor expressed the values derived for the costs and benefits set out above in 'real' rather than 'nominal' terms? [CAP 1616f: 3.46]	N/A, the sponsor has provided a qualitative assessment.	☒ ☐ ☐ ☐
3.5	Have values been reported in the base year for the assessment? [CAP 1616f: 3.47]	N/A	☒ ☐ ☐ ☐
3.6	As well as taking account of inflation in real prices, has the change sponsor used a social time preference rate? [CAP 1616f: 3.48]	N/A	☒ ☐ ☐ ☐

4. Summary of the Final Options Appraisal			
4.1	What are the qualitative/strategic impacts of the proposed airspace change?	The sponsor has detailed the anticipated impacts in Table 3. There are negligible or no perceived impacts on commercial airlines, Airport/ANSPs, flow of traffic, communities, spaceflight activities, the environment and national security. There are small anticipated impacts on GA users and safety	☒ ☐ ☐ ☐
4.2	What are the overall non-monetised (quantified) impacts of the proposed airspace change?	The sponsor has not quantified or monetised any of the anticipated impacts of this ACP.	☐ ☐ ☐ ☐
4.3	Where impacts have been monetised, what is the overall net present value (NPV) of the proposed airspace change?	N/A	☐ ☐ ☐ ☐
4.4	Has the change sponsor used the economic assessment to progress/discontinue design options and support the choice of the proposed airspace change? If the proposed airspace change does not have the highest NPV or benefit cost ratio (BCR), then has the change sponsor	The sponsor has conducted a qualitative assessment of the design option to establish permanent airspace to enable Protector access to RAF Marham. No monetisation or quantification of benefits is necessary and therefore no NPV or BCR has been provided.	☐ ☐ ☐ ☐

	justified the reasons to progress this airspace change?		
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5. Other Aspects			
5.1			

6. Conclusions			
6.1			

CAA Final Options Appraisal Completed by	Name	Signature	Date
Airspace Regulator (Economist)			24/12/2024