

DONCASTER SHEFFIELD AIRPORT AIRSPACE CHANGE PROPOSAL

ACP-2024-039



Stage 2(A) Options Development

Appendix B Design Principle Evaluation

Version 2.0

Version	Date	Update
1.0	5 March 2026	Original
2.0	7 May 2026	Updated following CAA feedback. (All changes in blue text)

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Appendix A – Options for Design Principle Evaluation

Appendix B– Design Principle Evaluation

Stage 1 Submission Document – Appendix A - Stakeholder Engagement Correspondence & Material
Stage 1 Submission Document – Appendix B - Stakeholder Feedback

1. Design Principle Evaluation - Methodology

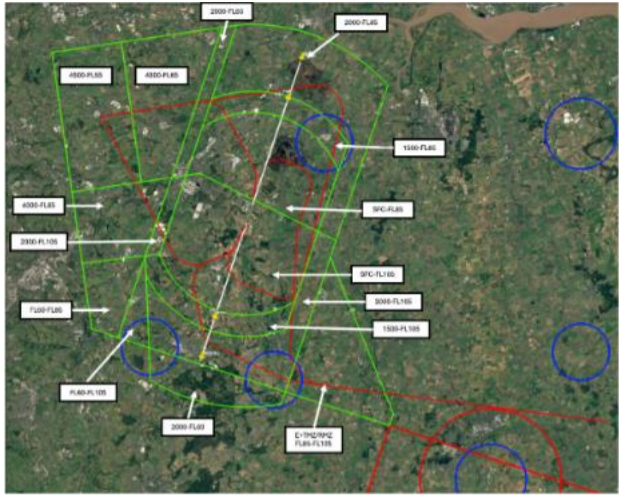
DP#	Design Principle	DP Component	APPROACH TO EVALUATION	MEETS	PARTIALLY MEETS	DOES NOT MEET
DP1	The airspace change proposal must maintain a high standard of safety and should seek to enhance current levels of safety.	Safety of traffic inside CAS	It is not possible to understand whether the option <i>enhances</i> the current levels of safety for an operation that doesn't currently exist. In terms of <i>maintaining</i> a high standard of safety, this assessment considers whether the option has any characteristics that could result in an intolerable safety risk materialising inside CAS.	No safety risks identified at this time that are considered to be intolerable.	Issues identified that will require further safety assurances which seem achievable at this stage	Issues identified that would be unlikely to be able to be mitigated
		Safety of traffic outside CAS	This assessment considers whether the option has any characteristics that could result in an intolerable safety risk materialising <i>outside</i> CAS.	No safety risks identified at this time that are considered to be intolerable.	Issues identified that will require further safety assurances which seem achievable at this stage	Issues identified that would be unlikely to be able to be mitigated
OVERALL DP EVALUATION (Any mixture of Met, Partly met, not met = Partly met). If any assessment in this category is found to not maintain a high standard of safety, the evaluation overall becomes Not Met).						
DP2	The airspace change proposal should not be inconsistent with relevant legislation, the CAA's airspace modernisation strategy or Secretary of State and CAA's policy and guidance.	SARG Policy 126: Policy for the Design Controlled Airspace Structures	This assessment considers the extent to which the option ensures the amount of controlled airspace is the minimum required to maintain a high standard of air safety and, subject to overriding national security or defence requirements, that the needs of all airspace users is reflected on an equitable basis.	Option is considered to use the minimum volume of CAS required.	N/A	Option uses more CAS than is required.
		Policy for the Classification of Controlled Airspace	This assessment considers the extent to which the option proposes the least restrictive classification of airspace to secure the most efficient use of airspace consistent with the safe operation and expeditious flow of air traffic. In particular, CTA, including those in the vicinity of certain aerodromes where an ATC service is provided to aerodrome traffic but where airspace classes A to D cannot be justified, may be notified as Class E airspace	All CTA classifications lower than Class D	Some CTA classifications lower than Class D	No CTA classifications lower than Class D
		CAP1711 Airspace Modernisation Strategy Strategic objectives: – Maintaining and, where possible, improving the UK's high levels of aviation safety	This objective of the AMS is assessed in mandatory DP1. Within the DPE, to avoid repetition, we will not repeat the text, however we will include the red/amber/green overall outcome from the DP1 assessment so that it is included in the overall assessment of DP2.	See DP1	See DP1	See DP1
		CAP1711 Airspace Modernisation Strategy Strategic objectives: – Integration of diverse users – including needs of defence and security ¹	This assessment considers the extent to which the option satisfies the known requirements of commercial operators. (Note as we progress through the process there will be further phases of engagement/consultation with commercial operators to understand further their requirements)	The option is expected to meet the requirements of commercial operators	The option is expected to meet the requirements of operators however further mitigations may be required.	The option is not expected to meet the requirements of operators
			This assessment considers the extent to which the option satisfies the known requirements of the military and the interests of national security. (Note as we progress through the process there will be further phases of engagement/consultation with the military to understand further their requirements)	The option is not expected to affect defence and security objectives. Military operations within the vicinity of DSA are not expected to be impacted, or impacts have been identified that are expected to be mitigated.	The option is not expected to affect defence and security objectives. Military operations within the vicinity of DSA are expected to be impacted (not prohibitively). The option does not offer the opportunity to minimise impacts as much as possible.	The option is expected to affect defence and security objectives and / or is expected to have prohibitive impacts on the military.
			This assessment considers the extent to which the option satisfies the known requirements of General Aviation airspace users. (Note as we progress through the process there will be further phases of engagement/consultation with General Aviation stakeholders to understand further their requirements). In particular, this assessment considers the extent to which the option meets CAA's Future structure of airspace vision as set out in Chapter 5 of CAP1711. This vision includes: - Increased use of Class E with a TMZ in other areas to enable air traffic control provision to IFR while minimising impact to VFR. - Class E airspace will normally be co-located with a TMZ to enable the additional safety net of a recognised air traffic environment where cooperative surveillance systems may be used in the management of such airspace. - Class E is to be notified where a recognised air traffic environment is necessary to support low complexity and/or low density IFR operations. - Class E may be notified for certain airways (or portions thereof), or for CTA in the vicinity of certain aerodromes where an air traffic control service is provided to aerodrome traffic but where airspace Classes A to D cannot be justified.	Option maximises use of Class E airspace co-located with TMZ	Option proposes some use of Class E airspace co-located with TMZ	Option has no use of Class E airspace co-located with TMZ.
CAP1711 Airspace Modernisation Strategy Strategic objectives: – Simplification – reducing complexity and improving efficiency	This assessment considers how the options aim to simplify the airspace by reducing complexity and creating efficiency through systemisation.	The option offers full systemisation of arrivals and departures.	The option offers part systemisation of arrivals and departures.	The option does not offer any systemisation.		

¹ CAP1711 also refers to new / rapidly developing airspace users. There is currently little regulatory guidance around the incorporation of new / rapidly developing airspace users such as remotely piloted aircraft systems, advanced air mobility, spacecraft, and high altitude platform systems. For the purposes of this assessment, we have assumed that minimising the amount of CAS would benefit these users and therefore this is assessed as part of the assessment of SARG Policy 126: Policy for the Design Controlled Airspace Structures shown above. (Note as we progress through the process there will be further phases of engagement/consultation with new / rapidly developing users to understand further their requirements)

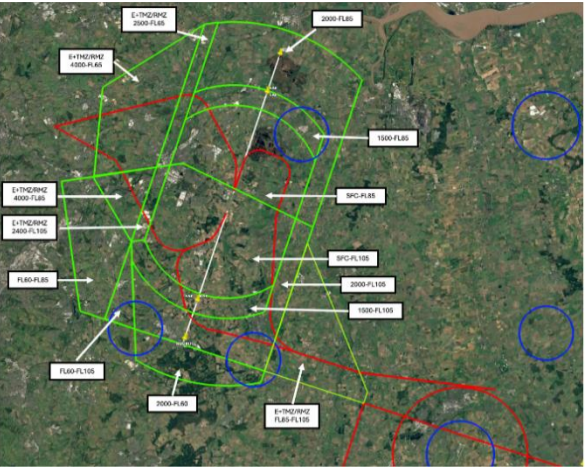
DP#	Design Principle	DP Component	APPROACH TO EVALUATION	MEETS	PARTIALLY MEETS	DOES NOT MEET
		CAP1711 Airspace Modernisation Strategy Strategic objectives: – Environmental sustainability – an overarching principle applied through all modernisation activities, in accordance with the Government’s environmental objectives	This objective of the AMS is assessed in mandatory DP3. Within the DPE, to avoid repetition, we will not repeat the text, however we will include the overall red/amber/green outcomes from the DP3 assessment so that it is included in the overall assessment of DP2.	See DP3	See DP3	See DP3
OVERALL DP EVALUATION (Any mixture of Met and partly met, = partly met. If any assessment in this category is found to be inconsistent with relevant legislation, the CAA’s airspace modernisation strategy or Secretary of State and CAA’s policy and guidance, the evaluation overall becomes Not Met).						
DP3	The airspace change proposal should deliver the Government’s key environmental objectives with respect to air navigation as set out in the Government’s Air Navigation Guidance 2017.	The government’s key environmental objectives (para 1.2 a) Limit and, where possible, reduce the number of people in the UK significantly affected by adverse impacts from aircraft noise	<p>The government has laid out the altitude-based priorities (ANG2017) which should be taken into account when considering the potential environmental impact of airspace changes. With regards to noise the ANG (para 3.3) says to: <i>‘in the airspace from the ground to below 4,000 feet the government’s environmental priority is to limit and, where possible, reduce the total adverse effects on people’,</i></p> <p>The Lowest Observed Adverse Effect Level (LOAEL) is regarded as the point at which adverse effects begin to be seen on a community basis. The LOAEL is defined by L_{Aeq} daytime and nighttime contours which are modelled based on the number of movements, fleet mix, and position of the flight paths. Quantitative noise modelling, such as the L_{Aeq} contours, will not be undertaken until Stage 3 as part of the Full Options Appraisal.</p> <p>In the case of DSA, any option will lead to an increase in adverse effects compared to the baseline however this does not necessarily mean that the option does not meet this objective (and therefore this design principle) as it’s important to note that the objective is to ‘limit, and where possible reduce’.</p> <p>When arriving, aircraft are required to be lined up with the extended runway centreline as they descend. This is called the final approach. It is not expected that LOAEL contours will extend out far enough to be affected by arrival flight paths beyond final approach.</p> <p>This evaluation therefore considers how the design of the departure routes within an option, aims to avoid population densities under initial climb where there is scope to influence the shape of the LOAEL contours.</p>	Full consideration has been given to SID flight path placement to attempt to limit adverse effects from aircraft noise	Some consideration has been given to SID flight path placement to attempt to limit adverse effects from aircraft noise	No consideration has been given to SID flight path placement to attempt to limit adverse effects from aircraft noise
		The government’s key environmental objectives (para 1.2 b) Ensure that the aviation sector makes a significant and cost-effective contribution towards reducing global emissions	<p>The government has laid out the altitude-based priorities (ANG2017) which should be taken into account when considering the potential environmental impact of airspace changes. With regards to CO₂ emissions, the ANG (para 3.3) states “in the airspace at or above 4,000 feet to below 7,000 feet, the environmental priority should continue to be minimising the impact of aviation noise in a manner consistent with the government’s overall policy on aviation noise, unless the CAA is satisfied that the evidence presented by the sponsor demonstrates this would disproportionately increase CO₂ emissions.</p> <p>The priorities then go onto say ‘In the airspace at or above 7,000 feet, the CAA should prioritise the reduction of aircraft CO₂ emissions and the minimising of noise is no longer the priority’</p> <p>This evaluation considers whether the flight paths above 4000ft are disproportionately increasing CO₂ emissions in order to minimise noise impacts 4-7000ft. As DSA’s SIDs are proposed to climb above 7000ft, this assessment considers flight efficiency above 7000ft too, within the constraints of other requirements such as the CAA’s CAS containment policy.</p>	No flight paths above 4000ft are disproportionately increasing CO ₂ emissions in order to minimise noise impacts.	Some flight paths above 4000ft are disproportionately increasing CO ₂ emissions in order to minimise noise impacts.	All flight paths above 4000ft are disproportionately increasing CO ₂ emissions in order to minimise noise impacts.
		The government’s key environmental objectives (para 1.2 c) Minimise local air quality emissions and in particular ensure that the UK complies with its international obligations on air quality.	An evaluation of whether flight paths will overfly any AQMAs below 1000ft.	No flight paths overfly any AQMAs below 1000ft	Some flight paths overfly an AQMA below 1000ft	All flight paths overfly AQMAs below 1000ft
		OVERALL DP EVALUATION (Any mixture of Met and partly met = partly met. If any assessment in this category is found to not deliver the Government’s key environmental objectives, the evaluation overall becomes Not Met).				
DP4	The airspace change proposal should consider the impacts on air navigation service providers and other aviation stakeholders such as nearby airport operators and other airspace users.	N/A	Interactions between DSA arrivals and departures and other airports published arrivals and departures, ATZs, MATZ, Danger areas (Manchester, Leeds).	Option has no impact on ANSPs, airport operators or other airspace users	Option will have some impact on ANSPs, airport operators or other airspace users	Option will clearly have a significant detrimental impact on ANSPs, airport operators or other airspace users
DP5	The airspace change proposal should not modify DSA’s previous NPRs unless required for safety or airspace integration purposes.	N/A	Whether DSAs SIDs remain fully, partly or not contained within their extant NPRs.	No changes at all required to extant NPRs	Some changes may be required to extant NPRs	Significant changes required to extant NPRs

DP#	Design Principle	DP Component	APPROACH TO EVALUATION	MEETS	PARTIALLY MEETS	DOES NOT MEET
DP6	Any airspace structure(s) should be of the minimum size and lowest classification needed to achieve its aims to minimise disruption to, and maximise integration with, other airspace users.	Size of controlled airspace volume	This assessment considers the extent to which the option ensures the amount of controlled airspace is the minimum required to maintain a high standard of air safety and, subject to overriding national security or defence requirements, that the needs of all airspace users is reflected on an equitable basis.	Option is considered to use the minimum volume of CAS required	N/A	Option uses more CAS than is required
		Classification of airspace volume	This assessment considers the extent to which the option proposes the least restrictive classification of airspace to secure the most efficient use of airspace consistent with the safe operation and expeditious flow of air traffic. In particular, CTA, including those in the vicinity of certain aerodromes where an ATC service is provided to aerodrome traffic but where airspace classes A to D cannot be justified, may be notified as Class E airspace.	All CTA classifications lower than Class D	Some CTA classifications lower than Class D	No CTA classifications lower than Class D
		Maximise integration	This assessment considers the extent to which the option proposes Class E airspace in combination with the smallest volume of controlled airspace.	Option maximises use of Class E airspace and minimises the volume of controlled airspace	Option proposes some use of Class E airspace and minimises the volume of controlled airspace	Option has no use of Class E airspace and/or does not minimise the volume of controlled airspace
		OVERALL DP EVALUATION (Any mixture of Met, Partly met, not met = Partly met)				

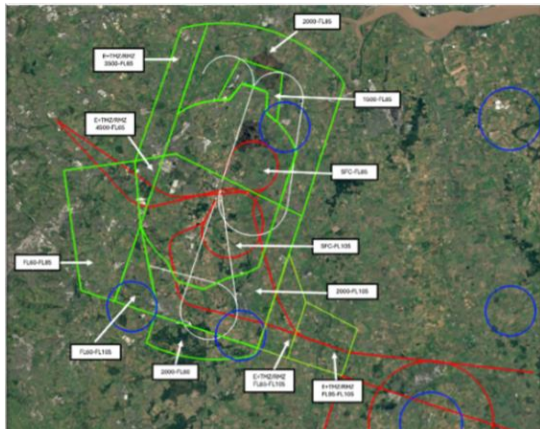
2. Design Principle Evaluation - Option 1

Design Principle Evaluation		Option No: 1					
Option 1		Accept / Reject					
		<p>Option 1 proposes to reinstate the same controlled airspace structure and flight procedures that were in operation before the airport closed in 2022. The reinstated airspace would include the Doncaster Sheffield Control Zone (CTR) and a series of Control Areas (CTAs). These were previously established as Class D airspace, providing air traffic control services for aircraft entering or operating within the area. The exception was CTA 13, which operated as Class E with an associated Transponder Mandatory Zone (TMZ) and Radio Mandatory Zone (RMZ) to ensure appropriate surveillance and communications for all users accessing that segment of airspace.</p>					
<p>DP1: The airspace change proposal must maintain a high standard of safety and should seek to enhance current levels of safety.</p>		NOT MET	PARTIAL	MET			
<p>Safety of Traffic inside CAS:</p> <p>As the airspace and the Instrument Flight Procedures were safely in operation up to 2022, no safety risks have been identified at this time that are considered to be intolerable. CAA's conclusion in the 2017 PIR of this airspace (noting this was prior to the implementation of PBN SIDs) was that "The implementation of Class D at RHADS has achieved its stated aims with regard to protecting CAT flights operating in and out of the airport, improving the operations of airspace users to and from the airport, and minimising the environmental impacts of those operations upon local communities. The introduction of SIDs and STARs and connectivity to the airways structure contained with Class D airspace undoubtedly reduces controller workload, and planning complexity for pilots and ATC alike"</p>		<p>Safety of Traffic Outside CAS:</p> <p>No safety risks identified at this time that are considered to be intolerable. CAA's conclusion in the 2017 PIR stated that "whilst the CAA acknowledges the comments from both GA and gliders raising safety concerns from the effect of funnelling, and the impact of potentially having to plan to route around the airspace, these concerns have not manifested themselves in safety occurrences as since the implementation of the ACP AIRPROX reports in the RHADS local vicinity have decreased". As shown in our extended analysis of filed Airprox in the region, there is no evidence to show that there has been any reduction in Airprox events in the region since the closure of RHADS airspace.</p>					
<p>DP2: The airspace change proposal should not be inconsistent with relevant legislation, the CAA's airspace modernisation strategy or Secretary of State and CAA's policy and guidance.</p>		NOT MET	PARTIAL	MET			
<p>SARG Policy 126: Policy for the Design Controlled Airspace Structures (CAS Volume)</p> <p>There is the potential for this option to have less CAS whilst achieving a very similar design (see Option 2). Therefore, this option has been assessed as not meeting this policy.</p>	<p>Policy for the Classification of Controlled Airspace</p> <p>Some CTA classifications lower than Class D.</p>	<p>CAP1711 – Safety</p> <p>See DP1 (overall – met)</p>	<p>CAP1711 - Integration of diverse users - commercial</p> <p>This option is expected to meet the requirements of commercial operators as it was previously in operation at DSA.</p>	<p>CAP1711 - Integration of diverse users - Military</p> <p>The option is not expected to affect defence and security objectives however feedback from the MoD has said there will be impacts to military operations. The option does not offer the opportunity to minimise impacts as much as possible.</p>	<p>CAP1711 - Integration of diverse users - GA</p> <p>The option proposes some use of Class E airspace co-located with TMZ. CTA 13 would be Class E with TMZ/RMZ for ROGAG departures only in between leaving Class D and joining Class A airspace</p>	<p>CAP1711- Simplification – reducing complexity and improving efficiency</p> <p>The option offers part systemisation of departures however arrivals will be vectored to final approach.</p>	<p>CAP1711- Environmental</p> <p>See DP3 (overall – met)</p>
<p>DP3: The airspace change proposal should deliver the Governments key environmental objectives with respect to air navigation as set out in the Government's Air Navigation Guidance 2017.</p>		NOT MET	PARTIAL	MET			
<p>Limit and, where possible, reduce the number of people in the UK significantly affected by adverse impacts from aircraft noise.</p> <p>RWY 02 SIDs positioned to route between Stainforth/Hatfield and Barnby Dun/Kirk Sandall/Edenthorpe/Armthorpe (although LOAEL not expected to extend this far) and to avoid Lindholme.</p> <p>RWY 20 SIDs offset to avoid Bawtry.</p>		<p>Ensure that the aviation sector makes a significant and cost-effective contribution towards reducing global emissions</p> <p>After 4000ft, all SIDs route towards their airway whilst still seeking to avoid population densities without incurring any significant extra mileage. The RWY 02 ROGAG SID would be positioned more directly towards ROGAG above 4000ft and still avoid populations, however in order to also meet CAA policy on controlled airspace structures, the route incurs additional track miles.</p>		<p>Minimise local air quality emissions and in particular ensure that the UK complies with its international obligations on air quality.</p> <p>No AQMAs will be overflown below 1000ft.</p>			
<p>DP4: The airspace change proposal should consider the impacts on air navigation service providers and other aviation stakeholders such as nearby airport operators and other airspace users</p>		NOT MET	PARTIAL	MET			
<p>Option will clearly have some impact on ANSPs, airport operators or other airspace users. This option was previously supported by in the region of 20 LoAs with other airspace users and ANSPs with 24/7 ATC coverage facilitating access for a significant proportion of GA. The 2017 CAA PIR stated that requests for access to the controlled airspace were never refused. Leeds Bradford Airport stated in the 2017 PIR that it fully supported the RHADS airspace and used it daily to facilitate descent profiles to Runway 32, and that the airspace sharing and coordination procedures in place worked successfully. It cannot be claimed that this option would have a significant detrimental impact on others, given the findings of the 2017 PIR and that the radar analysis from 2025 showed that the airspace users most significantly using this airspace were operations within the Netherthorpe, Retford Gamston and Sandtoft ATZs and LoAs will be achievable for their continued operations.</p>							
<p>DP5: The airspace change proposal should modify DSA's previous NPRs unless required for safety or airspace integration purposes.</p>		NOT MET	PARTIAL	MET			
<p>No changes at all required to extant NPRs</p>							
<p>DP6: Any airspace structure(s) should be of the minimum size and lowest classification needed to achieve its aims to minimise disruption to, and maximise integration with, other airspace users.</p>		NOT MET	PARTIAL	MET			
<p>Size of controlled airspace volume:</p> <p>As Option 2 suggests less CAS could be feasible than in this option whilst having a very similar SID and IAP design and still achieving DSA's aims, this option is considered to not meet this design principle.</p>	<p>Classification of airspace volume:</p> <p>Some CTA classifications lower than Class D.</p>		<p>Maximise Integration:</p> <p>Given the majority of CTA in this option being Class D in combination with a reduction in volume being thought to be achievable, this option is evaluated as not maximising integration.</p>				

3. Design Principle Evaluation - Option 2

Design Principle Evaluation		Option No: 2					
Option 2		Accept / Reject					
		<p>Option 2 would be similar to the previous notified airspace arrangements at the time of the airport's closure in 2022, but not identical. If this option were to be progressed, there could be further refinements identified but at this stage, the following adjustments have been identified:</p> <ul style="list-style-type: none"> - The addition of an earlier FL60 point on the RWY02 UPTON SID to enable a reduction in the volume of controlled airspace to the north-west. - A new SID termination point to the SW of UPTON for UPTON SIDs - Remove of the RWY20 left turn UPTON SID - Adjustment to the ROGAG SIDs to ensure at least 2nm containment from the edge of controlled airspace <p>Revised CTA boundaries to the west of the CTR to reduce the overall volume together with a proposed reduction in classification from Class D to Class E+ for some CTAs</p>					
<p>DP1: The airspace change proposal must maintain a high standard of safety and should seek to enhance current levels of safety.</p>		NOT MET	PARTIAL	MET			
<p>Safety of Traffic inside CAS: This option proposes only some minor adjustments to the Instrument Flight Procedures in operation previously and those changes are not in the initial climb out or the first turn, no safety risks have been identified at this time that are considered to be intolerable.</p>		<p>Safety of Traffic Outside CAS: Given that the previous 2022 airspace volume and classification did not result in an increase in safety occurrences in the region and this option proposes a reduction in the volume and classification of the controlled airspace, no safety risks have been identified at this time that are considered to be intolerable</p>					
<p>DP2: The airspace change proposal should not be inconsistent with relevant legislation, the CAA's airspace modernisation strategy or Secretary of State and CAA's policy and guidance.</p>		NOT MET	PARTIAL	MET			
<p>SARG Policy 126: Policy for the Design Controlled Airspace Structures (CAS Volume) Option is considered to use the minimum volume of CAS required to achieve DSA's aims based on the SID and IAP designs in this option.</p>	<p>Policy for the Classification of Controlled Airspace Structures (CAS Volume) Some CTA classifications lower than Class D.</p>	<p>CAP1711 – Safety See DP1 (overall – met)</p>	<p>CAP1711 - Integration of diverse users - commercial This option is expected to meet the requirements of commercial operators as it is largely based on the previous DSA operation.</p>	<p>CAP1711 - Integration of diverse users - Military The option is not expected to affect defence and security objectives. There may be impacts to military operations however these have been minimised as much as possible within the constraints of the designs and CAA CAS requirements.</p>	<p>CAP1711 - Integration of diverse users - GA Option maximises use of Class E with TMZ/RMZ for all ROGAG and UPTON departures in-between leaving Class D and joining Class A airspace.</p>	<p>CAP1711-Simplification – reducing complexity and improving efficiency The option offers part systemisation of departures however arrivals will be vectored to final approach.</p>	<p>CAP1711-Environmental See DP3 (overall – met)</p>
<p>DP3: The airspace change proposal should deliver the Governments key environmental objectives with respect to air navigation as set out in the Government's Air Navigation Guidance 2017.</p>		NOT MET	PARTIAL	MET			
<p>Limit and, where possible, reduce the number of people in the UK significantly affected by adverse impacts from aircraft noise. RWY 02 SIDs positioned to route between Stainforth/Hatfield and Barnby Dun/Kirk Sandall/Edenthorpe/Armthorpe although LOAEL not expected to extend this far and to avoid Lindholme. RWY 20 SIDs offset to avoid Bawtry.</p>	<p>Ensure that the aviation sector makes a significant and cost-effective contribution towards reducing global emissions After 4000ft, all SIDs route towards their airway whilst still seeking to avoid population densities without incurring and significant extra mileage. The RWY 02 ROGAG SID would be positioned more directly towards ROGAG above 4000ft and still avoid populations, however in order to also meet CAA policy on controlled airspace structures, the route incurs additional track miles.</p>		<p>Minimise local air quality emissions and in particular ensure that the UK complies with its international obligations on air quality. No AQMAs will be overflown below 1000ft.</p>				
<p>DP4: The airspace change proposal should consider the impacts on air navigation service providers and other aviation stakeholders such as nearby airport operators and other airspace users.</p>		NOT MET	PARTIAL	MET			
<p>Option will clearly have some impact on ANSPs, airport operators or other airspace users though with less controlled airspace and with reduced classifications, the impact could be expected to be less than with Option 1.</p>							
<p>DP5: The airspace change proposal should modify DSA's previous NPRs unless required for safety or airspace integration purposes.</p>		NOT MET	PARTIAL	MET			
<p>No changes at all required to extant NPRs.</p>							
<p>DP6: Any airspace structure(s) should be of the minimum size and lowest classification needed to achieve its aims to minimise disruption to, and maximise integration with, other airspace users.</p>		NOT MET	PARTIAL	MET			
<p>Size of controlled airspace volume: Option is considered to use the minimum volume of CAS required to achieve DSA's aims based on the SID and IAP designs in this option.</p>	<p>Classification of airspace volume: Some CTA classifications lower than Class D.</p>		<p>Maximise Integration: Option maximises use of Class E for all ROGAG and UPTON departures in-between leaving Class D and joining Class A airspace and is also considered to use the minimum volume of CAS required to achieve DSA's aims based on the SID and IAP designs in this option.</p>				

4. Design Principle Evaluation - Option 3

Design Principle Evaluation		Option No: 3					
Option 3		Accept / Reject					
 <p>Option 3 uses RNP with RF to create a very different proposal which attempts to:</p> <ul style="list-style-type: none"> - Reduce the numbers of people affected by noise and overflight and remain aligned with DSA's existing NPRs - Contain flight paths with the smallest amount of controlled airspace - Position departures to the south of DSA as much as technically possible to aid existing and future MTMA engagement. - Enhance systemisation for both DSA ATC and the surrounding MTMA network design 							
<p>DP1: The airspace change proposal must maintain a high standard of safety and should seek to enhance current levels of safety.</p>		NOT MET	PARTIAL	MET			
<p>Safety of Traffic inside CAS: This option proposes very new Instrument Flight Procedures including use of Radius-to-Fix on SIDs and Approaches and a different concept of operation for ATC compared to in 2022. Further safety assurances will therefore be required which seem achievable at this stage</p>		<p>Safety of Traffic Outside CAS: Given that the previous 2022 airspace volume and classification did not result in an increase in safety occurrences in the region and this option proposes a reduction in the volume and classification of the controlled airspace, no safety risks have been identified at this time that are considered to be intolerable.</p>					
<p>DP2: The airspace change proposal should not be inconsistent with relevant legislation, the CAA's airspace modernisation strategy or Secretary of State and CAA's policy and guidance.</p>		NOT MET	PARTIAL	MET			
<p>SARG Policy 126: Policy for the Design Controlled Airspace Structures (CAS Volume) Option is considered to use the minimum volume of CAS required to achieve DSA's aims based on the SID and IAP designs in this option.</p>	<p>Policy for the Classification of Controlled Airspace Some CTA classifications lower than Class D.</p>	<p>CAP1711 – Safety See DP1 (overall – partially met)</p>	<p>CAP1711 - Integration of diverse users - commercial This option is expected to meet the requirements of commercial operators. Some operators may not be currently equipped to fly RNP with RF procedures although equipment is expected to increase in future as aircraft fleets are modernised. This will be mitigated through the availability of omni directional departures and vectors to final approach.</p>	<p>CAP1711 - Integration of diverse users - Military The option is not expected to affect defence and security objectives. There may be impacts to military operations however these have been minimised as much as possible within the constraints of the designs and CAA CAS requirements.</p>	<p>CAP1711 - Integration of diverse users - GA Option maximises use of Class E with TMZ/RMZ for all ROGAG and UPTON departures in-between leaving Class D and joining Class A airspace.</p>	<p>CAP1711- Simplification – reducing complexity and improving efficiency The option offers full systemisation of arrivals and departures. Although some aircraft may not currently be equipped to fly RNP with RF procedures, fleet equipment is expected to increase in future leading to almost full systemisation of the DSA operation.</p>	<p>CAP1711- Environmental See DP3 (overall – met)</p>
<p>DP3: The airspace change proposal should deliver the Governments key environmental objectives with respect to air navigation as set out in the Government's Air Navigation Guidance 2017.</p>		NOT MET	PARTIAL	MET			
<p>Limit and, where possible, reduce the number of people in the UK significantly affected by adverse impacts from aircraft noise. RWY 02 SIDs completely avoid populations to the NE within the LOAEL, still turning before Lindholme. RWY 20 SIDs offset to avoid Bawtry and will also split before Harworth, potentially further limiting adverse effects to this region.</p>	<p>Ensure that the aviation sector makes a significant and cost-effective contribution towards reducing global emissions RWY 20 SID to the west above 4000ft does have a track extension to avoid overflight of Rossington and the City of Doncaster which adds 2nm to the route, but this also enables aircraft to climb to require less controlled airspace and is therefore not considered to be a disproportionate increase. RWY 02 SID to the west above 4000ft does have a track extension to avoid overflight of Rossington and the City of Doncaster which adds 1nm to the route, but this also enables aircraft to climb to require less controlled airspace and is therefore not considered to be a disproportionate increase. The RWY 02 ROGAG SID would be positioned more directly towards ROGAG above 4000ft and still avoid populations, however in order to also meet CAA policy on controlled airspace structures, the route incurs additional track miles and is therefore not considered to be a disproportionate increase.</p>		<p>Minimise local air quality emissions and in particular ensure that the UK complies with its international obligations on air quality. No AQMAs will be overflown below 1000ft.</p>				
<p>DP4: The airspace change proposal should consider the impacts on air navigation service providers and other aviation stakeholders such as nearby airport operators and other airspace users.</p>		NOT MET	PARTIAL	MET			
<p>Option will clearly have some impact on ANSPs, airport operators or other airspace users though with less controlled airspace and with reduced classifications, the impact could be expected to be less than with Options 1 and 2. In addition to reduced volumes and classification, repositioning DSA SIDs to the south of the airport will reduce the impact on Leeds Bradford Airport and the Netherthorpe ATZ is wholly contained within Class G airspace. This option would appear to aid integration with both the existing and future MTMA network design.</p>							
<p>DP5: The airspace change proposal should modify DSA's previous NPRs unless required for safety or airspace integration purposes.</p>		NOT MET	PARTIAL	MET			
<p>Some changes may be required to extant NPRs. The RWY 02 UPTON/ROGAG SIDs and RWY 20 ROGAG follow the centre of the NPR but a very minor adjustment might be required to the end of the NPR at 3000ft.</p>							
<p>DP6: Any airspace structure(s) should be of the minimum size and lowest classification needed to achieve its aims to minimise disruption to, and maximise integration with, other airspace users.</p>		NOT MET	PARTIAL	MET			
<p>Size of controlled airspace volume: Option is considered to use the minimum volume of CAS required to achieve DSA's aims based on the SID and IAP designs in this option.</p>	<p>Classification of airspace volume: Some CTA classifications lower than Class D.</p>		<p>Maximise Integration: Option maximises use of Class E for all ROGAG and UPTON departures in-between leaving Class D and joining Class A airspace and is also considered to use the minimum volume of CAS required to achieve DSA's aims based on the SID and IAP designs in this option.</p>				