

Safety and Airspace Regulation Group

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Airspace Change Proposal - Operational Assessment

Version: 1.1/ 2019

Title of Airspace Change Proposal	Birmingham Airport RWY 15 Northbound SID redesign
Change Sponsor	Birmingham Airport
SARG Project Leader	[REDACTED]
Case Study commencement date	01 October 2018
Case Study report as at	11 February 2019
File Reference	

Instructions

In providing a response for each question, please ensure that the 'Status' column is completed using the following options:

- Yes
- No
- Partially
- N/A

To aid the SARG Project Leader's efficient Project Management it may be useful that each question is also highlighted accordingly to illustrate what is:

resolved

Green

not resolved

Amber

not compliant

Red

as part of the AR Project Leader's efficient project management.

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1.	Justification for change and “Option Analysis”	Status
1.1	<p>Is the explanation of the proposed change clear and understood?</p> <p>In 2016, the CAA’s decision on new RNAV SIDs from Runway 15 did not include the final decision on the northbound SIDs because a trial had shown that certain aircraft types caused a larger than expected swathe of traffic, taking aircraft closer to certain population centres. The sponsor was required to undertake some redesign work on the northbound SIDs to ensure that the procedures would have the desired effect of reducing the environmental impact on local communities as had been envisaged with the original design. The sponsor has now completed the redesign work and has developed a design that is very similar to the one consulted upon in the initial consultation and has engaged throughout the process with those areas affected below 7,000 feet. The local communities engaged are supportive of the change and look forward to the change being implemented if approved.</p> <p>Since the original decision, developments have been made in the planning for the enroute network to the north of the airport. NATS have provided a new, single point for entry into the enroute network to the north of the airport at a point known as LUVUM (which is a point towards the TNT VOR). This has meant that the design will differ, above 7,000ft, from that which was consulted upon, as the sponsor can no longer design a departure which replicates the Whitegate SID as this would not meet the network requirements. The differences between the SIDs occur above 7,000 feet and the newly redesigned SID takes the most efficient route to LUVUM.</p>	YES
1.2	<p>Are the reasons for the change stated and acceptable?</p> <p>Redesign was required following CAA decision in 2016 which a trial showed more dispersion than anticipated in the initial part of the departure.</p>	YES
1.3	<p>Have all appropriate alternative options been considered, including the ‘do nothing’ option?</p> <p>The options considered were those that best matched the original proposal.</p>	YES
1.4	<p>Is the justification for the selection of the proposed option sound and acceptable?</p> <p>The selected option best meets the consulted upon and trialed design and has the support of local affected communities.</p>	YES
2.	Airspace Description and Operational Arrangements	Status
2.1	<p>Is the type of proposed airspace clearly stated and understood?</p> <p>RNAV SID</p>	YES

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2.2	Are the hours of operation of the airspace and any seasonal variations stated and acceptable?	N/A
	No change	
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
	The redesigned SID remains within CAS and joins the enroute network at LUVUM, a point agreed with NATS, to allow the future systemisation of the enroute network.	
2.4	Is the supporting statistical evidence relevant and acceptable?	N/A
2.5	Is the analysis of the impact of the traffic mix on complexity and workload of operations complete and satisfactory?	YES
	No change.	
2.6	Are any draft Letters of Agreement and/ or Memoranda of Understanding included and, if so, do they contain the commitments to resolve ATS procedures (ATSD) and airspace management requirements?	N/A
2.7	Should there be 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 sponsor carried out to resolve any conflicting interests?	N/A
2.8	Is the evidence that the Airspace Design is compliant with ICAO SARPs, Airspace Design & FUA regulations, and Eurocontrol Guidance satisfactory?	YES
	RNAV SID has been approved by CAA's IFP Regulator	
2.9	Is the proposed airspace classification stated and justification for that classification acceptable?	N/A
	No change.	

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2.10	Within the constraints of safety and efficiency, does the airspace classification permit access to as many classes of user as practicable?	YES
2.11	Is there assurance, as far as practicable, against unauthorised incursions? (This is usually done through the classification and promulgation)	N/A
	No change	
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
	No change	
2.13	Are appropriate arrangements for transiting aircraft in place in accordance with stated commitments?	YES
	No change	
2.14	Are any airspace user group's requirements not met?	NO
	No change	
2.15	Is any delegation of ATS justified and acceptable? (If yes, refer to Delegated ATS Procedure).	N/A
2.16	Is the airspace structure 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
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).	N/A

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2.18	Do 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
2.19	Is the airspace structure designed to ensure that adequate and appropriate terrain clearance can be readily applied within and adjacent to the proposed airspace?	YES
2.20	If the new structure lies close to another airspace structure or overlaps an associated airspace structure, have appropriate operating arrangements been agreed?	YES
2.21	Where terminal and en-route structures adjoin, is the effective integration of departure and arrival routes achieved?	YES
	This change should enable future changes to the enroute network to systemise flows of traffic.	

3.	Supporting Resources and CNS Infrastructure	Status
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
	<ul style="list-style-type: none"> ▪ 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? 	
	No change	
	<ul style="list-style-type: none"> ▪ 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? Eg. Nav aids – has coverage assessment been made eg. a DEMETER report, and if so, is it satisfactory? 	YES
	Assessed as part of the IFP approval	

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	<ul style="list-style-type: none">▪ Surveillance: Radar Provision – have radar diagrams been provided, and do they show that the ATS route / airspace structure can be supported?	YES
	No change	
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 growths acceptable?	N/A

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4.	Maps/Charts/Diagrams	Status
4.1	<p>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 AC&D aeronautical cartographical standards (see CAP725), rather they should be clear and unambiguous and reflect precisely the narrative descriptions of the proposals. AC&D work would relate to regulatory consultation charts only).</p> <p>The sponsor has provided a diagram comparing the original design with that being proposed as well as a diagram showing that there will be no changes below 7,000 feet other than those consulted upon and agreed subsequently with local communities.</p>	YES
4.2	Do the charts clearly indicate the proposed airspace change?	YES
4.3	Has the Change Sponsor identified AIP pages affected by the Change Proposal and provided a draft amendment?	YES

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5.	Operational Impact	Status
5.1	<p>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:</p> <p>a) Impact on IFR GAT, on OAT or on VFR general aviation traffic flow in or through the area.</p>	YES
	<p>b) Impact on VFR Routes.</p>	N/A
	<p>c) Consequential effects on procedures and capacity, ie on SIDS, STARS, holds. Details of existing or planned routes and holds.</p>	YES
	<p>d) Impact on Airfields and other specific activities within or adjacent to the proposed airspace.</p>	NO
5.2	<p>Does the Change Sponsor Consultation letter reflect the likely operational impact of the change?</p>	YES
	<p>The redesigned SID follows a very similar track to that of the procedure which was consulted upon and is now able to deliver the benefits as described in the consultation document. Above 7,000 feet the procedure goes to a new point, LUVUM, but this was the only option for a northbound SID given the network restrictions. As such, the design to LUVUM is the most efficient from an emissions perspective - a straight line.</p>	

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6.	Economic Impact	Status
6.1	<p>Is a provisional economic impact assessment to all categories of operations and users likely to be affected by the change included and acceptable? (This may include any forecast capacity gains and the cost of any resultant additional track mileage).</p> <p>The proposal is not assessed to have a significant economic impact other than enabling the airport to continue operating as it does today. There is a fuel burn penalty by limiting the speed around the turn but this is offset by the noise benefits, the primary environmental consideration at low altitude.</p>	YES
7. Recommendations / Conditions / PIR Data Requirements		
7.1	<p>Are there any Recommendations which the change sponsor <u>should try</u> to address either before or after implementation (if approved)? If yes, please list them below.</p>	NO
<p><i>GUIDANCE NOTE: Recommendations are something that the change sponsor <u>should try</u> to address either before or after implementation, if indeed the airspace change proposal is approved. They may relate to an area in which the change sponsor is reliant upon a third party to actually come to an agreement and consequently they do not carry the same 'weight' as a Condition.</i></p>		
7.2	<p>Are there any Condition(s) which the change sponsor <u>must fulfil</u> either before or after implementation (if approved)? If yes, please list them below.</p>	NO
<p><i>GUIDANCE NOTE: Conditions are something that the change sponsor <u>must fulfil</u> either before or after implementation, if indeed the airspace change proposal is approved. If their proposal is approved, change sponsors <u>must</u> observe any condition(s) contained within the regulatory decision; failure to do so <u>will usually</u> result in the approval being revoked. Conditions should specify the consequence of failing to meet that condition, whether that be revoking the ACP or some alternative.</i></p>		
7.3	<p>Are there any specific requirements in terms of the data to be collected by the change sponsor for the Post Implementation Review (if approved)? If yes, please list them below.</p>	YES
<p><i>GUIDANCE NOTE: PIR data requirements concerns any specific data which the change sponsor should be instructed to collate post-implementation, if indeed the airspace change proposal is approved. Please use this section to list any such requirements so that they can be captured in the regulatory decision accordingly.</i></p> <p>The change sponsor is required to collate related stakeholder observations (enquiry/complaint data) and present it to the CAA. Any location/area from where more than 10 individuals have made enquiries/complaints must be plotted on separate maps displaying a representative sample of:</p>		

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- aircraft track data plots; and
- traffic density plots

The plots should include a typical days-worth of movements from the last month of each standard calendar quarter (March, June, September, December) from each of the years directly preceding and following implementation of the airspace change proposal.

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Case Study Conclusions – To be completed by SARG Project Leader	Yes/No
Has the Change Sponsor met the SARG Airspace Change Proposal requirements and Airspace Regulatory requirements above?	YES
The sponsor was required to redesign the SID to narrow the swathe of traffic around the first tur to take overflying traffic away from Hampton-in-Arden and the northern area of Balsall Common. The sponsor has shown that the new design does this and has the support of the local communities affected by the departure route at low-level.	

Third Party Approval	Yes/No
Is the approval of the SoS for Transport required in respect of the Environmental Impact of the airspace change?	NO
Is the approval of the MoD required in respect of National Security issues surrounding the airspace change?	NO

General Summary
<p>The sponsor has met the requirement to redesign the SID to narrow the dispersion of traffic around the turn to the north. The sponsor has engaged with those affected on the ground below 7,000 feet, who are supportive of the implantation of the redesign. The sponsor has designed the SID to integrate with the enroute network at a new point agreed with NATS to enable the future development of systemised flows of traffic, increasing the efficiency of the network as a whole.</p> <p>The flight validation that has been undertaken by the sponsor shows that the design meets the intent of the original proposal and the procedure has been approved by the CAA's IFP Regulator.</p>
Comments & Observations

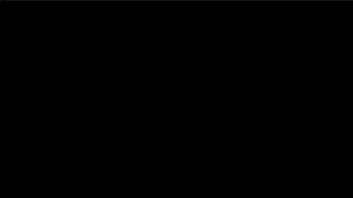
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Operational Assessment Sign-off/ Approvals	Name	Signature	Date
Operational Assessment completed by:	AR Case Officer	[Redacted Signature]	11/02/2019
Operational Assessment approved:	[Redacted Name] Mgr AR	[Redacted Signature]	13/02/2019
Mgr AR Comments: This amendment to the RNAV SID is in line with the requirements of the CAA's original decision.			

Hd AAA Comment/ Approvals	Name	Signature	Date
Operational Assessment Conclusions approved:	[Redacted Name] Hd AAA	[Redacted Signature]	14/02/2019
Hd AAA Comments: Approved			

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GD SARG Decision/ Approval	Name	Signature	Date
GD SARG Decision: Approved	Mark Swan GD SARG		20 Feb 2019
GD SARG Comments:			