CAA CAP 1616 Options Appraisal Assessment (Phase III Final)

Title of Airspace Change Proposal:	Removal of remaining en-route dependencies		
Change Sponsor:	NATS Ltd		
ACP Project Ref Number:	ACP-2020-101		
Case study commencement date:	Click or tap to enter a date.	**Case study report as at:**	Click or tap to enter a date.

[redacted]	**Airspace Regulator (Engagement & Consultation):** [Insert Name]	**IFP:** Terrence Ngai	**OGC:** [Insert Name]

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 Do Nothing (DN) /Do Minimum (DM) scenarios			Status
1.1	**Are the outcomes of DN/DM scenarios clearly outlined in the proposal?**		☒ ☐ ☐ ☐
1.1.1	Has the change sponsor produced an Options Appraisal (Phase III - Final) which consists of the Full appraisal with any refinements or changes made as a result of the Stage 3 formal consultation with stakeholders? [E24]	Yes, the sponsor produced the Final Options Appraisal. Due to the technical nature of this RNAV project, the final phase is limited in terms of the refinements or changes made to the Full Options Appraisal.	☒ ☐ ☐ ☐

2. Direct impact on air traffic control					Status
2.1	**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.**				☒ ☐ ☐ ☐
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)*				
		Not applicable	Qualitative	Quantified	Monetised
2.1.2	Infrastructure changes		x	x	x
2.1.3	Deployment		x	N/A	N/A
2.1.4	Training		x	N/A	N/A
2.1.5	Day-to-day operational costs / workload / risks	x			
2.1.6	Other (provide details)				
2.1.7	**Comments:** The sponsor states that the proposed airspace change will not generate training costs or any other costs for airlines, except for the implementation cost of the change to Flight Data Processing systems is estimated to be £65,000. The proposed change would be introduced via series of briefings and bulletins for staff with no additional training or simulation costs.				
2.2	**Are there direct beneficial impacts on air traffic control / management systems? If so, please provide details and how they have been addressed:**				☐ ☐ ☐ ☒
2.2.1	*Examples of benefits considered*	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	**Comments:**				
2.3	**Where monetised, what is the net monetised impact on air traffic control (in net present value) over the project period?** £65,000 direct spend by NATS				
2.4	**Are the direct impacts on air traffic management analysed accurately and proportionately?**				☐ ☐ ☐ ☒

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?**				☐ ☐ ☐ ☒
		Not applicable	Qualitative	Quantified	Monetised
3.1.1	Number of aircraft movements	x			
3.1.2	Type of aircraft movement	x			
3.1.3	Distance travelled	x			
3.1.4	Area flown over / affected	x			
3.1.5	Other impacts	x			
3.1.6	**Comments:**				
3.2	**Has the forecasting of traffic done reasonably using best available guidance (e.g. DfT WebTAG, the Green Book, Academic sources…etc?)** [redacted]: No quantitative environmental assessments have been undertaken and therefore no forecasts were required to inform environmental assessments. However, the Sponsor states that *"The proportions of aircraft arriving at the relevant airports, including fleet mix and operators, would not change as an outcome of the proposed changes."*, and *"… airspace*				☐ ☐ ☐ ☒

usage and current operation will stay the same as today."
To support this, the sponsor provides statistical evidence for the 2019 traffic (Q3) showing that The percentage of traffic affected by the change will be minimal.

Airport	STAR	Planned Arrivals on in-scope STARS		RNAV5 %	Calculated Number of RNAV5 equipped aircraft on in-scope STARs	
		Planned Total	Planned Per STAR[1]		Total	Per STAR
Liverpool	TIPOD 4A	9676	2064	9.8	948	202
	TIPOD 2B		3594			352
	TIPOD 1C		432			42
	TIPOD 1D		61			6
	TIPOD 1E		3525			345
Manchester	MIRSI 1A	30903	14542	2.44	754	355
	MIRSI 3B		11633			284
	MIRSI 2C		437			11
	MIRSI 2D		4291			105

Note that this information was obtained from the Central Flow Management Unit (CFMU) for 2019 Q3. No data was supplied for RNAV1 equipage for traffic inbound to Cardiff & Bristol Airports via CPT.

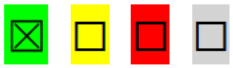
3.3 **What is the impact of the above changes (3.1) on the following factors?**

[redacted]: This ACP is scaled as Level 2C, therefore, as detailed in CAP 1616 the impacts upon fuel burn and CO_2 are required to be assessed. The Sponsor states that *"there would be no change in fuel/ CO2/ greenhouse gas emissions due to this proposal because there would be no change to lateral or vertical tracks."*

		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	N/A	N/A
3.3.4	Operational complexities for users of airspace				
3.3.5	Number of air passengers / cargo				
3.3.6	Flight time savings / Delays	x			

3.3.7	Air Quality	x			
3.3.8	Tranquillity	x			
3.4	**Are the traffic forecast and the associate impact analysed proportionately and accurately according to available guidelines (e.g. WebTAG or the Green Book?)** No quantitative environmental assessments have been undertaken and therefore no forecasts were required to inform environmental assessments. The proposed change is a technical one aiming only to remove reliance on a VOR and replicate the original track. No change expected to traffic numbers forecast or orientation, so no forecast required.				
3.5	**What is the total monetised impact of 3.3? (Provide comments)**				

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	N/A	N/A
4.1.5	Airports	x			
4.1.6	Local communities		x	N/A	N/A
4.1.7	Wider Public / Economy	x			N/A
4.1.8	**Comments:**				
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	There would be a positive impact on safety whilst also improving the overall network connectivity.
4.2.6	**Comments:** The RNAV replication, the re-naming of procedures four STARs and the extension of some of them, will allow the incorporation of existing important descent planning levels (DPLs) and have a minimal benefit to the DVOR rationalisation project.	
4.3	**What is the overall monetised impacts associated with 4.1 and 4.2 the above?** N/A	
4.4	**What are the non-monetised but quantified impacts of the above? (Insert details of description)** N./A	
4.5	**What are the qualitative / strategic impacts described above?** This proposal aims to remove any en-route dependency from ground based navigational aids in the UK, making them PBN procedures (RNAV1 and/or RNAV5), designated the same way and compliant with ICAO Annex 15	
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?**	
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	Nil

6. Summary of Assessment of Economic Impacts & Conclusions	
6.1	The proposed airspace change follows the standard DVOR Rationalisation ACP route and as such there should be no cost outside what NATS will pay to carry out the system upgrades and no foreseen impacts of making the proposed change described with Option 2.

Outstanding issues?		
Serial	Issue	Action required
1		
2		

CAA Final Options Appraisal Completed by	Name	Signature	Date
Airspace Regulator (Economist)	[redacted]	[redacted]	18/02/2022
Airspace Regulator (Environment)			18/02/2022
Airspace Regulator (Technical)			18/02/2022
ATM – Inspector ATS (Ops)			18/02/2022