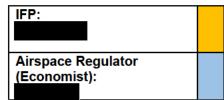


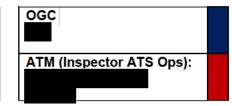
CAA CAP 1616 Options Appraisal Assessment (Phase I Initial)

Title of Airspace Change Proposal:	London Airspace Management Programme (LAMP) Deployment 2, 3 & 4				
Change Sponsor:	NERL				
ACP Project Ref Number:	ACP-2020-043, ACP-2020-044, ACP-2020-045				
Case study commencement date:	02/03/2023	02/03/2023 Case study report as at: 05/06/2023			

Account Manager:	
Airspace Regulator	
(Technical):	







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. Ba	ckground – Identifying the impact of the options (includin	ng Do Nothing (DN) / Do Minimum (DM))	Status	
1.1	Are the outcomes of the Initial Options Appraisal (IOA)			
1.1.1	Has the change sponsor completed an Initial Options Appraisal? [E12]	Yes. The Sponsor has included an Initial Options Appraisal in Table 10 of each airport's Stage 2 submission		
	Does the Initial Options Appraisal include: - a comprehensive list of viable options;	The Master document lists the possible options for arrival structure in paragraph 5.1. Figure 4 of each airport module contains a matrix of the viable options.		
	- a clear description of the baseline scenario; - an indication of the environmental impacts; - a high-level assessment of costs and benefit involved	Section 3 of the Master document, and corresponding sections within each of the Airport documents contain a clear description of the baseline scenario, which is identical to the Do Nothing scenario.		
		The environmental impacts of each option are set out in each Table 10.		
		Section 3.5 contains high level assessments of the costs and benefit for each option in separate tables.		
1.1.2		The sponsor has presented a radar traffic density/heat map for arrival and departure traffic flows between FL70-FL245 based on data collected during 5-11 August 2019 for the LTMA. A map of lower ATS route structures within the LTMA has also been provided. Arrival heat maps with proportions of traffic flows have also been presented in the individual airport modules. These are accompanied by a map of current-day SIDs, STARs and holds. Traffic density maps for Luton (24 Feb – 31 Aug 2022) and Northolt (1 Jan – 21 Aug 2022) are based on other dates due to specific local circumstances.		
		The sponsor has also presented traffic figures (arrivals, departures and total movements) sourced from Central Flow Management Unit (CFMU) data for 2019 to 2022 for all 12 airports. The predominant aircraft types and operators have also been identified. The sponsor has		

		also accounted for traffic operating at other LTMA airports and overflights.	
1.1.3	Has the sponsor stated on what criteria the comprehensive list of viable options has been assessed?	Section 3.5 states the criteria used to assess the options.	
1.1.4	Where options have been discounted as part of the IOA exercise, does the change sponsor clearly set out why?	The Sponsor marks in red each time an option fails an assessment of one of the criteria, and notes which option is rejected. It could be clearer on which options for rejection are critical in the decision, and which are less important.	
1.1.5	Has the change sponsor indicated their preferred option(s) as a result of the IOA (Phase I - Initial)? [E12]	No. The Sponsor states that: "there is not yet enough detailed quantified data to make a statement on preferred option(s). Compromises and trade-offs may be necessary between airports taking part in the FASI regional airspace change. Appropriate quantitative assessments and trade-offs will be carried out as part of Stage 3 to allow a preferred option to be selected prior to consultation."	
1.1.6	Does the IOA (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)?	According to the Sponsor: "Appropriate quantitative assessments and trade-offs will be carried out as part of Stage 3 to allow a preferred option to be selected prior to consultation." This is very vague and should be clarified. In terms of environmental assessments, the sponsor states that quantitative analysis of en-route network fuel burn and emissions will be done at Stage 3 based on BADA and fast time simulations. The sponsor notes that NERL does not intend to "Produce noise analyses (unless related to ATS route changes below 7,000 ft and not within the scope of one of the FASI associated airport ACPs)." The sponsor has also identified AONBs and NPs within the LTMA limits and has stated that "Should it transpire that an option will impact on an AONB/NP	
1.1.7	Does the plan for evidence gathering cover all reasonable	below 7,000ft, the relevant stakeholder(s) will be informed and engaged with." It is impossible to say whether all reasonable impacts of the change are covered, as the plan is so vague.	
1.1.7	impacts of the change? [E12]		

2. lm	pacts of the proposed airspace change				Status
2.1	Are there direct impacts on the following:				
2.1.1	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) – No reasonable costs that one would expect to consider, at this stage, have been omitted.				
	Airport/ANSPs	Not applicable	Qualitative	Quantified	Monetised
	- Infrastructure		Х		
2.1.2	- Operation		Х		
	- Deployment		Х		
	- Other(s)				
	Commercial Airlines/General Aviation	Not applicable	Qualitative	Quantifie	d Monetised
	- Training		X		
2.1.3	- Economic impact from increased effective capacity		X		
	- Fuel burn		X		
	- Other(s)		X		
2.1.4	General Aviation	Not applicable	Qualitative	Quantifie	d Monetised
2.1.4	- Access		Х		
215	Military	Not applicable	Qualitative	Quantifie	d Monetised
2.1.5		Х			
246	Wider society, i.e., wider economic benefits, capacity resilience	Not applicable	Qualitative	Quantifie	d Monetised
2.1.6	Greenhouse gas		Х		

	Capacity/resilience		Х			
247	Other (provide details)	Not applicable	Qualitative	Quan	ntified	Monetised
2.1.7	Communities – air quality		Х			
	Communities – noise impact on health and quality of life		Х			
2.2	Are there direct beneficial impacts on air traffic control / management systems? Provide details. The Hybrid Systemisation would: 'enable the flexibility to access routes separated by design, leading to increased capacity and resilience to disruption. Also, as traffic levels increase, this capacity improvement would reduce the frequency of delays compared with the baseline. This option would therefore yield a capacity and resilience improvement over the baseline.' There are high level qualitative statements regarding the overall impacts of the airport arrival structure options some, at least maintain the current 'delay absorption, disruption recovery, access to other users, airport capacity, network capacity, and ATCO workload'. Some describe disbenefits, such as 'increase to ATCO workload'. Until the overall design options are considered holistically the descriptions given are acceptable at this stage.					
2.3	Where impacts have been monetised, what is the overall value (expressed in net present value (NPV)) of the project?					
2.4	Has the sponsor provided an accurate and proportionate assessment of the proposed airspace change impacts? The Sponsor has provided brief qualitative assessments of the proposal. It states that appropriate quantitative assessments and trade-offs will be carried out as part of Stage 3 to allow a preferred option to be selected prior to consultation. However, this statement is lacking in detail.					

3. Ch	3. Changes in air traffic movements and projections				
3.1	3.1 If the proposed airspace change has an impact on the following factors, have they been addressed in the proposal?				
	Not applicable Qualitative				
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		Х			
3.1.5	Operational complexities for users of airspace	Х				
3.1.6	Flight time savings / Delays		Х			
3.1.7	Other impacts	Х				
	Comments: The airport modules contain single sentence, qualitative imp	pact assessments	for each of the cri	iteria listed above	e.	
	 Has the sponsor used the most up-to-date, credible and clearly referen traffic forecast and considered the available guidelines (i.e., the Green and accurate manner? [B11 and E11] 					
	Has the sponsor explained the methodology adopted to reach its input]				
3.2	The sponsor has presented historic traffic data from 2019 to 2022 based on CFMU data and a network traffic forecast from 2023 to 2037, with 2027 set as the first implementation year. The forecast figures are based on Eurocontrol's STATFOR October 2022 base forecast until 2027 with a long-term average growth rate of 1.9% used to extend the forecast from 2028 until 2037.					
	The general fleet mix of aircraft operating within the LTMA and major current traffic flows and route orientations into and out of the LTMA are assumed to remain unchanged over the forecast period as compared to the baseline. The sponsor also acknowledges that traffic data presented in this ACP might differ from local airport data due to differences in sources (flight plans, actual flights). The sponsor also states that traffic forecasts for each deployment phase and area will be developed separately at Stage 3 along with the distribution of LTMA traffic growth between competing airports.					
3.3	Has the sponsor developed an assessment of the following environmental aspects? The sponsor has qualitatively assessed the impact on GHG emissions as potential occurrence of other environmental]
	impacts below 7,000 ft. due to this ACP are currently unknown. Impacts below 7,000 ft. have therefore not been considered at this stage, however, should consequential impacts below 7,000 ft. be identified as design options mature, these will be assessed accordingly at Stage 3.					
		Not applicable	Qualitative	Quantified	Monetise	ed
		•			-	

3.3.1	Noise	Х			
3.3.2	Operational diagrams	Х			
3.3.3	Overflight	Х			
3.3.4	CO2 emissions		Х		
3.3.5	Local air quality	Х			
3.3.6	Tranquillity	Х			
3.3.7	Biodiversity	Х			
3.4	What is the monetised impact (i.e., Net Present Value (NPV)) of 3.3? (Provide comments) Not provided.				

4. E	conomic Indicators of the ACP	Status			
What are the qualitative / strategic impacts described in the ACP? The main impact seems to be shortening of routes and reduction of delays due to simplification of the airspace. There are monother stakeholders, such as the need for retraining for ANSP personnel.					
4.2	What is the overall monetised and non-monetised (quantified) impact of the proposed airspace change? N/A				
4.3	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] N/A				
4.3.1	If the preferred option does not have the highest NPV or BCR, then has the sponsor justified the reasons to progre [B50 and E23] N/A	ess this option?			
4.4	Have the sponsors provided reasonable justification for the proportionality of analysis above? No, the sponsors should provide more justification for the proportionality of the analysis provide.				

5. Other aspects

5.1

N/A

6. Summary of the Initial Options Appraisal & Conclusions

Could be much clearer on the evidence gathering and sources used.

6.1

The Sponsor has produced an improved and more detailed evidence gathering plan.

Outstanding issues

Serial	Issue	Action required
1	No plan for evidence gathering	Provide plan for evidence gathering for Stage 3. The Sponsor has produced an improved and more detailed evidence gathering plan. 05/06/2023: The Change Sponsor has satisfactorily addressed this post gateway action
2	Lack of justification for proportionality of analysis	Provide such justification 05/06/2023: The Change Sponsor has satisfactorily addressed this post gateway action

CAA Initial Options Appraisal Completed by	Name	Signature	Date
Airspace Regulator (Economist)			25/05/2023
Airspace Regulator (Environmental)			24/05/2023