CAA Operational Assessment

Title of airspace change proposal	SAIP AD5
Change sponsor	NATS
ACP Project Ref Number:	2017-77
Tech Regulator:	[redacted]
Case study commencement date	27 May 2019
Case study report as at	5 July 2019

To aid the Decision process each question has been highlighted accordingly to illustrate what is:

Resolved	Partially Resolved	Not Resolved	Not Applicable

Executive Summary

NATS' Swanwick Airspace Improvement Programme (SAIP) is proposing a number of modular airspace changes within the London Flight Information Region (FIR), managed by NATS Swanwick. It aims to modernise each region via airspace deployments (AD) in different regions of the FIR. This module, SAIP AD5, concerns the development of the following distinct areas of LAC west airspace:

- Establish appropriate CAS and ATS Routes for Birmingham arrivals and departures via the MOSUN area.
- Provision of a tactical offload route and appropriate CAS for traffic inbound to Heathrow when the OCKHAM hold is full.
- Establish or revise 4 high-level ATS Routes in the West End Sector Group.
- Amend the boundary of TRA 002, in conjunction with the MoD.

Drivers for change are presented as:

- Changes to the proportion of flows between Eire and the UK resulting from the IAA's ENSURE (FRA) project – increased volume and complexity of manual stack swaps OCK to BNN.
- MoD withdrawal of ATSOCAS service for EGBB MOSUN traffic.
- Improved routing and environmental benefits associated with new high-level and direct flight plannable ATS routes

1.	Justification for change and options analysis (operational/technical)	Status
1.1	Is the explanation of the proposed change clear and understood?	◉ Yes ○ Partially ○ No ○ N/A
	As outlined in the executive summary this ACP comprises 4 distinct elements. Each element is clearly explained within the ACP documentation.	
1.2	Are the reasons for the change stated and acceptable?	◉ Yes ○ Partially ○ No ○ N/A
	Reasons for change for each element of the ACP are stated in the Statement of Need and throughout the supporting documents. Central themes include: • Limited flight planning options for LTMA overflights from Irish airspace over mid-Wales • Limited flight planning options to access the Midlands area to/from the South West • Complexity associated with short notice stack swaps from OCK to BNN for Heathrow inbounds • Environmental and economic benefits associated with more direct routes and increased flight planning options. ***Note**:* The consultation document also refers to the following additional reasons for change. However, these are not stated in the SoN, the Assessment Meeting Presentation or consistently outlined as drivers for change. • Justification for H24 CAS to the west of Birmingham o *Provision of greater vectoring options for alleviating congestion and deconflicting traffic in the FL110-130 bracket with EGBB inbounds from the south.* o *Alleviating the risk of CAS excursions for Oxford departures which initially route north.*	
1.3	Have all appropriate alternative options been considered, including the 'do nothing' option?	◉ Yes ○ Partially ○ No ○ N/A
	The ACP considered numerous options, including the introduction of different classes of airspace and a 'do nothing' option. These options presented various permutations of airspace classification, availability, levels and volume.	

	Note: • The sponsor did not consider Class E airspace appropriate as it is not currently used in SWK airspace (VFR traffic not compatible with current trajectory-based controller tools) and its introduction would introduce a significant retraining requirement. • The sponsor has suggested that a 'do nothing' option is not viable with respect to Heathrow offload due to: o *Unsustainable workload and associated potential safety risk which has arisen on several occasions from manual Heathrow stack swaps*	
1.4	Is the justification for the selection of the proposed option sound and acceptable?	(●) Yes ( ) Partially ( ) No ( ) N/A
	The justification for the selection of the proposed option is sound and acceptable. The original proposal has been subject to some amendment resulting from consultation feedback and seeks to introduce: **EGBB** – more predictability for flight and fuel planning Additional CAS contained flight planning options to access Midlands Area. Introduction of new FUA CAS and RNAV1 ATS Routes for Birmingham arrivals and departures. **EGLL** – reduce controller workload and reduce complexity Unidirectional offload route and CAS from Irish boundary across Sectors 5, 23 and 35 to TC Midlands will enable more pre-planned tactical offloading/rerouting of flights (short-notice stack swap OCK – BNN). Route restricted to tactical offload (non-flight plannable & RAD restricted) only available outside of NWMTA hours. **ATS Routes** - deliver potential fuel savings for airline operators as part of NATS 10% RP2 target Realignment and extension, changes in flow directions and level restrictions to 4 ATS routes provide improved route structure. **TRA002** Through negotiation with MoD re-classification of north-west corner of TRA002 to Class C (FL195-245) to accommodate slow climbing EGBB departures.	
2.	**Airspace description and operational arrangements**	**Status**
2.1	Is the type of proposed airspace design clearly stated and understood?	(●) Yes ( ) Partially ( ) No ( ) N/A
	This ACP incorporates 4 distinct elements as follows: • Establish RNAV1 ATS Routes (N91 & N92), STAR and FUA CAS for Birmingham arrivals and departures via MOSUN. o FITZI 1B STAR to GROVE Hold	

	• Provision of a tactical offload route, STAR and FUA CAS for specific Heathrow arrivals from the Irish boundary. ○ FITBO 1H STAR to BNN Hold • Establish 4 high-level ATS routes in the West End Sector Group. • Amend the boundary of TRA002 to remove vectoring requirement for slow climbing Birmingham departures. Proposed new CAS is a mix of Class C and D and is clearly articulated within the ACP.	
2.2	Are the hours of operation of the airspace and any seasonal variations stated and appropriate?	◉ Yes ○ Partially ○ No ○ N/A

	The ACP proposes introducing a mix of H24, FUA and CDR airspace.
	• FUA CAS and RNAV1 ATS routes (for Birmingham arrivals & departures via MOSUN
	  ○ Established Mon to Fri (1700L - 0900L) & Fri to Mon (1700L-0900L) - proposed hours align with those already published for Birmingham - MOSUN procedure (see note below).
	  ○ Hours of operation are clearly articulated throughout.
	• Unidirectional offload route and FUA CAS for Heathrow inbounds from the Irish boundary
	  ○ Only available outside of NWMTA Upper and Lower activity times (Mon-Fri 1700L-0900L & Fri 1700L – Mon 0900L) (Plus public holidays, minus other events such as RIAT).
	  ○ Not flight plannable and RAD restricted to ensure appropriate use.
	  ○ FUA CAS (Class C) FL195-FL175: Only available outside of NWMTA Upper and Lower activity times - as per times above.
	
	Note:
	• BAL made a case for FUA CAS hours being 1700L to 1000L on the grounds that the airspace closure time of 0900L will exclude 353 aircraft per annum from using the MOSUN SID due to increased push from stand times (30 mins vice current 15 minutes). New procedures will require push time of 30 mins before cessation to ensure aircraft are airborne and have left the confines of the new FUA before deactivation. The MOD objected to weekday availability of the airspace beyond 0900L stating that 'core MOD flying day starts at 0900 (earlier for USAFE Lakenheath assets who routinely book the NWMTA from 0800) and tanker support and FJ transits will routinely occur between 0900L and 1000L'. The sponsor accepted the MOD position, and this is reflected in the ACP proposed timings[1]. BAL have requested that the CAA review the data and justification as part of the PIR to understand if	

[1] *It should be noted that the introduction of CAS is not intended to prevent aircraft flying the procedure in line with existing published hours of Birmingham-MOSUN Procedure as follows: Aircraft joining or leaving MOSUN requesting FL 170 or above, the Birmingham-MOSUN Procedure is only available between the following times: Mon-Fri 1700-1000 (1600-0900); Fri 1700 (1600) - Mon 1000 (0900) For turbo-prop aircraft joining or leaving at MOSUN FL 160 or below the Birmingham-MOSUN Procedure is available without restriction. Outside of FUA CAS availability a service within Class G will continue to be offered in accordance with MOSUN Procedure times.*

	there is an opportunity to increase availability of the ATS route in the future. • H24 CAS Class C (FL105 – 145) – Daventry CTA 23 ○ The justification for the proposed Daventry CTA 23 being H24 is as articulated at Q1.2. Requirement for additional vectoring and alleviating CAS excursions was not articulated in the SoN nor outlined as a driver for change at the AM. The proposed Heathrow Offload CAS and MOSUN CAS are FUA (Mon-Fri 1700L-0900L & Fri 1700L – Mon 0900L) and similar timings for the Daventry CTA 23 would therefore seem appropriate to meet the SoN. However, the sponsor provided evidence at Stage 2 (through aircraft movements statistics) that GA usage of the area is very low, particularly above FL105. For map see AD5 Airspace	
2.3	Is any interaction with adjacent domestic and international airspace structures stated and acceptable including an explanation of how connectivity is to be achieved? Has the agreement of adjacent States been secured in respect of High Seas airspace changes?	◉ Yes ○ Partially ○ No ○ N/A ○ Yes ◉ Partially ○ No ○ N/A
	Interaction with adjacent domestic airspace structures is stated and acceptable. Contained in the submitted LoA. The sponsor has identified the requirement for a High Seas Letter to cover proposed changes to ATS routes – action ongoing.	
2.4	Is the supporting statistical evidence relevant and acceptable?	◉ Yes ○ Partially ○ No ○ N/A
	The sponsor has provided relevant and acceptable statistical data (based on 2017 figures) for existing levels of aircraft movements: • Birmingham (MOSUN Region) arrival/departures – aircraft count, type and airline • Heathrow arrival flows – aircraft count, type and airline that could have used the procedure • ATS Routes extension/realignment – aircraft count, type and airline that could potentially benefit from the extension/realignment	
2.5	Is the analysis of the impact of the traffic mix on complexity and workload of operations complete and satisfactory?	◉ Yes ○ Partially ○ No ○ N/A

	• The proposed volumes of CAS in vicinity of Birmingham would deliver modernisation and partial systemisation
	  ○ More predictable flight planning, less coordination and reduced tactical actions/controller interactions
	• Heathrow offload route provides option for more predictable tactical balancing, reduce coordination and controller interactions.
	  ○ Reduced cockpit workload by removing need for late notice swaps.	

2.6	Are any draft Letters of Agreement and/or Memoranda of Understanding included? If so, do they contain the commitments to resolve ATS procedures (ATSD) and airspace management requirements?	◉ Yes ○ Partially ○ No ○ N/A ○ Yes ◉ Partially ○ No ○ N/A
	The submission does include a **draft** LoA between NATS (En Route) PLC, BAATL, NATS Cardiff ATC and RAF (U) Swanwick. The document is currently WIP and continues to be progressed. Standing coordination procedures between RAF (U) Swanwick and Birmingham have been agreed and form part of the LoA. The LoA will need to reflect points raised by the MoD in response to consultation.	
2.7	If there is any other aviation activity (low flying, gliding, parachuting, microlight site etc) in the vicinity of the new airspace structure and no suitable operating agreements or ATC Procedures can be devised, what action has the change sponsor carried out to resolve any conflicting interests?	◉ Yes ○ Partially ○ No ○ N/A
	The lowest base level of proposed new CAS is FL65. The sponsor engaged and consulted with representatives from the appropriate aviation organisations and has taken account of feedback through the consultation process. Base levels of CAS have been kept as high as is practicable to minimise impact on other airspace users. Following consultation and further analysis the volumes of proposed new CAS has also been reduced.	
2.8	Does the ACP provide satisfactory evidence that the airspace design is compliant with ICAO SARPs, airspace design & FUA regulations, and EuroControl guidance?	◉ Yes ○ Partially ○ No ○ N/A
	Compliant with FUA regulations (CAP740).	

2.9	Is the proposed airspace classification stated and justification for that classification considered appropriate?	Yes / Partially / No / N/A
	The ACP identifies the airspace classification and operating hours for each element of the proposed new airspace. In response to consultation feedback the sponsor has made several changes to the initial airspace design. This included raising the base level of one area of proposed airspace and reducing the volume of another block, thus reducing impact on other airspace users. Proposed Daventry CTA23 made Class C and Controlling Authority Swanwick to enable existing standing agreement co-ordination between (Swanwick – RAF(U)) to continue.	
2.10	Within the constraints of safety and efficiency, does the airspace classification permit access to as many classes of user as practicable?	Yes / Partially / No / N/A
	Account has been taken of the Design Principle (DP) 'need to permit access to as many classes of user as practicable' and stakeholder feedback. • All new CAS volumes are Class C or D, both of which permit VFR flight. • FUA has been applied for much of the airspace to further reduce impact.	
2.11	Is there assurance, as far as practicable, against unauthorised incursions? (This is usually done through the classification and promulgation).	Yes / Partially / No / N/A
	Proposed new airspace has classifications that require ATC clearance. No change to existing airspace volume or classification. Promulgation will be through the normal AIRAC process.	
2.12	Is there a commitment to allow access to all airspace users seeking a transit through controlled airspace as per the classification, or in the event of such a request being denied, a service around the affected area?	Yes / Partially / No / N/A
	The proposed classification of the airspace (Class C & D) have been selected to facilitate transit by all airspace users wherever possible. Statistics presented by the sponsor suggest that with proposed airspace having a lowest base level of FL65 the impact on other airspace users will be limited. Service around the affected area may be constrained by existing areas of CAS.	
2.13	Are appropriate arrangements for transiting aircraft in place in accordance with stated commitments?	Yes / Partially / No / N/A

	All new CAS proposed under this ACP is Class C or D, thereby reducing impact on transit aircraft by facilitating transit. FUA concept used to further mitigate impact.	
2.14	Are any airspace user group's requirements not met?	◉ Yes ◉ Partially ◉ No ○ N/A
	DP5 stated that 'the proposed change should minimise the negative impact on other airspace users'. The ACP has been subject to consultation with appropriate stakeholders, including the BGA (through NATMAC) and GA Alliance. The final proposal has been updated to take account of stakeholder feedback and user group requirements. Airspace classification and hours of operation for a specific area were adjusted to mitigate MoD objections.	
2.15	Is any delegation of ATS justified and acceptable? (If yes, refer to Delegated ATS Procedure).	◉ Yes ◉ Partially ◉ No ○ N/A
	• Existing delegation arrangements (Swanwick/Cardiff) as defined in the Cardiff/Swanwick LoA are unaffected by this ACP. • Proposed Birmingham CTA10 (FL65-105) to be delegated to EGBB.	
2.16	Is the airspace design of sufficient dimensions with regard to expected aircraft navigation performance and manoeuvrability to contain horizontal and vertical flight activity (including holding patterns) and associated protected areas in both radar and non-radar environments?	◉ Yes ◉ Partially ◉ No ○ N/A
	The proposed CAS is of sufficient dimensions with regard to expected aircraft navigation performance and manoeuvrability to contain horizontal and vertical flight activity.	
2.17	Have all safety buffer requirements (or mitigation of these) been identified and described satisfactorily (to be in accordance with the agreed parameters or show acceptable mitigation)? (Refer to buffer policy letter).	◉ Yes ◉ Partially ◉ No ○ N/A
	The minimum separation of the proposed new route structures from the edge of CAS is 2NM. Controllers will be required to radar monitor aircraft to ensure that they remain inside controlled airspace and conform to the RNAV1 routes. Exemption from the CAA Controlled Airspace Containment Policy (Jan 2014) is requested in accordance with CAP1385 (PBN Enhanced Route Spacing Guidance). Full Details contained in the RSAD (Reference 18)	

2.18	Do proposed ATC procedures ensure the maintenance of prescribed separation between traffic inside a new airspace structure and traffic within existing adjacent or other new airspace structures?	(●) Yes ( ) Partially ( ) No ( ) N/A
	• New ATS routes are parallel between LUXTO and EXMOR (N92 Westbound) and ILCAT and abeam LUXTO (N91 Eastbound) – routes are spaced 7nm apart. • NATS LAC controllers will be required to radar monitor traffic to ensure route conformance for this portion of the route. • Birmingham Approach controllers will be required to radar monitor traffic on the FIGZI 1B STAR following transfer of aircraft from NATS. • Lateral dimensions of TRA002 are to be amended to allow for the establishment of the RNAV1 route N92 between ITJON and EXMOR	
2.19	Is the proposed airspace structure designed to ensure that adequate and appropriate terrain clearance can be readily applied within and adjacent to the proposed airspace?	(●) Yes ( ) Partially ( ) No ( ) N/A
	The lowest level of proposed new airspace is FL65 which ensures adequate and appropriate terrain clearance within the relevant area.	
2.20	If the new structure lies close to another airspace structure or overlaps an associated airspace structure, have appropriate operating arrangements been agreed between the relevant parties?	(●) Yes ( ) Partially ( ) No ( ) N/A
	The ACP provides full detail of operating arrangements, including delegation, between relevant parties. Operating arrangements have been agreed with the MoD where appropriate.	
2.21	Where terminal and en-route structures adjoin, is the effective integration of departure and arrival routes achieved?	(●) Yes ( ) Partially ( ) No ( ) N/A
	The ACP seeks to introduce new CAS between MOSUN and Birmingham (EGBB). • Establishment of new CAS (FL65-FL145) adjacent to Birmingham will adjoin proposed en-route airspace (FL75-FL195) becoming (FL125/FL195) to the South West. • The proposed airspace will complement the new EGBB MOSUN SID off RWY 33. • EGBB - FITZI 1B STAR to GROVE Hold **Note**: There is no direct connectivity between the RWY33 MOSUN SID and N92 (6000ft and first usable FL being FL70). However, statistics provided by the sponsor illustrate that traffic using the MOSUN route are routinely above FL70 before reaching UMLUX.	

3.	**Supporting resources and communications, navigation and surveillance**	**Status (CNS) infrastructure**
3.1	Is the evidence of supporting CNS infrastructure together with availability and contingency procedures complete and acceptable? The following are to be satisfied:	◉ Yes ○ Partially ○ No ○ N/A
3.1.1	• Communication: Is the evidence of communications infrastructure including RT coverage together with availability and contingency procedures complete and acceptable? • Has this frequency been agreed with AAA Infrastructure?	◉ Yes ○ Partially ○ No ○ N/A ○ Yes ○ Partially ○ No ◉ N/A
	This ACP covers an area already used today. The existing communications infrastructure has proven demonstrably adequate.	
3.1.2	• Navigation: Is there sufficient accurate navigational guidance based on in-line VOR or NDB or by approved RNAV-derived sources, to contain the aircraft within the route to the published RNP value in accordance with ICAO/ Eurocontrol standards? For example, for navaids, has coverage assessment been made, such as a DEMETER report, and if so, is it satisfactory?	◉ Yes ○ Partially ○ No ○ N/A
	RNAV Coverage Documents (Ref 20 & Ref 21) provide RNAV coverage data/DEMETER analysis. The sponsor would expect flights to use GNSS.	
3.1.3	• Surveillance: Radar provision – have radar diagrams been provided, and do they show that the ATS route/airspace structure can be supported?	◉ Yes ○ Partially ○ No ○ N/A
	This ACP covers an area already used today. Primary and Secondary coverage has proven demonstrably adequate.	

3.2	Where appropriate, are there any indications of the resources to be applied, or a commitment to provide them, in line with current forecast traffic growth acceptable?	(●) Yes ( ) Partially ( ) No ( ) N/A
	The sponsor has indicated the level of NATS resource in terms of controller training required and is committed to providing such training. The ACP is not predicated on traffic growth although it is acknowledged that over time traffic levels may increase.	
4.	**Maps/charts/diagrams**	**Status**
4.1	Is a diagram of the proposed airspace included in the proposal, clearly showing the dimensions and WGS84 co-ordinates? (We would expect sponsors to include clear maps and diagrams of the proposed airspace structure(s) – they do not have to accord with aeronautical cartographical standards (see airspace change guidance), rather they should be clear and unambiguous and reflect precisely the narrative descriptions of the proposals).	(●) Yes ( ) Partially ( ) No ( ) N/A
	• Diagrams of the proposed airspace for each element of the ACP are included in the formal submission. • Diagrams/maps have been annotated with explanatory supporting notes regarding hours of availability and airspace classification. • Full detail of changes to high level ATS routes is included. The attached ppt slides have been created to assist visualisation - AD5 Airspace	
4.2	Do the charts clearly indicate the proposed airspace change?	(●) Yes ( ) Partially ( ) No ( ) N/A
	The charts clearly indicate the extent of the proposed airspace change. The formal submission also highlights the changes that resulted from consultation feedback.	
4.3	Has the change sponsor identified AIP pages affected by the change proposal and provided a draft amendment?	(●) Yes ( ) Partially ( ) No ( ) N/A
	Document (Reference 15) identifies the AIP pages affected by the ACP.	

4.4	Has the change sponsor completed the WGS84 spreadsheet and submitted it to the CAA for approval?	◉ Yes ○ Partially ○ No ○ N/A
	A WGS84 spreadsheet has been submitted as part of this proposal. The sponsor has also submitted in the AeroData format. These documents have been checked.	
5.	**Operational impact**	**Status**
5.1	Is the change sponsor's analysis of the impact of the change on all airspace users, airfields and traffic levels, and evidence of mitigation of the effects of the change on any of these, complete and satisfactory? Consideration should be given to:	○ Yes ○ Partially ○ No ◉ N/A
	a) Impact on IFR General Aviation traffic, on Operational air traffic or on VFR General Aviation traffic flow in or through the area.	◉ Yes ○ Partially ○ No ○ N/A
	The sponsor engaged and consulted with GA representative bodies, MoD and airline stakeholders. IFR GAT flow schematics have been provided as part of the ACP. Airspace classification and FUA availability mitigates impacts on GA traffic. The proposed airspace classification, FUA arrangements and decision regarding the controlling agency for proposed Daventry CTA24 mitigate the MoD objection.	
	b) Impact on VFR Routes.	◉ Yes ○ Partially ○ No ○ N/A
	The sponsor engaged and consulted with representative bodies and undertook analysis of VFR operations within the areas affected by this proposal. Based on the analysis the level of impact was predicted to be minimal. Classification of proposed areas of new CAS has been chosen so as not to limit access to airspace users wherever possible.	
	c) Consequential effects on procedures and capacity, i.e. on SIDs, STARs, holds. Details of existing or planned routes and holds.	◉ Yes ○ Partially ○ No ○ N/A
	SIDS: There are no new SIDs as part of SAIP AD 5 ACP – SAIP AD5 will align with the established MOSUN SIDs **STARS**: The ACP includes the introduction of 2 new STARS • FIGZI 1B – EGBB (*see IFP report)*. Route FIGZI – BIFIN – GROVE.	

	• FITBO 1H (Off-load STAR) – EGLL (*see IFP report)* Route FITBO – SOPIT – WCO - BNN **New Hold**: A new FITBO Hold is being proposed (FL180 - FL290) - hold times will align with FUA of Heathrow offload route **Revised Holds**: GROVE, WCO, BNN holds require RNAV replication – *this was planned as part of the DVOR rationalisation ACP but this has not been progressed in sufficient time.* **Note:** The SAIP AD5 consultation document states that 'there is no forecast increase in air transport movements, passenger numbers or cargo carriage as an outcome of this proposal'. However, ACP-2016-15 (Birmingham Airport Rwy 33 SIDs) Operational Assessment acknowledged that the volume of MOSUN departures might increase if linking CAS was approved. The associated consultation document identified the desire to increase use of this route to c1940 departures by 2023. However, these figures were not used in the SAIP AD5 documentation. IFP Comment: **FITZI 1B and GROVE Hold** – where the hold is not aligned with the STAR tracks deviation from the nominal track is noticeable. Therefore, radar monitoring may be required as a mitigation when acft are required to hold at Grove. **FITBO 1H and Holds Conclusion** - where the holds are not aligned with the STAR tracks the deviation from the nominal tracks is noticeable both on the entry and exit. Therefore, RADAR monitoring may be required as a mitigation when a/c are required to hold at FITBO and WCO	
	d) Impact on airfields and other specific activities within or adjacent to the proposed airspace.	◉ Yes ○ Partially ○ No ○ N/A
	The sponsor has engaged and consulted with Wellesbourne Airfield, Wolverhampton Airport, Birmingham (EGBB), Cardiff (EGLL), Heathrow Airport and MOD (for Mil Airfields). • Wellesbourne and Wolverhampton responded positively, stating that the ACP would not impact their operations. • Initial airspace designs were updated to take account of MOD consultation feedback. • Although Birmingham Airport made a case for a greater volume of H24 Class D airspace the ACP reflects the changes made to mitigate MOD objections.	
	e) Any flight planning restrictions and/ or route requirements.	◉ Yes ○ Partially ○ No ○ N/A
	STARS: FITBO 1H is off-load STAR ATS Routes: • N91 – EGBB arrivals only – FUA hours • N92 – EGBB departures only – FUA hours	

	• Y125 – EGLL off-load for tactical use when NWMTA not active – not available for flight planning • P155 – UK overflights only. RAD restricted MORAG–HON & not available when NWMTA active.	
5.2	Does the change sponsor consultation material reflect the likely operational impact of the change?	◉ Yes ○ Partially ○ No ○ N/A
	The ACP is expected to have low impact on GA users with 94% of GA currently flying at FL65 or below in the affected region. Additional flight plan options will enable airline operators to avoid capacity constrained areas. The sponsor has acknowledged that the ACP will reduce the availability of NATS operational controllers during conversion training. The impact on other ANSPs is not captured. The ACP is proposed against existing traffic levels.	
Case study conclusions – to be completed by SARG Tech Regulator		
Has the change sponsor met the SARG airspace change proposal requirements and airspace regulatory requirements above?		◉ Yes ○ No
The sponsor has complied with the CAP1616 process through submission of appropriate documentation and has stepped through the required gateways. The sponsor identified a suitable set of Design Principles and has provided appropriate rationale for progressing the final option for this ACP.		

Outstanding issues

Serial	Issue	Action required
1	Letters of Agreement(s) with other ANSPs to be completed	Sponsor to action
2	High Seas Letter	Sponsor to action through ICANN
3	AIP Submission	Sponsor to action

Additional compliance requirements including post-implementation review requirements (to be satisfied by change sponsor)

Serial	Requirement
1	
2	

Recommendations	
Is the approval of the Ministry of Defence required in respect of national security issues surrounding the airspace change?	○ Yes ◉ No
Extensive and effective engagement and consultation has taken place between the sponsor and the MoD to ensure that MoD operations are not impacted by this ACP. Where appropriate, detail of agreed mitigation procedures will be incorporated in LOAs between the respective ANSPs.	

General summary

The SoN for this ACP was predicated on the following issues:

- Limited flight planning options for LTMA overflights from Irish airspace over mid-Wales and complexity associated with short notice stack swaps from OCK to BNN for Heathrow inbounds.
- Limited flight planning options to access the Midlands area to/from the South West
- Opportunities for environmental and economic benefits associated with more direct routes and increased flight planning options.

This ACP contains 4 distinct elements which seek to:

- Provide a tactical offload route and appropriate CAS for traffic inbound to Heathrow when the OCKHAM hold is full.
- Establish appropriate CAS and ATS Routes for Birmingham arrivals and departures via the MOSUN area.
- Establish or revise 4 high-level ATS Routes in the West End Sector Group.
- Amend the boundary of TRA 002, in conjunction with the MoD.

This ACP is a Level 1 due to the proposed introduction of new CAS with base level FL65. However, the sponsor made strong representation, supported by aircraft movement statistics, that showed that the numbers of GA aircraft likely to be affected by this proposal would be small (c6% of GA recorded in affected areas were above 6500ft) and that there would not be a resulting discernible change in noise impacts, visual intrusion or CO_2 emissions. The CAA accepted the suggestion that due to the undiscernible noise or visual intrusion impacts consultation should be targeted at other ANSPs, airfields, and airline operators.

In accordance with CAP 1616 the sponsor developed several options, which. included various permutations of airspace volume, airspace classification and hours of availability. A single option aimed at addressing the various individual components of the ACP was proposed and consulted upon.

The finalised ACP was amended to reflect feedback received through Stage 3 Consultation and in light of further analysis of the requirement.

Comments and observations

The final proposal presents a viable option to meet the drivers for change outlined in the SoN and at the assessment meeting. The proposed volume, base levels, classification and hours of operation of new CAS have taken account of stakeholder feedback and are consistent with the intent of minimising disruption to other airspace users (DP5) and align with the other DPs. The ACP has effectively balanced the interests of other ANSPs and airline operators with the operational requirements of the MoD and through doing so has remained aligned to the SoN.

Observations:
As highlighted earlier in the report the ACP does not appear to fully justify the proposed Daventry CTA 23 being H24. The proposed Heathrow Offload and MOSUN CAS are FUA (Mon-Fri 1700L-0900L & Fri 1700L – Mon 0900L) and therefore FUA timings for the Daventry CTA 23 would seem appropriate. However, if use of the airspace is already limited due to existing volumes of adjacent CAS and where unnecessary complexity would be introduced by the activation/deactivation of the airspace then implementing H24 may be appropriate.

Operational assessment sign-off/ approvals	Name	Signature	Date
Operational assessment completed by:	[redacted]	[redacted]	5 July 2019
Operational assessment approved by:	[redacted]	[redacted]	02/08/2019

Manager Airspace Regulation Comment: The recently introduced RWY 33 UMLUX 1M SID terminates on the western boundary of EGBB CTA-5 at 6,000ft amsl (the base of the CTA being at 2,500ft amsl). The proposed AD-5 design introduces a new ATS link route (N92) that starts laterally coincident with reporting point UMLUX heading South West. Part of N92 is contained within Birmingham CTA-7 where the base level is FL065; giving N92 a lowest usable level of FL070 – approximately a 1,000ft apart, give or take, the difference between QNH and QNE.

Whilst there are existing examples of similar discrepancies in UK airspace, where a disconnect exists between a conventional SID and the airway they are intended to join, the CAA considers such discrepancies as sub-optimal airspace design. The discrepancy in the AD-5 design brings with it the possible inherent risks of flight planning, FMS and radio fail issues. However, such inherent risks do not render the airspace unsafe and steps can be taken to ensure that the risks are successfully mitigated against.

Consequently, the CAA has sought assurances from NATS (in conjunction with EGBB) in order to satisfy ourselves that both parties have adequate safeguards in place to successfully mitigate against any of the risks inherent with this airspace design. I am sufficiently assured that both parties have in place and will continue to maintain the necessary steps. As such, I am satisfied that the proposed AD-5 design is inherently safe and, in spite of the issues identified, represents an improvement on the current airspace design. I am minded of the purpose of the proposed airspace change to enhance the protection of commercial air transport operating out of EGBB to the southwest. Taking all of the factors into consideration, I am content to approve this airspace design.

Whilst this airspace change represents an improvement on the previous configuration, it is clear that there remains scope for further optimisation of this airspace. Specifically, it is clear that if the disconnect was resolved it would improve the connectivity between the SID and the ATS route. As such, I intend to impose a post-decision condition upon NERL to bring forward an airspace change proposal, which does not include the need for any additional controlled airspace, to address the connectivity issue within 18 months of the implementation of the AD-5 airspace change.

Head AAA comment/ approvals	Name	Signature	Date
Operational assessment conclusions approved by:	[redacted]		06/08/2019

Head AAA Comment: Approved. This is a good example of FUA which introduces controlled airspace in an equitable way. The "MOSUN triangle" has been conspicuous as an oddity in the UK system until now. I endorse the comments and condition raised by the Manager Airspace Regulation.