

London Airspace Management Programme 2, Deployment 1.1

Gateway Documentation Stage 3: Consult Step 3D: Collate and Review Responses



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Roles

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References

Ref No	Description	Hyperlinks
1	CAP1711 CAA Airspace Modernisation Strategy	Link to CAP1711
2	LD1.1 Statement of Need	Link to SoN
3	FRA D2 ACP CAA Portal page	Link to CAA portal
4	CAP1616 CAA Airspace Change Process	Link to CAP1616
5	Stage 3 Consultation Strategy Document	Consultation Strategy
6	Stage 3 Consultation Document	Consultation Document
7	Consultation FAQ document	FAQ document
8	FRA D2 Stage 3D Consultation Response report	Link to CAA portal

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1. Introduction

- 1.1 This Airspace Change Proposal (ACP) is sponsored by NATS. Today's air traffic services (ATS) route network has evolved over time and does not exploit modern navigation technology. The objective of this project is to update the route network in accordance with the CAA's Airspace Modernisation Strategy (AMS) (Ref 1) using Performance Based Navigation (PBN). This will provide benefits in capacity while minimising environmental impacts. The airspace affected is between 7,000-24,500ft.
- 1.2 The London Airspace Modernisation Programme 2 Deployment 1.1 (LD1.1) airspace change proposal (ACP) is the first stage of modernising the UK's airspace route network above 7,000ft across Wales and southwest England. LD1.1 is included in the Future Airspace Strategy Implementation - South (FASI-S) programme of changes and is part of a simpler, safer and more fuel-efficient future for air travel.
- 1.3 The desired outcome is for "Optimal alignment and connectivity of the ATS route network with each airport's airspace structures, such that the network capacity should not be a significant constraint on airport capacity and environmental impacts are minimised." (LD1.1 Statement of Need, Ref 2).
- 1.4 In a separate ACP, NATS is also proposing to implement Free Route Airspace (FRA) in the South-West area of the UK Upper Information Region (UIR) (airspace from 24,500ft – 66,000ft) (Ref 3). This is Deployment 2 of the UK FRA programme.
- 1.5 These ACPs are interdependent and cover a common geographic region, as shown in Figure 1. Consultation has been conducted concurrently and it is proposed the airspace changes will be implemented simultaneously.
- 1.6 This document forms part of the document set required in accordance with the requirements of the CAP1616 airspace change process (Ref 4). It summarises all consultation responses in accordance with the "We asked, you said" stage of "We asked, you said, we did".
- 1.7 This document aims to provide adequate evidence to satisfy: Stage 3, Step 3D Categorisation of responses, for the LD1.1 deployment.

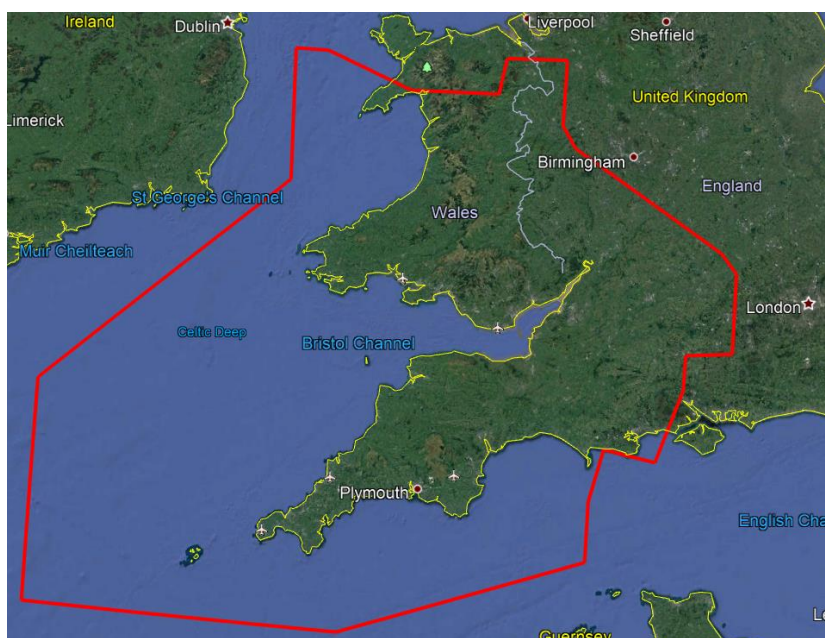


Figure 1 Proposed deployment area for LD1.1/FRA D2

2. Consultation

- 2.1 NATS has completed a consultation on the proposed airspace change options in the LD1.1 Deployment area. This was focused on the level at which these changes are implemented – systemised routes with Free Route Airspace (FRA) above FL305; or systemised routes with FRA above FL245.
- 2.2 The timeline for this proposal is for a target implementation date not before 23rd March 2023. This fits in with the overall NATS change programme for both interdependent ACPs, including target AIP and AIRAC dates. The modernisation and systemisation of airspace across the London Airspace Modernisation Programme is targeted to be complete not before 2028. This consultation was related to the proposed Deployment 1.1 airspace only.

Consultation Activity:

- 2.3 The consultation strategy document (Ref 5) describes the focus of the consultation including previous engagement activities completed, the audience of the consultation and justification behind the consultation strategy.
- 2.4 A consultation document (Ref 6) was prepared for the proposed airspace change options and provided to stakeholders. This includes a description of the current airspace, the proposed changes and impacts of the proposal.
- 2.5 A targeted group of aviation stakeholders was specifically engaged for this consultation (referred to as 'the stakeholders' within this document). These included Air Navigation Service Providers (ANSPs) which border the NATS London UIR; Airlines; Airports; Computer Flight-planning Service Providers (CFSPs); National Air Traffic Management Advisory Committee (NATMAC) members; and the Ministry of Defence (MoD). These are all listed in Appendix A: List of Stakeholders.
- 2.6 A description of engagement activities and reasoning behind why these specific stakeholders were targeted is presented in the Consultation Strategy (Ref 5). Additional agencies identified early in the consultation period were added to the stakeholder list and targeted as described below.
- 2.7 The consultation targeted the stakeholders as described above but was not exclusive to this list. Responses from any individual or organisation were encouraged and welcomed.
- 2.8 The consultation was conducted via the online portal which included an overview into the proposed change options; the consultation document available for download; a short introductory video; an interactive map; flight path profiles for some airports; FAQs; and the survey which allowed users to submit feedback. The consultation materials can be found on the portal here: <https://consultations.airspacechange.co.uk/nats/ld1-1/>
- 2.9 The stakeholders were sent a notification email to inform them when the consultation was launched. This included information on how to respond via the online portal and that the consultation document (Ref 6) was available to download, along with other supporting documents, from the portal. See Annex A Engagement Evidence 1.
- 2.10 A list of the questions used in the online portal can be found in Appendix B – Online Portal Questions.
- 2.11 We included a link to the consultation portal on the NATS Customer Affairs website, which is used to exchange information between NATS and our customer airlines. We also added a link to the consultation portal on the NATS.aero website, which is available to the public. See Annex A Engagement Evidence 2 & 3.
- 2.12 The consultation commenced on 6th September 2021 and ended on 29th November 2021, a period of 12 weeks.
- 2.13 As set out in the consultation strategy, we tracked responses with follow-up emails to all targeted stakeholders who had not submitted a consultation response, at the mid-point and on the final week of the consultation, which included a link to the online consultation portal. This was to prompt

stakeholders for a response and ensure that the consultation strategy was achieved. See Annex A Engagement Evidence 4 & 5

- 2.14 Additional emails were sent to specifically targeted airlines who are high users of the airspace, reminding them of the consultation closing date and that their views were important to help inform the final proposed design.
- 2.15 One stakeholder made proactive contact seeking further information. NATS offered an individual meeting and provided details of the open webinar. Specific information requested was sent via email. See Annex A Engagement Evidence 6
- 2.16 A short video was produced which introduces stakeholders to the proposed changes. This was included in the midpoint email, and the consultation portal page, via this link: <https://vimeo.com/618933351/0155d4e30e>
- 2.17 We hosted a series of online video meetings (webinars) to give stakeholders the opportunity to engage directly with our experts. Video conferencing was the best way to achieve this, given social distancing and travel constraints caused by the pandemic. The webinar comprised a detailed presentation on both LD1.1 and FRA D2 proposed changes, and a Q&A which allowed any specific questions to be answered directly. These were then added to the FAQ document (Ref 3).
- 2.18 We held nine webinars with targeted stakeholder groups. We had 41 attendees within the cohort of stakeholders we actively targeted for engagement, as shown in Table 1:

Table 1 Webinar Stakeholder Engagement: High Interest/High Influence Stakeholders

Stakeholder Target Group	Number of Webinars	Number of Attendees	Attendees
Airlines	2	19	Aer Lingus, Air Transat, American Airlines, BA Cityflyer, British Airways, Delta Airways, EasyJet, Emirates, Etihad, FlyBe, JetBlue, Jet2, Malaysia Airlines, NetJets, Qatar Airways, Ryanair, TUI, United Airlines, Virgin Airlines
GA/BGA	1	2	BGA, GAA
Airports (High Interest/High Influence)	1	10	Heathrow, Southampton, Bournemouth, Luton, Stansted, Gatwick, London City, Manchester, Farnborough, Liverpool
Severn Group Airports	1	3	Bristol, Cardiff, Exeter
MoD	1	3	DAATM, QinetiQ, RAF 78 Sqn
Brest/IAA ANSP	2	2	Brest ACC, IAA ANSP
Cardiff ATC & Western Radar	1	2	Western Radar, Cardiff ATC
Total Targeted Webinars	9	41	

In the consultation strategy, we said we would hold a minimum of two open webinars. We held 3 Open Session webinars to which we invited all stakeholders and were open to any individual or organisation.

We kept a record of the stakeholders who had attended each session. In Week 10 we emailed the stakeholders who had not already attended a webinar with details of the final Open Session webinar held in Week 11 (this was Open Session 3).

We engaged with 28 stakeholders through these open webinars, as shown in Table 2 below. The CAA also attended an Open Session as an interested party.

Table 2 Webinar Stakeholder Engagement: Other Stakeholders

Stakeholder Target Group	Number of Webinars	Number of Attendees	Attendees
Open Sessions	3	29	<p>ANSPs: DSNA, Eurocontrol CFMU, ANS Finland, EANS Estonia, Eurocontrol, Isavia Iceland, LGS Latvia</p> <p>Airports: Southend, Biggin Hill, Swansea, Newquay, Brize Norton, Northolt, Ports of Jersey SATCO</p> <p>CFSPs: FlightKeys, Lido, Lufthansa Systems</p> <p>NATMAC: Association Remotely Piloted Aircraft Systems UK, British Airlines Pilots Association, British Helicopter Association, General Aviation Safety Council, Light Airlines Association, Low Fares Airlines</p> <p>Other: CAA, IATA, Spaceport Cornwall, Black Arrow Space Technologies, Space Wales, Aerospace Cornwall</p>

- 2.19 For the avoidance of doubt, none of these webinars produced direct feedback to the consultation because their purpose was to allow for two-way dialogue, answer participants' questions and encourage them to submit a response. However, the sessions provided useful feedback which we used to update the FAQs available as part of our consultation materials.
- 2.20 All webinars were recorded; these are available to the CAA upon request; however, they will not be published.
- 2.21 After each webinar, we sent a follow-up email to invitees/attendees for whom we had contact details to thank them for their attendance, including the link to both consultation pages to maximise the response conversion. See Annex A Engagement Evidence 7 & 8.
- 2.22 Responses have been managed and uploaded to the portal by the CAA.

3. Summary of Consultation Responses

- 3.1 There were 35 responses received in the 12-week consultation period. All responses were submitted via the online portal.
- 3.2 The responses have been analysed and themed. The categorisation of responses has been split into those which may impact final proposals and those which would not. This is summarised later, in Section 4 of this document.
- 3.3 Responses were received from 10 targeted airline stakeholders: Delta Airlines, Emirates Airlines, Flybe Ltd, DHL Air Ltd, Ryanair, Virgin Atlantic, TUI Airline, British Airways KLM Royal Dutch Airlines, American Airlines.
- 3.4 Responses were received from 3 targeted CFSPs: Boeing (Jeppesen), Flightkeys and Lufthansa Systems.
- 3.5 Responses were received from 3 ANSPs: IAA (Ireland); NAVIAIR (Denmark); and DSNA ACC Brest (France).
- 3.6 A response was received from the MoD, which included a supplementary document to support their response. See Annex A Engagement Evidence 9.
- 3.7 Thirteen airports responded: London Luton, Cornwall Newquay Airport, Ports of Jersey, Farnborough Airport, London City Airport, Exeter & Devon Airport, Bournemouth Airport, Bristol Airport, Stansted Airport, Manchester Airport, Cardiff Airport, Aberdeen Airport, Heathrow Airport. Heathrow Airport provided a supplementary document to support their response. See Annex A Engagement Evidence 10.
- 3.8 Two responses were received from targeted NATMAC stakeholders: British Helicopter Association (BHA) and British Gliding Association (BGA).
- 3.9 There were 3 further responses from agencies/individuals not specifically targeted:

CONSULTATION RESPONSES: OPTION PREFERENCE

- 3.10 Stakeholders were asked to indicate to what extent they agreed each option (Option 4/Option 6 – see Ref 2 for full option description) was an acceptable solution to modernising the LD1.1 airspace. Figure 2 shows the summary of Design Option preferences and shows there is support amongst stakeholders for both options, but Option 6 has stronger support than Option 4. A breakdown of all responses by stakeholders is in Appendix 3.

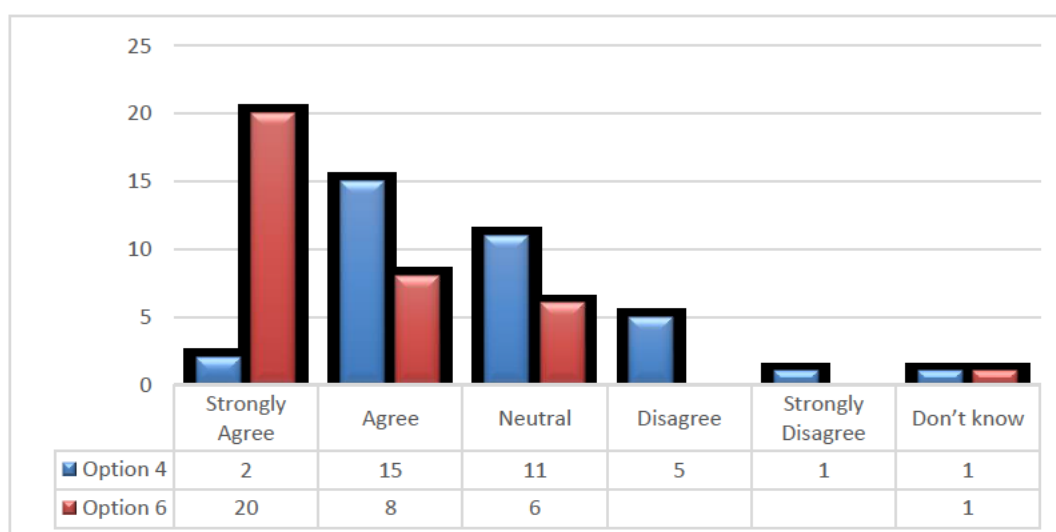


Figure 2 LD1.1 Stakeholder Design Option Ranked Preferences

- 3.11 Option 6 has 28 responses of support, with 20 Strongly Agree and 8 Agree, and 6 expressed no opinion. There were no responses which disagreed this was an acceptable solution.
- 3.12 Option 4 has 17 responses of support, with 2 Strongly Agree and 15 Agree; 11 indicating no opinion, and 6 indicating they disagreed/strongly disagreed with this option.
- 3.13 Stakeholders were asked to specify which option they preferred. Figure 3 shows Option 6 is the preferred solution, with 28 responses (80%) indicating such, and 7 responses stated they had no preference. There were no responses indicating a preference for Option 4.

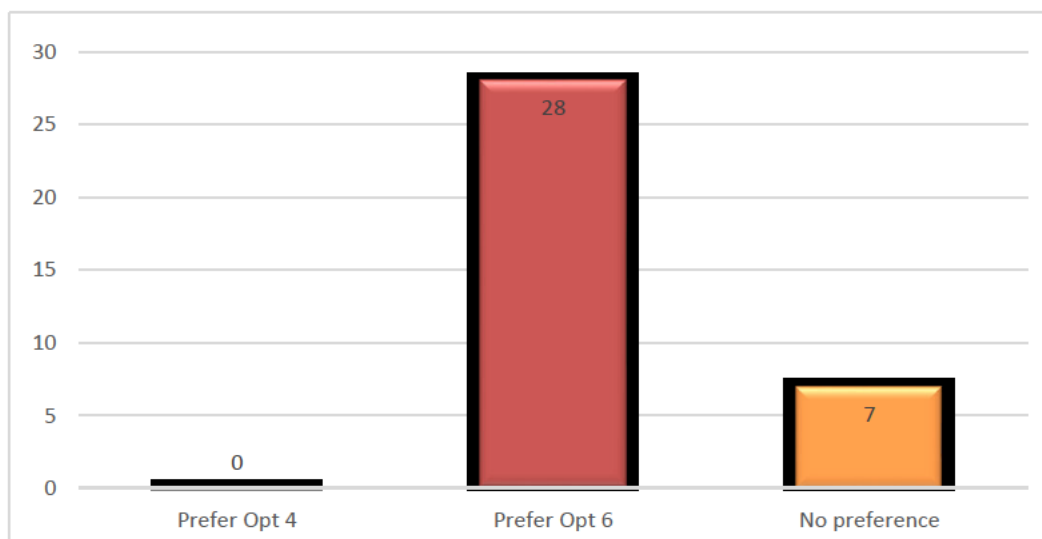


Figure 3 LD1.1 Stakeholder Preference of Option

- 3.14 A free text box was provided for comments to explain option preferencing. This was not mandatory; 22 responders provided commentary to rationalise their preference, with the theme of comments being that Option 6 optimises the potential for FRA, increases environmental benefits, reduces complexity, increases flexibility and capacity, and aligns with FRA introduced by other ANSPs. These comments are shown in Appendix 3 alongside the option preference by stakeholder.
- 3.15 Overall, it can be determined that stakeholders support the airspace change, and either prefer Option 6, or have no opinion.

CONSULTATION RESPONSES: ASSESSED IMPACT ON GENERAL AVIATION/SPORT USERS OF THE AIRSPACE

- 3.16 Stakeholders were asked for their view on the proposed benefits of the design on general aviation/sport aviation users, with a selectable ranking and feedback invited in a free text comment box.
- 3.17 Figure 4 shows that 3 strongly agreed that there would be a net beneficial impact, and 10 agreed. Most responders were neutral in their views (18 responders). Three didn't answer this question and 1 strongly disagreed.

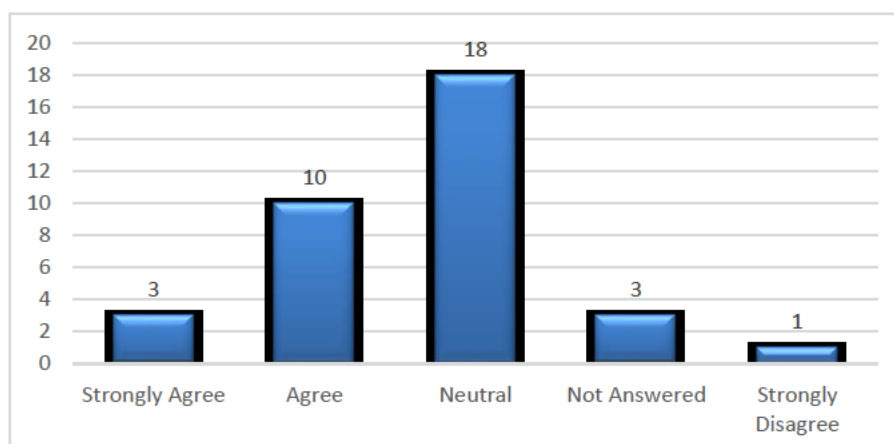
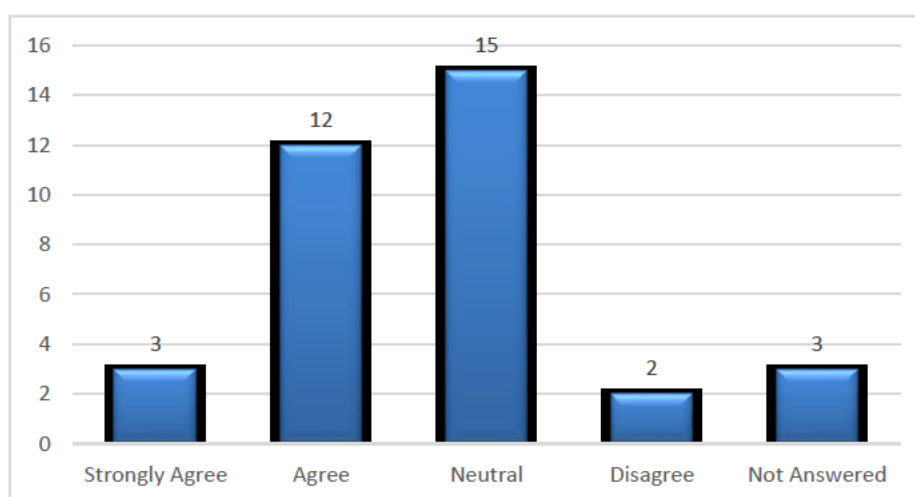


Figure 4 LD1.1 proposal will have a net beneficial impact on GA/sport aviation

- 3.18 There were 6 comments relating to this question. The general theme is that the proposed release of controlled airspace is beneficial to the general aviation community. The comments from the responder who selected 'strongly disagree' state that this is ONLY in respect of the raising of the base of the southern portion of Berry Head CTA from FL85 to FL105. This and other comments pertaining to the raising/lowering of CAS base levels are discussed in Section 4 below.
- 3.19 Overall, it can be determined that stakeholders believe the proposals are beneficial to GA/sport users, or they have no opinion.

CONSULTATION RESPONSES: ASSUMPTIONS ON CLIMB AND DESCENT GRADIENTS

- 3.20 Stakeholders were asked for their view on the climb and descent gradient assumptions for the FRA arrival/departure points, with a selectable ranking and a free text comment box.
- 3.21 Figure 5 shows that 3 strongly agreed with the assumptions, and 10 agreed. Most responders were neutral in their views (15 responders). Three didn't answer this question and 2 disagreed. Comments provided are discussed in Section 4 below.



3.22 Figure 5 Views on assumptions on climb and descent gradients

- 3.23 Overall, it can be determined that stakeholders agree with the assumptions made on climb and descent gradients, or they have no opinion. A small minority do not agree.

4. Categorisation of Consultation Responses and Themes

- 4.1 The responses received have been reviewed and categorised; some comments had several different elements. All comments have been included in this section – those provided as overall feedback, and those provided to the specific questions asked.
- 4.2 The responses and associated elements have been broken down into two types: those which may lead to changes of the proposed design and those which do not. These have been split out in Sections 4.5 and 4.6 below.
- 4.3 Six response elements were identified as having a potential impact on the final proposed design. These are summarised in Table 3, Section 4.5 below.
- 4.4 Twenty-five response elements were captured as not having an impact on the final proposed design. These are summarised in Table 3, Section 4.6.
- 4.5 Responses which may impact the final proposal

Table 3: The following 6 responses have the potential to impact on the proposed design:

No.	Response & ID	Summary of comments	Themes of comment	Potential impact on the proposal	NATS response/action
1	Brest ACC (direct engagement) LD1_19	Brest ACC wish NATS to introduce the new COPs 'SALCO Sud' and 'SALCO Nord' as part of this project, and not with a delayed implementation date as proposed in the consultation material (See Annex A Engagement Evidence 11)	Implementation of COPs on UK/DSNA border	This would introduce the COPs at implementation, revise existing COPs, and provides the opportunity to reduce complexity in this airspace	This requires further development – carry forward to Step 4A. This also impacts the FRA D2 ACP (Ref 4)
2	Ports of Jersey (online portal) LD1_12	BHD CTA 5_2 base: propose retain current base of FL85 rather than proposed raising to FL105. similar to BHD CTA 5_1 to allow seamless connectivity wholly within controlled airspace from CIA to BHD and beyond for some non-oxygen/pressurised aircraft at FL90(southbound) and FL100(northbound).	Controlled Airspace – Base flight levels	This could retain the current base level at FL85. This would impact on the amount of CAS required.	This requires further development – carry forward to Step 4A.
3	Anonymous individual (online portal) LD1_28	Requests the base of BHD CTA 5 remains at FL85 and is not increased to FL105. Remaining in CAS enables light unpressurised aircraft to fly IFR, and to remain entirely in controlled airspace between Jersey and London control.	Controlled Airspace – Base flight levels	This could retain the current base level at FL85. This would impact on the amount of CAS required.	This requires further development – carry forward to Step 4A.

4	British Gliding Association (BGA) (online portal) LD1_24	Agree proposed changes release more airspace than they take - to the benefit of gliding in this area. Although the changes result in multiple changes in the base levels of airspace this is greatly preferable to a more uniform but lower base level.	Controlled airspace / base levels	Potential to remove multiple changes in base levels	This requires further development – carry forward to Step 4A.
5	DAATM (uploaded document) LD1_20	Stepped base levels at BHD CTA introduce additional complexity for controllers and aircrew, but the MoD accept NATS is required to minimise CAS where possible	Controlled Airspace – Base flight levels	This could retain the current base level at FL85. This would impact on the amount of CAS required.	This requires further development – carry forward to Step 4A.
6	DAATM (uploaded document)	Propose a revised option for the D201 segment 'K', across current F and G segments. This would ensure lower-level activity can be used in this area with less of an impact to the route network. Provides the most flexible use of the area for both NATS and the MoD.	Danger Area (D201)	This would amend the dimensions of the proposed new danger area segment.	This requires further development – carry forward to Step 4A.

4.6 Responses which do not impact the final proposal

The following 25 responses in Table 4 are comments provided in all of the free text box sections. They do not provide any new information or suggestions that could lead to a change in the final proposed design. Additional relevant feedback is captured, including any actions or considerations arising.

Table 4 The following responses do not impact on the proposed design

No.	Response & ID	Summary of comments	Themes of comment	Why the proposal is not impacted	Any relevant considerations/feedback
7	DAATM (direct engagement)	Approval from MoD for the northern boundary of the Boscombe ARA to align with the new planned boundary of the airway and TRA (TRA002) (See Annex A Engagement Evidence 12)	ARA/TRA boundary alignment	This will ensure the BOS ARA remains aligned with TRA002.	Co-ordinate changes to be added to AIP.
8	Boeing (online portal) LD1_1	Proposes a 56-day AIRAC publication due to the size of proposed change	Implementation	No comments containing new information or suggestions	Given the magnitude of the proposed change, NATS confirm a double AIRAC cycle will be required, so data will be published 56 days in advance.

9	Irish Aviation Authority (ANSP) (online portal) LD1_7	Supportive of overall concept but any change must run in parallel with operational and co-ordination procedures assessment.	Implementation	No comments containing new information or suggestions	No change to design. Any updates to operational and co-ordination procedures will be completed through Letters of Agreement (LoA) amendments.
10	FlightKeys (online portal) LD1_2	Will transition points from non-FRA to FRA be published, or will all intermediate points be available	FRA transition	No comments containing new information or suggestions	FRA relevance for waypoints will be published in the AIP. FRA intermediate waypoints may be available for a level change or orientation of flows.
11	FlightKeys (online portal) LD1_2	Concerns around RAD restrictions adding complexity to flight plan system algorithm, and whether additional information would be provided from NATS to enable effective flight planning.	RAD restrictions	No comments containing new information or suggestions	The UK publishes a Standard Route Document with the RAD each AIRAC. This will continue to be published to enable the non-FRA to FRA transitions and vice versa. We understand the impacts of both scenarios described. We are not consulting on the RAD as part of the ACP process. Once we have considered formal stakeholder feedback and finalised the airspace design we will review and update the RAD, including designation of FRA significant points.
12	Flybe Ltd (online portal) LD1_10	Information provided about aircraft PBN compliance (PBN 1)	Technical specifications	No comments containing new information or suggestions	No change to design
13	London Luton Airport Operations (online portal) Ltd LD1_6	Supports the truncation of the Compton SID to RODNI (supports CO2e savings). Acknowledges that increase in track mileage per flight is offset by improved descent profiles -improving emission/noise performance.	Environmental/noise impacts	Comment in support of proposed changes	No change to design
14	Irish Aviation Authority (ANSP) (online portal) LD1_7	Concerns environmental benefits accrued by this airspace change might have a negative effect on downstream sectors and therefore must be taken into account holistically and in advance of operational rollout.	Environmental impacts	No comments containing new information or suggestions	NATS will continue to work with the IAA to maximise environmental benefits

15	London City Airport (online portal) LD1_16	Concepts are generic, seeking figures on specific routes	Environmental impacts	No comments containing new information or suggestions	Email sent to London City Airport with further clarity (see Annex A Engagement Evidence 13)
16	AGS Airports (online portal) LD1_33	No potential impact seen; comments on this being early stage of engagement	Engagement	No comments containing new information or suggestions	Response sent to confirm these are proposed final designs; and ties in with the FASI-S programme which supports all FASI-S aspirations; this has been consulted upon and engaged with airports. (see Annex A Engagement Evidence 14)
17	British Gliding Association (BGA) (online portal) LD1_24	Positive feedback on collaborative approach taken by NATS	Engagement	No comments containing new information or suggestions	No change to design
18	Bristol Airport Ltd (online portal) LD1_21	Supportive of the change; brings positive change and much needed modernisation. Feels engaged; acknowledges this is part of a larger change including Bristol's ACP and LD1.2	Engagement; Airspace modernisation (FASI-S)	No comments containing new information or suggestions	No change to design
19	Cardiff Airport (online portal) LD1_31	Supportive of the change; acknowledges this is part of a larger change	Airspace modernisation (FASI-S)	No comments containing new information or suggestions	No change to design
20	British Gliding Association (BGA) (online portal) LD1_24	Concern for FASI-S ACP co-ordination – changes below 7,000ft being developed separately may lead to sub-optimal interface between lower and upper airspace, to the extent that an individual airport may be forced to adopt a lower airspace solution that is unsatisfactory for glider traffic. If that were to happen then the airspace structure above 7000ft may need to change again to provide a better solution.	Airspace modernisation (FASI-S)	No comments containing new information or suggestions	NATS are working closely with the airports to optimise the design of the interface to the lower-level routes and co-ordinate ACPs.
21	DAATM (uploaded document) LD1_20	No direct dependencies with RAF Northolt FASI(S) potential route options but ability to connect into and from LD1.1 airspace is essential	Airspace modernisation (FASI-S)	No comments containing new information or suggestions	No change to design

22	DAATM (uploaded document) LD1_20	Proposed network connectivity changes will impact Brize Norton. Further engagement requested.	Airspace modernisation (FASI-S) Network connectivity	No comments containing new information or suggestions	Engagement undertaken with RAF Brize Norton to mitigate potential impacts.
23	Anonymous individual (online portal) LD1_32	Unclear how supports multiple respite paths for Heathrow and concerned it may hinder FASI-S airport design (Heathrow). Queries engagement with communities in areas where flightpaths are above 7,000ft. Expresses concern that it contradicts with Heathrow R3 ACP consultation.	Airspace modernisation (FASI-S). Engagement	No comments containing new information or suggestions	The CAP1616 sets engagement requirements for changes above 7,000ft. NATS has followed this process for stakeholder engagement; these comments would be more relevant to future FASI-S ACPs at a lower level. This change is progressing ahead of the Heathrow R3, and the data in this consultation is correct. Any future changes which may amend this, would require a further consultation by the sponsor (eg Heathrow R3).
24	Heathrow Airport Limited (uploaded document) LD1_35	Comments relating to the FASI-S programme and future LAMP deployments, seeking assurance that LD1.1 design is flexible enough to evolve and change to accommodate different entry/exit points from 7,000ft in line with FASI-S ACPs. Specific concerns are: Detailed fuel burn impact on individual airports Impact on capacity benefit Impact on local communities for traffic flow changes above 7,000ft and sufficient engagement being completed to impact assess this	Airspace modernisation (FASI-S) Environmental impacts Capacity benefit Engagement	No comments containing new information or suggestions	This ACP is not a constraint for the FASI-S programme, it is an early enabler. As NATS develop the ATC procedures alongside the design, these will link in with ACP process. Capacity is an extremely difficult metric to measure; we are seeking to develop ways to do this beyond qualitative methods. We recognise there are constraints with the data, we hope to have greater detail in the ACP submission. As part of the final validation simulation we should be able to improve the validity of the qualitative assessment
25	DAATM (uploaded document) LD1_20	Significant engagement has been undertaken between MoD and NATS on buffer policy for Danger Areas and Restricted Areas. The use of internal lateral and vertical buffers within DAs is not supported by the MOD, however, the MOD is open to other solutions and will work with NATS to achieve them.	Buffer Policy	No comments containing new information or suggestions	NATS has worked with the MOD to understand the safety barriers applied to the activities conducted within SUA. This will inform the NATS safety management process to determine tolerably safe flight planning buffers for each SUA within the region.

26	DAATM (uploaded document) LD1_20	Content for HEM to be removed as an activity descriptor from EG D117 & EG D118	HEM designation	No comments containing new information or suggestions	No change to design, the removal of HEM from these SUA will be included in the AIP change request.
27	DAATM (uploaded document) LD1_20	Accept changes to TRA001, 002 and Class G, as this is minimal impact.	Controlled airspace/TRA boundaries	No comments containing new information or suggestions	No change to design
28	DAATM (uploaded document) LD1_20	Proposed changes to CTA 6&7 may impact on RAF Brize Norton. Further engagement requested.	Controlled Airspace/base levels & lateral boundaries of CTA	No comments containing new information or suggestions	Engagement undertaken with RAF Brize Norton to mitigate potential impacts.
29	British Airways (online portal) LD1_26	BA is not in a position to determine to what extent LD1.1 and the release of CAS will have a net beneficial impact on general aviation or sport aviation airspace users. This is a question for the potential users of the released CAS.	Controlled airspace	No comments containing new information or suggestions	No change to design
30	Cardiff Airport (online portal) LD1_31	There will be less controlled airspace which is of great benefit to Military/GA/sport aviation users.	Controlled airspace	No comments containing new information or suggestions	No change to design
31	FlightKeys (online portal) LD1_2	Based on our experience, with accurate performance data loaded, we experience regularly issues with flight profile calculation between our flightplanning software and ECTL which also uses BADA, causing REJ.	Climb/descent gradients (FRA arrival/departure points)	No comments containing new information or suggestions	No change to design

5. Conclusion and Next Steps

- 5.1 This document has provided a summary of responses, which evidences the “we asked, you said” stage of this airspace change proposal.
- 5.2 We have shown how we have provided stakeholders with a comprehensive consultation document, supporting visualisations, and targeted engagement webinars to ensure our proposed changes are understood. We have actively communicated to promote two-way engagement as evidenced in this document.
- 5.3 The consultation responses support the proposed changes. A clear preference is made by stakeholders for Option 6, which is for implementation of the proposed LD1.1 change, with FRA DFL at FL245.
- 5.4 Stakeholders have indicated, where they have an opinion, that they believe this offers benefits to the general aviation community, with the general theme being that the release of controlled airspace is beneficial to the general aviation community. This area generated the highest number of comments, and specific detail for one area (BHD) will be carried forward for review following the feedback.
- 5.5 Overall, stakeholders have indicated they are in support of the assumptions made for the FRA climb and descent gradients, or they have no opinion.
- 5.6 The next step will be to produce and publish the Step 4A document which will detail “you said, we did”.
- 5.7 For that stage, we will consider the feedback given from our stakeholders, and consider amending the final design based on the relevant responses summarised in Table 3. We will undertake further engagement work with our stakeholders to develop alternative solutions, and the suggestions will be considered and either progressed or discounted, with justification provided.
- 5.8 We will also consider additional refinement and technical amendments which have come to light as part of NATS’ policy of continually seeking airspace improvement.
- 5.9 The following step will be to write and publish the formal Step 4B Airspace Change Proposal and submit this to the CAA.

Appendix A: List of Stakeholders

Any individual or organisation may submit a response; however, we specifically targeted the aviation organisations listed below.

Stakeholders have been categorised below according to the mapping described in Section 6.5 of the Consultation Strategy, where:

1=High Influence/High Interest; 2=High Influence/Low Interest; 3=Low Influence/High Interest; 4= Low influence/Low Interest

(* indicates addition to this list once consultation had commenced)

Airlines (all 1)

Aer Lingus	Emirates	NetJets
Air Canada	Etihad	Norwegian Air
Air France	Eurowings	Novair
Air New Zealand	FedEx	Qantas
Air Transat	FinnAir	Qatar Airways
American Airlines	Fly Dubai	Ryanair
Aurigny Airlines	Flybe	SAS
Austrian Airlines	Gamma Aviation	Saudia
Azerbaijan Airlines	German Wings	Singapore Air
BA Cityflyer	Gulf Air	South Africa Airways
Blue Islands	Iberia	Tag Aviation
British Airways	Iceland Air	TAP Air Portugal
Cathay Pacific	JetBlue	Thomson/ TUI
Cityjet	Jet2	Turkish Airlines
Delta Airways	KLM	United Airlines
DHL	Logan Air	UPS Europe
Eastern Airways	Lufthansa	Virgin Airlines
EasyJet	Malaysia Airlines	West Jet
	Middle East Airlines	WizzAir

Air Navigation Service Providers (ANSPs) (all 3 unless marked)

DSNA ACC Brest (France) (1)	DSNA ACC Paris (France) (3)
Irish Aviation Authority (IAA) (Ireland) (1)	Isavia (Iceland) (4)*
RAF 78 Squadron (UK Royal Air Force) (1)	LGS (Latvia) (4)*
Direction des Services de la Navigation Aérienne (DSNA) (France) (3)	LFV (Sweden) (4)*
Maastricht Upper Area Control (MUAC) (3)	NAVIAIR (4)*
Eurocontrol Central Flow Management Unit (CFMU) (3)	Borealis Alliance Executive (4)*
DSNA ACC Reims (France)(3)	Irish Aviation Authority (4)*
	EANS (Estonia) (4)*

Data Houses/ Flight-planning providers (all 4)

Air Support	Jeppesen
Aviation Cloud	Lufthansa Systems
Flight Keys	NavBlue
Lido	Sabre

Relevant NATMAC Members (4 unless marked)

Airlines UK	British Microlight Aircraft Association (BMAA)
Airspace4All (formerly FASVIG)	British Skydiving
Aviation Environment Federation (AEF)	Drone Major
Airport Operators Association (AOA)	European UAV Systems Centre Ltd

Aircraft Owners & Pilots Association (AOPA UK)
 Association of Remotely Piloted Aircraft Systems
 (ARPAS UK)
 BAE Systems
 British Airline Pilots Association (BALPA)
 British Air Transport Association (BATA)
 British Balloon & Airship Club (BBAC)
 British Business & General Aviation Association
 (BBGA)
 British Gliding Association (BGA) (1)
 British Helicopter Association (BHA)
 British Hang Gliding & Paragliding Association
 (BHPA)

General Aviation Safety Council (GASCo)
 General Aviation Alliance (GAA) (1)
 Guild of Air Traffic Control Officers (GATCO)
 Helicopter Club of Great Britain (HCGB)
 Heavy Airlines
 Honourable Company of Air Pilots
 Iprosurv drone pilot network
 Light Aircraft Association (LAA)
 Light Airlines
 Low Fares Airlines (LFA)
 Ministry of Defence (MoD) via the Defence
 Airspace and Air Traffic Management (DAATM)
 (1)
 PPL/ IR Europe

Airports¹ (3 unless marked)

EGGD Bristol (1)
 EGFF Cardiff (1)
 EGTE Exeter (1)
 EGHI Southampton (1)
 EGHH Bournemouth (1)
 EGGW Luton (1)
 EGSS Stansted (1)
 EGKK Gatwick (1)
 EGLL Heathrow (1)
 EGLC London City (1)
 EGCC Manchester (1)
 EGGP Liverpool (1)
 EGLF Farnborough (1)

EGMC Southend
 EGKB Biggin Hill
 EGNH Blackpool
 EGFB Swansea
 EGBJ Gloucester
 EGBP Kemble (Cotswold)
 EGTK Oxford
 EGHQ Newquay
 EGTP Perranporth
 EGVN Brize Norton (via DAATM)
 EGWU Northolt (via DAATM)
 EGTU Dunkeswell
 EGBB Birmingham

Other (4 unless marked)

Airlines for America
 AIRE (Airlines International Representation in Europe)
 Airline Operators Committee Heathrow (AOC
 Heathrow)
 Board of Airline Representatives (BAR)
 Bristow Helicopters (HM Coastguard)
 Direction Generale de l'Aviation Civile (DGAC)
 Direction de la Securities de l'Aviation Civile (DSAC)
 Direction du Transport Aérien (DTA)
 French Air and Space Force
 Spaceport Cornwall*
 Snowdonia Aerospace Centre*
 Western Radar*
 Skyports*
 Network Rail*

IATA
 IATA- Heathrow AOC
 Irish Air Corps
 Ports of Jersey SATCO
 QinetiQ (1)
 United Kingdom Space Agency (UKSA)
 Virgin Orbit Ltd
 Black Arrow Space Technologies*
 Space Wales*
 Aerospace Cornwall*
 Fly Logix*
 Windracers*
 Sees.ai*
 Callen-lenz*
 Maritime & Coastguard Agency*

¹ MoD Airfields are not included since consideration of these is incorporated in the DAATM joint response.

Appendix B – Online Portal Questions

The following questions were included in the online portal for users to complete. Imposed answers have also been shown below, alongside whether the question was mandatory or not.

1. What is your name? (Mandatory)
2. What is your email address? (Mandatory)
3. Please enter your postcode, UK only. (Most relevant to your response home/work/organisation etc.) (Optional)
4. If responding from outside the UK, please supply an address or location description. (Optional)
5. Who are you representing? (Mandatory)
 - a. I am responding as an individual (If the user selects this, Q6–8 will not be provided)
 - b. I am responding on behalf of an organisation (If the user selects this, Q6–8 will be provided)
6. Please note all responses will be published. Are you happy for your name to be included in the response publication? (Mandatory)
 - a. Yes – I want my response to be published with my name
 - b. No – I want my response to be published anonymously
7. What is your organisation name? (Mandatory – if answered “b” to Q5)
8. What is your position/ title? (Optional)
9. Please rank your reaction to the individual aspects:

To what extent do you agree that Option 4 is an acceptable solution to modernising the LD1.1 airspace? (with LD1.1/FRA DFL set at FL305) (Mandatory)

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree
- Don't know

To what extent do you agree that Option 6 is an acceptable solution to modernising the LD1.1 airspace? (NATS preferred solution with LD1.1/FRA DFL set at FL245)

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree
- Don't know

- 10 Do you prefer Option 4 (DFL FL305) or Option 6 (DFL FL245) (Mandatory)
 - Option 4 (FRA-LD1.1 DFL FL305)
 - Option 6 (FRA-LD1.1 DFL FL245)
 - No preference
 - Please briefly explain your answer here (free text box)

11. To what degree do you agree that LD1.1 will have a net beneficial impact on general aviation or sport aviation airspace users (due to net release of controlled airspace)?

Strongly agree

Agree

Neither agree nor disagree

Disagree

Strongly disagree

Don't know

Add your rationale/reasoning here if you wish (free text box)

12. To what degree do you agree with our assumptions on climb and descent gradients used to assign FRA Arrival and Departure Points?

Add your rationale/reasoning here if you wish (free text box)

13. If you have any other comments, please provide your feedback here (free text box)

You may upload a file, document, chart, letter or picture here (file upload option)

Appendix C: Stakeholder responses showing option preferences

ID	Organisation	Type	Option 4 is acceptable	Option 6 is acceptable	Preference	Options Rationale
LD1_8	Delta	Airline	Disagree	Strongly agree	Option 6	Option 6 with FRA above FL245 is more efficient and better for the environment.
LD1_9	Emirates Airline	Airline	Agree	Strongly agree	Option 6	It allows for greater use of FRA
LD1_10	Flybe Ltd	Airline	Neither agree nor disagree	Strongly agree	Option 6	Flybe Ltd's DASH 8-400 aircraft have a service ceiling of FL250, so would prefer Option 6 in order to take advantage of the FRA on certain routes.
LD1_13	DHL Air Ltd	Airline	Agree	Agree	Option 6	
LD1_22	Ryanair	Airline	Disagree	Agree	Option 6	
LD1_23	Virgin Atlantic	Airline	Disagree	Agree	Option 6	
LD1_25	TUI Airline	Airline	Agree	Strongly agree	Option 6	DFL should be in line with other FRA implementations.
LD1_26	British Airways	Airline	Disagree	Strongly agree	Option 6	LD1.1 together with FRA D2 deliver the objectives of the AMS to introduce FRA and PBN routes. BA has a strong preference for Option 6 and believe that this is a far more acceptable solution to modernising the LD1.1 airspace than Option 4. Option 6 is less complex, provides for better environmental performance and has the greatest potential for delivering increased airspace capacity, reduced air and ground delay, improvements in vertical profiles and increased resilience to disruption. FRA DFL set at FL245 also represents the traditional boundary between lower and upper airspace. As a result FL245 allows for maximum utilisation by both overflight traffic as well as departing and arriving traffic. FL245 has been used by other ANSPs and is closely aligned with the FRA D1 which transitions at FL255 (although this does leave us questioning why FRA D1 is not consistent with a FL245 boundary).
LD1_27	KLM Royal Dutch Airlines	Airline	Neither agree nor disagree	Strongly agree	Option 6	
LD1_34	American Airlines	Airline	Agree	Strongly agree	Option 6	American Airlines also supports the FRA 2 Deployment starting at FL24.5 and LD1.1 Option 6 best supports that strategy.
LD1_6	London Luton Airport Operations Limited	Airport	Strongly agree	Strongly agree	Option 6	Option 6's lower FRA enables operators to optimise trajectories earlier in the flight than Option 4 and it allows aircraft to fly more direct routing from an earlier point. The truncation of the CPT SID allows the most efficient connectivity to the proposed route B and C. That has a potential to improve environmental performance and time savings from shortcutting unnecessary detour via ground-based reporting point. For the Eastern interface, there is no difference between Option 4 and Option 6. However, Option 6 enables overall benefit in the wider network.
LD1_11	Cornwall Newquay Airport	Airport	Agree	Agree	Option 6	I agree with the principle of reducing complexity where possible. The differences between these 2 options would not have a significant impact on my unit.
LD1_12	Ports Of Jersey (Jersey ATC)	Airport	Agree	Strongly agree	Option 6	Jersey ATC who manage the Channel Islands Airspace(CIA) are happy with options 4 and 6, neither have a major impact to CIA traffic currently, however option 6 might have advantages in

						the future if we decide to propose a lowering of new routes to capture CIA traffic and split the north/south traffic sooner, plus, it allows additional systemisation for Brest below FL245.
LD1_15	Farnborough Airport	Airport	Agree	Agree	Option 6	Increased flexibility to adapt and reduced complexity certainly have their attractions, combined with the possibility to deliver future improvement in environmental performance is an agenda FAB would very much support.
LD1_16	London City Airport	Airport	Neither agree nor disagree	Neither agree nor disagree	No preference	
LD1_17	Exeter & Devon Airport Ltd	Airport	Agree	Strongly agree	Option 6	FRA should be implemented whenever possible
LD1_18	Bournemouth Airport	Airport	Agree	Agree	No preference	They both deliver the modernisation factor but decisions on the management of the Upper Air should primarily sit with those who operate it.
LD1_21	Bristol Airport Ltd	Airport	Agree	Strongly agree	Option 6	Lower base for FRA allows airline customers to realise operational and environmental benefits to a greater extent.
LD1_29	MAG - Stansted Airport	Airport	Agree	Strongly agree	Option 6	The ability to join Free Route Airspace at a lower FL will have long term benefits in the achieving the aims of the airspace modernisation strategy.
LD1_30	MAG- Manchester Airport	Airport	Agree	Strongly agree	Option 6	We are supporting this option on the grounds that it will allow more free routing and provide a resulting benefit for emissions.
LD1_31	Cardiff Airport	Airport	Agree	Strongly agree	Option 6	The lower level of FRA is perceived to give the most benefits to our airline customers. The ability to flight plan direct routes should lead to optimised fuel and environmental benefits as well as minimised journey times
LD1_33	AGS (Aberdeen Glasgow Southampton)	Airport	Neither agree nor disagree	Neither agree nor disagree	No preference	
LD1_35	Heathrow Airport Limited	Airport	Agree	Strongly agree	Option 6	
LD1_4	Naviar	ANSP	Neither agree nor disagree	Neither agree nor disagree	No preference	
LD1_7	Irish Aviation Authority (ANSP)	ANSP	Neither agree nor disagree	Agree	Option 6	From an IAA ANSP Perspective we have 2 comments on this element: 1. DFL of FL245 gives greater flexibility and potential efficiency gains 2. A Standard DFL assists in ATCO situational awareness and allows for greater flight planning options Note: The operational rollout is of significant interest to the IAA ANSP as our ATM Sectors in High-Level En Route and for Dublin CTA interface directly with this proposal. This in our view requires detailed analysis and updates to operational and co-ordination procedures, through a refining of Letter (s) of Agreement (LoA) (see Table 3 above)
LD1_19	Brest ACC	ANSP	Neither agree nor disagree	Strongly agree	Option 6	
LD1_1	Boeing	CSFP	Agree	Agree	Option 6	
LD1_2	Flightkeys	CSFP	Strongly disagree	Strongly agree	Option 6	Option 6 is much simpler to implement in our flight planning system than having a small airspace split horizontally and vertically
LD1_3	Lufthansa Systems	CSFP	Disagree	Strongly agree	Option 6	Lower FRA FL causes less problems in Airport's connectivity.

LD1_20	Ministry of Defence	MoD	Neither agree nor disagree	Neither agree nor disagree	No preference	Please see attached document for full MOD response and refers to options 1-4 and I-6 (see table 3).
LD1_14	N/A	N/A	Neither agree nor disagree	Neither agree nor disagree	Option 6	
LD1_28	N/A	N/A	Neither agree nor disagree	Neither agree nor disagree	No preference	
LD1_32	N/A	N/A	Don't know	Don't know	No preference	I am unable to understand the implications the deployment will have on the heights and routes of Heathrow departures and arrivals and as to whether the deployment will constrain the future developments at lower levels.
LD1_5	British Helicopter Association	NATMAC	Neither agree nor disagree	Strongly agree	Option 6	Appears to offer the most flexibility
LD1_24	BGA (British Gliding Association)	NATMAC	Strongly agree	Strongly agree	Option 6	

End of document