London Airspace Modernisation Programme
Deployment 1
(LAMP D1)

(Part of NATS West Airspace Modernisation Project - L6203)

Gateway documentation:
Stage 2 Develop & Assess

2A Design Options and Evaluation
Annex C: Stakeholder Engagement Feedback

Roles

Action	Role	Date
Produced	**Manager Airspace Change Compliance & Delivery** Airspace and Future Operations	29/01/2021
Reviewed Approved	**ATC Lead** Swanwick Development	29/01/2021
Reviewed Approved	**Head of Operational Development (Airspace)**	29/01/2021

Drafting and Publication History

Issue	Month/Year	Changes this issue
1.0	Jan 2021	Initial version submitted to CAA for Stage 2 (Feb 2021) gateway.

Annex C.1: Stakeholder feedback

Stage 2 engagement with stakeholders has been ongoing from Dec 2019 to Jan 2021, as evidenced by the meeting schedule in the Step 2A Design Options and Evaluation Annex A. The draft Stage 2A document was circulated to 159 stakeholders for comment in December 2020. 18 stakeholders responded with feedback. This Annex, C.1, contains redacted responses from the three FASI-S ACP sponsor stakeholders with significant dependencies with LD1 (Bristol, Cardiff & Exeter Airports). These give feedback on the degree of dependencies between their ACP and the LD1 ACP, and whether there is any perceived issue with progression through the Stage 2 gateway.

The email sent to stakeholders was as follows:

Sent: 11 December 2020 12:20
Subject: NATS LD1 Stakeholder Engagement

Dear Colleague,

In accordance with the UK Airspace Modernisation Strategy, NATS has commenced work on a series of Airspace Change Proposals (ACP).
As one of the airports within this region, we would like to invite you/your airport to provide feedback on the attached draft document. This is related to the high-level design options for the first deployment in the London Airspace Modernisation Programme of changes (LAMP).

This ACP is referred to as LD1 (LAMP Deployment 1) and it affects the west and south west of UK airspace. Progress of this airspace change can be found at the UK CAA's airspace portal here.

Please respond to me via email at the following address [redacted] by (15/01/21). Your feedback will be collated and will be used to inform and evolve the airspace design.

The final document will form part of the document set required for the CAP1616 airspace change process: Stage 2 Develop and Assess, Step 2A Design Options. Its purpose is to describe a comprehensive list of design concepts. As part of the Stage 2, taking into consideration your feedback, we will then undertake a Design Principle Evaluation and discard some options. The remaining options will comprise a "short list" of options which will be progressed to Stage 3 of the process: Consultation.
NATS' preferred options are:

- Option 4 Systemised route network with 5nm separation with improved connectivity, and
- Option 6 Systemised route network with 5nm separation with FRA above (i.e. as per Option 4 + FRA)

Please give feedback on the options described, but in particular we are seeking feedback on:

1. Do you concur with the preferred options
2. Do you have a strong preference for any other options (please explain why).
3. What percentage of your user aircraft would not be RNAV1 equipped? For those users who are *not* RNAV1 equipped, up to what levels and in what areas would they typically operate.

Many thanks for your time and for collaborating with us in this project.
Kind regards

[redacted]

NATS

[redacted]
Manager, Airport Concepts

Exeter Airport

Good afternoon [redacted]

Many thanks for the presentation on Tuesday.
Exeter Airport agrees that mutual engagement has occurred between NERL (London Airspace Management Programme (LAMP) Deployment 1 (ACP-2017-70), "LD1") and Exeter Airport. There is a dependency between the LD1 ACP and the Airport's FASI-S ACP.

I believe both parties are confident that this dependency can be managed via continued engagement between NERL and the Airport.

Appropriate mitigations are likely to be developed, but there is no commitment to any particular design solution at this stage.

The Airport has no objection to the LD1 ACP proceeding through the CAP1616 Stage 2 gateway.

Best regards

[redacted]

[redacted]
Air Traffic Services Manager
Exeter Airport
DDI: [redacted]
[redacted]

Cardiff Airport
From: [redacted]
Sent: 27 January 2021 11:53
To: [redacted]
Cc: [redacted] ; [redacted]
Subject: RE: LD1 Stakeholder engagement
Importance: High

[redacted] ,

As requested in your email below, please accept this as the formal response from Cardiff Airport in relation to the LD1 Stakeholder Engagement:

- The Cardiff NATS GM, [redacted] , has provided me with a briefing in relation to the LD1 options.
- Cardiff airport agrees that mutual engagement has occurred between NERL (London Airspace Management Programme (LAMP) Deployment 1 (ACP-2017-70), "LD1") and Cardiff Airport (sponsor of an ACP within the FASI-S programme), under CAP1616.
- There is a dependency between LD1 ACP and Cardiff Airport's FASI-S ACP; both parties are confident that this dependency can be managed via continued engagement between NERL and the Airport.
- Appropriate mitigations are likely to be developed, but Cardiff Airport understands that there is no commitment to any particular design solution at this stage.
- Cardiff Airport acknowledges that routes have only been considered to the North of Cardiff and the Southern routes have yet to be considered.
- Cardiff Airport has no objection to the LD1 ACP proceeding through the CAP1616 Stage 2 gateway.
- With regards to the RNAV1 question, this is not information I have readily available, but we would look to capture this as part of our own ACP which is currently 'Paused' having reached, and successfully passed, the Stage 1 gateway. We are not expecting the mix of aircraft/traffic operating in/out of CWL to change significantly and therefore any data you already have regarding airlines and/or aircraft types would provide you with a good indicator to work upon.

Thank you

[redacted]

Head of Airfield Operations
Pennaeth Gweithrediadau Maes Glanio

+[redacted]
+[redacted]

Cardiff Airport, Vale of Glamorgan, Wales, CF62 3BD
Maes Awyr Caerdydd, Bro Morgannwg, Cymru, CF62 3BD

Ambition | Safe & secure | Pride | Innovative | Respect | Efficiency | Service

.

Bristol Airport

From: [redacted]
Sent: 28 January 2021 14:32
To: [redacted]
Cc: [redacted]
Subject: RE: LD1 response to stakeholder engagement

Hi [redacted] ,

Many thanks for your response. As discussed Bristol have no further concerns with LD1 proceeding through the 1616 Stage 2 Gateway.

We look forward to working with you as you proceed into Stage 3 and hopefully we can bring our programmes back into alignment as far as possible between now and Stage 3 gateway.

Kind regards,

[redacted]

Airfield Technical and Compliance Manager
Bristol Airport
Bristol
BS48 3DW
[redacted]
www.bristolairport.co.uk

Annex C.2: Stakeholder feedback

This Annex, C.2, contains redacted responses to the design options from stakeholders without significant ACP dependencies on LD1.

DNSA Brest ACC

From: [redacted]
Sent: 18 January 2021 08:57
To: [redacted]
Subject: Re: LD1/Brest ANSP engagement

Mimecast Attachment Protection has deemed this file to be safe, but always exercise caution when opening files.

Good morning [redacted],

We have pay a great attention to your LAMP D1 project and are happy to work with you to improve our common interface.
We've got few questions and propositions.

Options 4 and 6 are your preferred options, and the difference between them is the FRA part of the project. Do you have a date for your FRA implementation in this area?
In case of options 6, can we assume that all your military areas will be FUA and permit new and shorter track when not active?

Attached you'll find a map with our new FRA sectors from the 2nd december 2021. It would be interesting to create new fix on the interface or use the one already in place with more accurracy.

We could double SALCO to avoid descending traffic in front of climbing traffic.

We would like to push the traffic to our Western sector W opposite to
S9 sector with new flows. We could use RAD restrictions to orientate traffic the way we wish. We sort the traffic northbound and you'll do it southbound for example.

We can open new flows like LND-SUPAP-SOSOV (traffic from Scotland and northern England to Portugal and Canarias.).

We would be happy to switch Birmingham (EGBB) arrivals to SALCO to offload our busy J sector working with the London arrivals.

See you on Teams meeting on the 5th February,

Kind regards,

[redacted]
CRNA-Ouest - Assistant de subdivision contrôle Brest ACC - OPS Division - RAD Coordinator
[redacted]
tel : [redacted]

DAATM

From: [redacted]
Sent on: Monday, January 4, 2021 5:09:54 PM
To: [redacted]
CC: [redacted]
Subject: 20210104-MOD LD1 Stakeholder Engagement

Hi [redacted],

That makes sense to me, thanks for the clarification it is much appreciated.

Below is the official MOD response for this stage of the consultation. [redacted], hopefully it answers the question ref RNAV5 routings. Please let me know if you need any more info at this stage and I will be happy to chat more if required.

The MOD concur with the design options that have been published and have no preference as to design specifics. The MOD fully support this ACP provided that we are continuously engaged and that the impact of any changes to MOD operations (airspace and it's usage) are minimal and are acceptable to both parties. Data for non RNAV1 equipped aircraft and the routes/levels that they would require is not easily defined or obtained. However, the MOD would still require RNAV5 routings for the occasions where state aircraft would fly as GAT instead of OAT. The MOD believe that these routings would be seldom used and non RNAV1 equipped ac are likely to fly OAT where possible, however, we should retain an option for legacy aircraft to route GAT, at relevant levels, if required.

Regards

[redacted] | Sqn Ldr | SO2 Airspace Operations | Defence Airspace and Air Traffic Management | ~~Aviation House | 1E Beehive Ringroad Crawley West Sussex RH6 0YR~~ | Civilian Telephone: +[redacted]

From: [redacted]
Sent on: Thursday, January 14, 2021 8:05:17 AM
To: [redacted]
CC: [redacted]
Subject: RE: NATS/MOD WAC engagement #2 meeting minutes and reference presentation

Follow up: Follow up
Start date: Thursday, January 14, 2021 12:00:00 AM
Due date: Thursday, January 14, 2021 12:00:00 AM

[redacted],

The final MOD piece for his stage, PSB from Northolt.

The RAF Northolt response to the NATS LD1 Engagement is:

1. *Does the LD1 ACP have potential interactions or dependencies with your FASI-S ACP. (If so please describe where the dependencies are and whether you feel all concerns have been adequately mitigated and whether you are confident that the interfaces with your airport have been accommodated within the LD1 design options.)*

The eastern boundary of LD1 is sufficiently west that it does not have any direct interactions/dependencies with the current RAF Northolt FASI(S) potential route options (arr & Dep below 7000ft).

However, its proximity is very close and therefore above 7000ft RAF Northolt arrivals and departures will interact daily with LD1 airspace routinely. Therefore the ability for RAF Northolt arrivals and departures to connect into and from LD1 airspace is essential.

Regards

[redacted]| Sqn Ldr | SO2 Airspace Operations | Defence Airspace and Air Traffic Management |
~~Aviation House | 1E Beehive Ringroad Crawley West Sussex RH6 0YR~~ | Civilian Telephone: +44 (0) [redacted]

British Airways

From: [redacted]
Sent on: Wednesday, January 13, 2021 8:00:27 PM
To: [redacted]
Subject: Re: LD1 Stakeholder engagement

Follow up: Follow up
Start date: Thursday, January 14, 2021 12:00:00 AM
Due date: Thursday, January 14, 2021 12:00:00 AM

Hi [redacted],

Just a brief email to confirm that British Airways agrees that option 6 would be the sensible option at this stage. We look forward to stage 3, where we will observe more data/detail and be able to make a more informed decision.

Kind regards,

[redacted]
Manager - Flight Efficiency & Evaluation
British Airways
Flight Operations
+[redacted]
Sent from my iPad

Birmingham Airport

From: [redacted]
Sent: 22 December 2020 13:55
To: [redacted]
Subject: RE: NATS LD1 Stakeholder Engagement

Good afternoon [redacted],

I hope you are keeping well.
My only questions of the proposed options, are:

1. What will be the impact upon the FUA connecting Birmingham Airport to and from the south-west?
2. Is there any further impact on airspace within 40 miles of Birmingham airport and on routes to and from Birmingham?

Answers to those questions will help me answer questions 1 and 2 below. I can answer question 3 now – less than 1% of our traffic will not be RNAV1 equipped.

Best regards
[redacted]

[redacted]
Manager Air Traffic Services
Birmingham Airport Limited
Tel: +[redacted]
Mob: +[redacted]
E-mail: [redacted]

NATS PRIVATE

From: [redacted]
Sent: 23 December 2020 09:00
To: [redacted]
Subject: Re: NATS LD1 Stakeholder Engagement

Hi [redacted]

Here's the answers for [redacted], if you could pass on?

- no impact
- minimal, just how the in and outbounds connect to the revised route network structure (but this will be in the same area).

With these enquiries just let me know if you would like me to reply directly, might save a step?

Have a great Xmas [redacted]!

[redacted].

Get Outlook for iOS

From: [redacted]
Sent on: Monday, January 4, 2021 9:05:57 AM
To: [redacted]
Subject: Re: NATS LD1 Stakeholder Engagement

Follow up: Follow up
Follow up status: Completed
Completed on: Monday, January 4, 2021 10:35:00 AM

Good morning [redacted],

That's great. Many thanks.

Best regards
[redacted]

Manchester Airport Group (Response on behalf of Stansted & Manchester Airports)

From: [redacted]
Sent on: Friday, January 15, 2021 1:24:37 PM
To: [redacted]
Subject: RE: NATS LD1 Stakeholder Engagement - comments from MAG

Hi [redacted]
Thanks for our inclusion in this. I've been through the document and comments are below. Please take these as the group response from Manchester Airport Group, which cover the response from Stansted and Manchester airports.

General comments on LD1 options:
Design Principles : DP8 and DP9 are crucial enablers to growth at MAN and STN. In the requirements exercises conducted between us and yourselves for FASI-S and FASI-N we've agreed a number of capacity related requirements (in particular EGSS_01 / 02 / 03 and 21). In line with those we're designing our departure concepts and SIDs to make maximum use of our infrastructure including 1 min departure separations and assuming free flow into the network. It's encouraging to note that capacity and efficiency design principles have been given a high priority and as you move into the Options Appraisal stage, our request is for these to remain a high priority.

Links with other FASI-S ACPs and Annex A Stakeholder engagement: Two points here:

- You've detailed a list of Relevant FASI-S ACP Sponsors of which London Stansted is one, along with other London airports. Annex A details the engagement with these airports and others, and it's encouraging to see you've engaged with Heathrow, Gatwick and Northolt. However, despite being listed as relevant stakeholders on P7, neither Stansted, Luton or London City have been engaged with up to now. It may be that conversations with the FASI-S team have allowed you to capture the Stansted requirements, but to put things into context, Stansted had over 2,100 flights to Dublin in 2019 so the lack of our engagement feels like a gap in your process.

- Whilst not listed in the key stakeholder list, it looks like this airspace sits adjacent to both Liverpool and Manchester operations within FASI-N. Because this email is a joint response from MAG this covers the MAN operations, but is there an intention to engage with Liverpool in stage 2a/b? One of the issues in the Manchester TMA is the interaction between LIV and MAN operations and we'd like to make sure Liverpool are engaged to create a mutually agreed network solution.

Do you concur with the preferred options
In summary we agree that Options 4 and 6 offer the most optimal solution for our operations, with some comments below:

General : Our conversations with the NATS network for MAN operations indicated that future network capacity would be provided by 3nm separation, and the CONOPS for MAN is based on this assumption. The requirement for investment in radar infrastructure hasn't previously been flagged but that may be because previous conversations haven't considered this piece of airspace. As you point out, this airspace is less busy and if the requirements can be met without 3nm spacing and investment in radars, we're happy to support the chosen option.

However, as flagged above, whichever solution is chosen our key requirement remains capacity and efficiency with free flow departures and the elimination of MDIs and daily flow control measures. In that respect, is there an agreed approach to forecast traffic from the stakeholder airports? It's impossible to predict the profile of the recovery, but the MAG assumption is for a return to 2019 traffic levels at some stage. It seems obvious but we wouldn't want analysis to be performed on current traffic levels with only a slow (worst case) return over the coming years.

Option 2: Systemised routes would seem to make a lot of sense and this is a principle upon which our designs will seek to achieve where possible. This option appears to be attractive but it may be a case of too far too soon and I don't have a quantitative view as to whether the issues you describe are greater than the benefits. I'm assuming this option will remain as an option for 2b in order to understand the scale of the disbenefit?

Do you have a strong preference for any other options (please explain why).
No

What percentage of your user aircraft would not be RNAV1 equipped?
It depends on the implementation date of this new airspace. At MAG airports we're expecting 100% RNAV1 compliance by 2025, but if implementation is earlier that could be lower. If it were implemented today, compliance would be in the region of 95%. Our design principles state that we'll design to the latest technology but with contingency arrangements for non RNAV1 or RNP aircraft.

Thanks again for including us and hope the comments help the process
Best regards

[redacted]

Programme Lead – Airspace Design
Manchester Airport | Stansted Airport | East Midlands Airport
[redacted]

NATS response to MAG

From: [redacted]

To: [redacted]

Subject: LD1 response to MAG

Good Morning [redacted]

Thank you for contacting me regarding the LD1 (WAM) project.

We have had an opportunity to review your feedback and are happy to provide you with the following replies to the questions you asked.

General comments on LD1 options:

P6 Design Principles : DP8 and DP9 are crucial enablers to growth at MAN and STN. In the requirements exercises conducted between us and yourselves for FASI-S and FASI-N we've agreed a number of capacity related requirements (in particular EGSS_01 / 02 / 03 and 21). In line with those we're designing our departure concepts and SIDs to make maximum use of our infrastructure including 1 min departure separations and assuming free flow into the network. It's encouraging to note that capacity and efficiency design principles have been given a high priority and as you move into the Options Appraisal stage, our request is for these to remain a high priority.

Response: Copied and understood.

P7 : Links with other FASI-S ACPs and Annex A Stakeholder engagement: Two points here:

- You've detailed a list of Relevant FASI-S ACP Sponsors of which London Stansted is one, along with other London airports. Annex A details the engagement with these airports and others, and it's encouraging to see you've engaged with Heathrow, Gatwick and Northolt. However, despite being listed as relevant stakeholders on P7, neither Stansted, Luton or London City have been engaged with up to now. It may be that conversations with the FASI-S team have allowed you to capture the Stansted requirements, but to put things into context, Stansted had over 2,100 flights to Dublin in 2019 so the lack of our engagement feels like a gap in your process.

  Response: The document was amended to include Liverpool and Manchester as relevant FASI-N stakeholders. LD1 can confirm that SS, GW and LC were contacted as part of the LD1 Stakeholder Feedback process. In the document we have recognised that most airports including CC & SS have traffic flows which transit the LD1 area. The design team is fully cognisant of the traffic makeup through West airspace, but the key information is that there will be no change to how EGSS inbounds and outbounds will join or leave the proposed LD1 airspace and they will be approx. FL180+ when they do.

- Whilst not listed in the key stakeholder list, it looks like this airspace sits adjacent to both Liverpool and Manchester operations within FASI-N. Because this email is a joint response from MAG this covers the MAN operations, but is there an intention to engage with Liverpool in stage 2a/b? One of the issues in the Manchester TMA is the interaction between LIV and MAN operations and we'd like to make sure Liverpool are engaged to create a mutually agreed network solution.

  Response: This is a very similar answer to the above, no proposed change to how Liverpool / Manchester traffic get to / from LD1 airspace and they would be approx. FL160+ / FL200+ when they do.

Do you concur with the preferred options

In summary we agree that Options 4 and 6 offer the most optimal solution for our operations, with some comments below:

General : Our conversations with the NATS network for MAN operations indicated that future network capacity would be provided by 3nm separation, and the CONOPS for MAN is based on this

assumption. The requirement for investment in radar infrastructure hasn't previously been flagged but that may be because previous conversations haven't considered this piece of airspace. As you point out, this airspace is less busy and if the requirements can be met without 3nm spacing and investment in radars, we're happy to support the chosen option.

However, as flagged above, whichever solution is chosen our key requirement remains capacity and efficiency with free flow departures and the elimination of MDIs and daily flow control measures. In that respect, is there an agreed approach to forecast traffic from the stakeholder airports? It's impossible to predict the profile of the recovery, but the MAG assumption is for a return to 2019 traffic levels at some stage. It seems obvious but we wouldn't want analysis to be performed on current traffic levels with only a slow (worst case) return over the coming years.
Response: Our latest forecasts which are used in the stage 2 analysis are based on post-pandemic traffic levels and forecast. In simple terms these have traffic levels returning to 2019 levels in ~2024. As the detailed design is progressed during stage 3, the benefit will be quantified in more detail, and traffic forecasts will continue to be revised.

Option 2: Systemised routes would seem to make a lot of sense and this is a principle upon which our designs will seek to achieve where possible. This option appears to be attractive but it may be a case of too far too soon and I don't have a quantitative view as to whether the issues you describe are greater than the benefits. I'm assuming this option will remain as an option for 2b in order to understand the scale of the disbenefit?
Response: Option 2 was rejected during 2A DP evaluation. This option was too restrictive, our preferred option favours more of a balance of systemised at lower flight levels, in areas where climbing and descending traffic create complexity and FRA at higher flight levels where there is less complexity.

The design team and I look forward to continuing to work with you throughout the project. We appreciate your time and effort to engage with us.

Kind regards,

[redacted]

NATS

[redacted]
Manager, Airport Concepts

M: [redacted]
E: [redacted]

NATS Corporate & Technical Centre,
4000 Parkway,
Whiteley, Fareham,
Hants, PO15 7FL.
www.nats.co.uk

Delta Airways

From: [redacted]
Sent on: Friday, January 15, 2021 6:18:53 PM
To: [redacted]
Subject: FW: Airline Engagement meeting minutes
Attachments: We sent you safe versions of your files.msg (48 KB), LD1 - Airline stakeholder engagement meeting 13.01.21 Final.pdf (532.77 KB)

[redacted],

Delta support Option 6: Systemized Routes & FRA above FL245/305+

Best regards,
[redacted]
Delta Air Lines Inc
Mobile: [redacted]
Office: [redacted]

easyJet

From: [redacted]
Sent on: Monday, January 18, 2021 10:35:46 AM
To: [redacted]
CC: [redacted]
Subject: RE: Engagement response

Morning all,

Thanks for your quick response and explanation.

Regards,

[redacted]

Head of Navigation Delivery

Integrated Control Centre (ICC)

call me: [redacted]
fly us: www.easyJet.com
holiday with us: www.easyjet.com/holidays
tweet us: www.twitter.com/easyJet
friend us: www.facebook.com/easyJet
follow us: www.instagram.com/easyJet

easyJet Airline Company Ltd, Hangar 89, London Luton Airport, LU2 9PF

From: [redacted]
Sent: 15 January 2021 11:20
To: [redacted]
Cc: [redacted]
Subject: Engagement response

Good morning [redacted],

Many thanks for attending the engagement meeting the other day and for providing us with feedback.
The team have provided the following responses to the questions which you posed…..

1. Systemised routes up to Max FL245 in all scenarios? Not for all of the 6 options shown. Option 1 for instance had minimal systemisation (lots of directs from a low height, which would impact capacity) and option 5 uses no systemised (as it's based on current airspace). However, as systemised gives capacity / delay benefits in lower airspace, having it to approx FL245-305 and FRA airspace above we feel does strike the right balance, hence option 6 is our preferred.
2. When considering options 4&6, it was indicated that either DCTs or FRA routings were much easier to amend without full consultation. Can you remind me which is the easiest of the two? FRA airspace gives more flexibility.

Considerations:

- Benchmarking for the anticipated results. Based on 2019 figures. Appreciating traffic may return to these levels eventually, benefit tracking will need to be adjusted to reflect the new environment. I look forward to more quantitative results in future presentations. Understood, it's a good point that we are aware of and will capture as part of this process.
- I'd like to see example track mile increases for the top flown city pairs that currently operate within the airspace. Understood, we would plan to show example city pairs to demonstrate track mile gains / improvements as part of future stages of this ACP process.
- I have some initial concerns regarding the allocation of city pair routes to the systemised structure and the potential inflexibility with regards to efficient flight planning. If you consider EGGP/EGCC departures to Spain for example, our current Company and CFSP optimised routes go via either BHD or CPT. Route selection will vary daily based on winds, en route nav charges, slot avoidance, weather avoidance etc. It's important to stress that even if one of these factors is towards the end of the routing it could still have a bearing on the optimised departure routing from the UK. UK airspace alone isn't the deciding factor with regards to optimised departure routings. If LPL > Spain traffic for example is assigned to a proposed North/South route over BHD we would be losing the flexibility and associated operational/cost efficiencies associated with it. There will be numerous other UK departure/arrival routings impacted. With this in mind, does the departure/destination station really matter so long as the airway structure itself is systemised? Thanks for this feedback Geoffrey - we totally understand and acknowledge the flexibility that our customers require and the reasons behind it. As such, when we talk about systemised airspace being designed and predicated on where flights originate from and are routing to, we mean specifically in certain sections of airspace/sectors. So for instance, specifically going through this airspace, Manchester TMA departures would likely use one systemised route if going southbound to Spain, that would be from the potential 4 that would run north / south through this specific piece of airspace that is 25-30nm wide (so from south of WAL – BCN – BHD – SALCO direction). So the intention would not be to restrict other routing options in the wider network/sectors (such as towards HON/CPT), but gain the benefit of specific flows of traffic where systemised routes are side by side in one sector.

We look forward to continuing to work with you as the project matures.
Regards

[redacted]

NATS

[redacted]
Manager, Airport Concepts
M: [redacted]
E: [redacted]
NATS Corporate & Technical Centre,
4000 Parkway,
Whiteley, Fareham,
Hants, PO15 7FL.
www.nats.co.uk

Gama Aviation

From: [redacted]
Sent on: Wednesday, January 6, 2021 11:19:36 AM
To: [redacted]
Subject: Re: NATS LD1 Stakeholder engagement

Hello [redacted],

I've read through LAMP D1 and here are my answers to your questions;

1. Yes
2. No
3. Nowadays I estimate to be less than 10%

Best regards,
[redacted].

[redacted]: **Air Traffic Specialist**
1st Floor 25 Templer Avenue, Farnborough, Hampshire, GU14 6FE, GB
E [redacted]

Your mission, our passion.
gamaaviation.com

Netjets

From: [redacted]
Sent: 10 January 2021 14:41
To: [redacted]
Cc: [redacted]
Subject: NATS LD1 Stakeholder Engagement

Hello [redacted],

Many thanks for the email and feedback, much appreciated.
I have embedded some answers and thoughts in red to your points in your email below which may answer some of your queries.
Where mentioned in our answers below, we have updated the stage 2 documentation and we will send you the updated version prior to the Stage 2 gateway submission (29th Feb 2021).
If you have any further queries, comments or points, please feel free to respond again, we are very happy to answer any customers queries - please note the deadline for feedback for this part of the process, stage 2 is 15th Jan 2021.

Kind regards,
[redacted].

[redacted]
LD1 ATC Lead
ATM Development
ATCO 1

M: [redacted]
E: [redacted]

4000 Parkway, Whiteley,
Fareham, Hants PO15 7FL
www.nats.co.uk

---------- (Answers by NATS in Red) ----------
From: [redacted]
Sent: 17 December 2020 11:41
To: [redacted]
Cc: [redacted]
Subject: RE: [EXTERNAL] NATS LD1 Stakeholder Engagement

Dear [redacted],

On behalf of NetJets Europe, I have had the opportunity to read and can now provide feedback on the document LD1-St2A-DesOpts-StakeholderEngagement_Issue0.1.pdf. I work within the Operations, Regulatory and Technical Section and have commented on other Airspace projects on behalf of NetJets

You asked for feedback on the specific items below:

1. Do you concur with the "preferred" options
2. Do you have a strong preference for any other options (please explain why).
3. What percentage of your users would not be RNAV1 equipped? For those users who are not RNAV1 equipped, up to what levels, and in what areas of controlled airspace they typically operate.

Please be aware that answers will be based on our operation as Europe's leading business Aviation provider. Where numbers are given regarding aircraft fleets, these should not be distributed to other stakeholders or outside interests without the specific approval of NetJets Europe.

Firstly, I may have missed it, but coming late as I have into this debate I missed exactly what the definition is of 'SYSTEMISATION' and you do not explain it in the document. Perhaps worth adding as it is a core component throughout the document. I referred to an article by your own [redacted] (Head of Systemised Airspace and Airport Integration at NATS) to confirm I actually understood my preconceptions.
Fair point [redacted] – the definition is in the glossary in the document, but that's not entirely obvious - so we have updated the stage 2 documentation in light of your feedback.

Do you concur with the "preferred" options

NetJets broadly concurs with your choice of preferred options, but we have the additional comments:

Business Aviation (and Private Aviation) often operates outside of traditional destinations and routes; therefore, in a totally biased approach, we would favour airspace with minimal systemisation and maximum FRA. Option 1 is therefore attractive to us as it allows efficient arrival (from an operator point of view) to less frequented (and therefore lower traffic density) locations. In your description, you state this option is environmentally efficient for low volumes and utilising Great Circle Routings. Your Benefits section for Option 1 does not consider the other efficiencies granted by such airspace- reduced flight times, efficient (direct) routes also make better use of modern avionics. However, we are realistic enough to realise the shortcomings of this Option with rising Demand and our low overall impact as Business Aviation.

Understood and we appreciate the point. The main body of this airspace structure will accommodate users to all destinations, so if you are in the West airspace inbound to less frequented locations, say EGTK, EGTE or EGLF for example, you would still fly in this main systemised structure for most of the flight to get there. Therefore if this option was realised, it would significantly reduce the airspace capacity due to the complexity of the many aircraft flying direct on their own trajectories and the amount of tactical intervention that would have to take place to keep them separated. This would be highly likely to lead to regulations being required and an increased network delay.
In current traffic levels this would indeed be a more attractive option, but this airspace will be in for quite a few years (interestingly the last time a significant redesign of this airspace happened was 2005, so you can see the life cycle of these airspace designs), therefore we have to presume that traffic will be back at some point and will probably outstrip 2019 traffic levels - so we need to plan for that, therefore we think some of the other options may give a better balance of capacity and more efficient direct routings and the benefits for less flight time, fuel etc that this would provide.

Option 3 is dismissed almost out of hand- surely, you must consider that the future will undoubtedly include advanced avionics and reduced separation, therefore meaning investment today offsets spending tomorrow? I did consider the explanation a little too dismissive and the document therefore weighted or biased(?).

That's good feedback and a fair point. Option 3 was a strong contender for us when this airspace was going to go live at a later point. The reason that has changed is that NATS is investing heavily in a whole new system at Swanwick called DP-ER which has new kit / tools and this project (LD1) was going to go live after DP-ER was introduced. However the live date for LD1 has now been optimised and we are going ahead of DP-ER (May 2023), which will enable us to realise the benefits of changing our West airspace earlier – however this means that we are using current kit and this presents certain technical challenges, one of which involves one of the main tools we use in these sectors (iFacts) and the cost of adapting that and other systems to 3nm separation is prohibitive, especially with a new system just round the corner that is going to supersede iFacts (approx. late 2024).

However, we have already had discussions with the DP-ER team about 3nm as an option for that project, we will ensure your feedback gets passed on to them.
We have also incorporated an expanded explanation about why 3nm is not one of NATS preferred option in the revised stage 2 documentation.

> Option 6 remains attractive as a pragmatic and realistic approach for most business users with modern fleets: our aircraft operate at higher cruising altitudes (FL450 and above) than most commercial types, with the to climb higher initially (often with a reduced step-climb profile) or to remain at altitude inbound longer, and this would be particularly true in the airspace identified in the document at Figure 2 on page 4. Therefore, FRA is particularly attractive to us. Any systemisation in the lower Airspace MUST have the capacity to accommodate less-frequented destinations without disadvantaging those operators frequenting such destinations.

Understood. It would not be our intention to limit the capacity of less frequented destinations as part of this airspace change. This feedback will be captured and progressed.

Do you have a strong preference for any other options (please explain why).

> For the reasons outlined above in Para 1, Business Aviation requires to some extent non-systemised airspace to take advantage of less frequented departure and destination airports, and consequently to have efficient routing between them. An example of this would be the London area, where on occasion a 20NM direct flight cannot be completed between EGLF and EGGW or EGWU without 140-160NM routing via systemised airspace. Obviously this is an extreme example (EGLL is there I realise!), but one which we do not wish to see expanded across a wider area. Systemisation must have the capacity to accommodate this. Hence, in a truly selfish world, Option 1 is not as easily dismissed to operators without a hub or pre-determined route structure!

Understood and this feedback will be captured.

What percentage of your users would not be RNAV1 equipped? For those users who are not RNAV1 equipped, up to what levels, and in what areas of controlled airspace they typically operate.

> 100% of our fleets are RNAV 1 capable. This is over 100 aircraft of mixed Business Aviation types in Europe (and 600 in the US), including short range and truly global Reach capabilities. As stated above, the advantage to our users is the ability to avoid main hub departure and destination locations, therefore to travel point to point. Most years, NetJets Europe operates to over 750 destinations and over 40000 flights (non-COVID environment) on a non-scheduled basis. This is why we consider any Systemisation must have the capability and capacity to cater (particularly in the lower Airspace) for efficient routing during arrival and departure.

All copied, thank you.

I hope this helps the debate. The key point to take from us as a Business Operator is that any future Systemisation MUST have the capacity and capability inbuilt to allow non-scheduled operations to less frequented locations efficiently. Any questions please do not hesitate to contact us,

Stay Safe

[redacted]
Regulatory & Technical Department
NETJETS EUROPE

E. [redacted]
M. +[redacted]
netjets.com

NETJETS

Ryan Air (Answers by NATS in Red)

From: [redacted]
Sent on: Friday, January 15, 2021 1:24:00 PM
To: [redacted]
Subject: RE: LD1 Stakeholder engagement

Dear [redacted],

From: Base Captain, [redacted]
Sent: 15 January 2021 13:24
To: [redacted]
Subject: RE: LD1 Stakeholder engagement

Dear [redacted],

I have consulted with my flight planning department and they have some questions and comments which are as follows :

Slide 9 and 10 in the slidepack presented on the 13th Dec meeting may help answer the below questions. These slides summarise the benefits of systemised and FRA airspace. Extra specific detail is also captured below.

Option 1 Why do NATS state:
Significant controller intervention needed The basis of this option is that flights could go direct from a low height (7,000ft). If this option was realised aircraft would not be on any sort of separated route structure, but on user preferred direct trajectories, therefore crossing and interacting at multiple points in the airspace, hence a lot of controller intervention would be required to separate the aircraft.

- High complexity & workload Due to the amount of interacting trajectories above, this would increase complexity and workload for the sector teams.
- Reduction in capacity & potentially greater delay If workload increases this in turn affects the amount of capacity a controller (or sector) could cope with, so their capacity would be reduced. If demand exceeded this reduced capacity delays may potentially increase
- Impact on other airspace users This airspace has many military and general aviation areas outside of the CAS structure. If aircraft were to go direct from a low height (7,000ft) this would impact these users in these areas.

Option 2
Please outline why there is environmental and fuel disbenefits but an increase in capacity and potentially less delays. A fully systemised route network means that multiple parallel routes would exist, with specific flows of traffic flying to those routes. By having more routes side by side aircraft have to get to and from these routes, which may well mean extra miles compared to less side by side routes in current airspace. This potential extra mileage in simple terms may equate to extra fuel and Co2 emissions. However, as the aircraft on these different flows are on separated PBN routes, these would likely lead to a complexity reduction as controller intervention would have decreased, leading to the controller / sector being likely to handle a greater number of (this less complex) traffic, therefore there would be less delays likely incurred as greater demand would be absorbed by increased capacity.

Option 3
Please outline why there is likely environmental & fuel disbenefit but again achieving Increase in capacity & potentially less delays.
Please refer to the answers above for option 1. The 3nm separation is still based on systemised airspace, therefore the benefits and challenges of this type of airspace lead to these probable conclusions.

Option 4
Please outline why it does not align with Free Route Airspace concept, Limited changes allowed to route structure without another ACP

Direct Route Airspace, is not FRA airspace, but a series of directs which are published as available to file and fly. If we wanted to change a direct route that would require approval from the CAA as part of an airspace change. FRA is published as a FRA airspace volume, as such changing these routes, as they are part of a FRA volume involves potentially less process with the CAA.

Option 5
How is Environmental & fuel benefit achieved? By having more direct routes with the current airspace there would be potentially less miles flown and Co2 emissions produced But the following are not changed:

- Same controller intervention As the core part of the airspace would not change, this would be unlikely to change
- Same complexity & workload As per first answer
- Same capacity & delay As per first answer

Option 6 This appears to benefit NATs as it gives an Increase in capacity but only potentially less delays. Would this be because of the increased traffic? In simple terms for this option if capacity increased we would expect a fall in delay, however as there are a lot of reasons why delays could be applied (eg weather, military activity etc) this would not be necessarily guaranteed – the 'potentially' also applies, as the detail of the routes have not been designed yet, therefore the benefit not measured, so not determined yet. But as a general concept for this option the first part of this answer applies. If so, NATS may benefit but operators may not in the long term when capacity becomes saturated and delays start to increase. This option should provide an increase in delay and a fall in capacity as stated, but that is presuming the same traffic demand (based on 2019 levels). If demand increases further, the extra capacity potentially provided by this option would help with the extra demand, but inevitably if the increase in capacity is significant and above the new capacity of this airspace then delays may be applied to ensure safety; no design would give unlimited capacity increases and remove all delay.
What are the cost benefits for Operators? Will this be paid by the Operators in increased unit fee or increased traffic?
FRA airspace in this section of airspace will not be hugely beneficial to Ryanair as it is stated to be above 245 which will mainly affect transatlantic traffic. This change absolutely will benefit Ryanair presuming a similar pre Covid Ryanair network still exists. Examples of traffic FL245+ in this airspace, could be a substantial amount of traffic to / from:

- Dublin to middle / southern Europe (Holland, France, Italy, Spain and beyond)
- Other Irish airfields to Spain and adjacent countries
- Prestwick to Spain / Portugal and adjacent countries
- Liverpool / Manchester > Spain / Portugal / Canaries
- Even BOH – DUB could go this way

I would be very grateful for your feedback on the above.

Best Regards

RYANAIR
[redacted]
BOH Base Captain
Mob [redacted]

SAS

From: [redacted]
Sent on: Monday, December 14, 2020 10:47:54 AM
To: [redacted]
CC: [redacted]
Subject: FW: NATS LD1 Stakeholder Engagement
Attachments: We sent you safe versions of your files.msg (48.5 KB), LD1-St2A-DesOpts-StakeholderEngagement_Issue0.1.pdf (10.1 MB)

Follow up: Follow up
Follow up status: Completed
Completed on: Tuesday, December 15, 2020 9:43:00 AM

Dear [redacted],

Below, please find my comments. I have copied in my colleague [redacted],, Manager External Relations, for additional comments if any.

1. Please note that SAS presently do not have any traffic to/from Bristol, Cardiff and Exeter airports, but I assume that what is implemented here could be a base for future implementations in the UK, connecting underlying airports to the future FRA airspace.
   I do prefer option 6, if it is understood as having compulsory transition routings from/to the SID/STAR of a given airport, connecting to the FRA without taking into consideration the "actual" flight level when at the end of the transition to FRA (e.g. FPL will be acknowledged even though IFPS climb profile indicates only FL235 iso FL245. This is how it works in e.g. Sweden. Hope it makes sense.
2. Option 1. Would be fine from an operator perspective, giving us the possibility for maximum use of Free Route Airspace, but I guess that the trade-off with capacity is making this proposal unrealistic.
   It is mentioned that option 3. (3 NM separation versus 5 NM separation) will give little gain in capacity compared to the investment of implementing this. Is that also evident for other parts of the UK airspace?
3. Presently, all SAS flights are RNAV1 equipped.

With kind regards,

[redacted]
Operative Route Analyst
Flight Dispatch

+[redacted]

SAS
Scandinavian Airlines System
Dept: CPHOW
P.O. Box 150, Kastrup, Denmark
Visit: Amager Strandvej 392, 3th floor

Luton Airport (Answers by Luton in Red)

From: [redacted]
Sent on: Friday, January 15, 2021 12:18:21 PM
To: [redacted]
CC: [redacted]
Subject: RE: NATS LD1 Stakeholder Engagement

Hi [redacted],

Thanks so much for this additional information, this is really appreciated.

Answers to your specific questions are below:

1. Does the LD1 ACP have potential interactions or dependencies with *your* FASI-S ACP. (If so please describe where the dependencies are and whether you feel all concerns have been adequately mitigated and whether you are confident that the interfaces with your airport have been accommodated within the LD1 design options.)
   We do not feel that the options described in this document have any interactions or dependencies with LLA's FASI-S ACP.
2. Do you concur with the preferred options
   We agree with the preferred options. As well as the costs associated with option 3, we believe this option would also restrict the aircraft able to transit through this area due to the RNAV capabilities which is not preferable.
3. Do you have a strong preference for any other options (please explain why).
   Our preference is either option 4 or 6, in line with NATS preferred options.
4. What percentage of your user aircraft would not be RNAV1 equipped? For those users who are *not* RNAV1 equipped, up to what levels and in what areas would they typically operate.
   We looked at our operation at the end of 2019, and 97% of our fleet were RNAV1 equipped. The 3% that were not were mainly private business jet operators at Luton, which fly to a range of destinations. The total private business jet operators at Luton account for approx. 30% of all our operations, so is a larger % than other airports.

I hope this information helps. If you require further clarity on our answers please do let me know.

Kind regards,

[redacted]

London Luton Airport

[redacted]
Airspace and Noise Performance Manager
London Luton Airport
Percival House,
Percival Way,
Luton, LU2 9NU
E [redacted]
W london-luton.co.uk

Gatwick Airport

From: [redacted]
Sent on: Friday, January 15, 2021 3:49:16 PM
To: [redacted]
CC: [redacted]
Subject: Gatwick Airport response to LAMP D1 Stage 2A Design Options and Evaluation
Attachments: Gatwick Response LAMP D1 2A Design Options and Evaluation 20210115 FINAL.pdf (253.45 KB)

Hi [redacted]

Please see attached Gatwick's response to the LAMP D1 Stage 2A Design Options and Evaluation document.

Please contact me should you have any comments or questions re attached

Kind regards

[redacted]
Airspace Change Manager
Gatwick Airport Ltd
: [redacted]

YOUR LONDON AIRPORT Gatwick

13 January 2021

[redacted]

NATS Corporate and Technical Centre

Gatwick Airport Limited Response to the Draft NATS London Airspace Modernisation Programme Deployment 1 Stage 2A Design Options and Evaluation Stakeholder Engagement Document

This letter provides a response to the Draft Stakeholder Engagement document for Stage 2A Design Options and Evaluation Stage of the London Airspace Modernisation Programme Deployment 1 (LAMP D1), providing feedback on the document but specifically focusing on the following questions:

1. Does the LD1 ACP have potential interactions or dependencies with Gatwick's FASI-S ACP? (If so please describe where the dependencies are and whether you feel all concerns have been adequately mitigated and whether you are confident that the interfaces with your airport have been accommodated within the LD1 design options.)

2. Does Gatwick concur with the preferred options?

3. Does Gatwick have a strong preference for any other options (please explain why)?

4. What percentage of Gatwick's user aircraft would not be RNAV1 equipped? For those users who are not RNAV1 equipped, up to what levels and in what areas would they typically operate.

Under the auspices of FASI-S Gatwick will seek to achieve the following:

- Create systemised arrival and departure procedures that improve safety and resilience and make best use of airspace capacity;

- limit, and seek to reduce, environmental impacts on local communities;

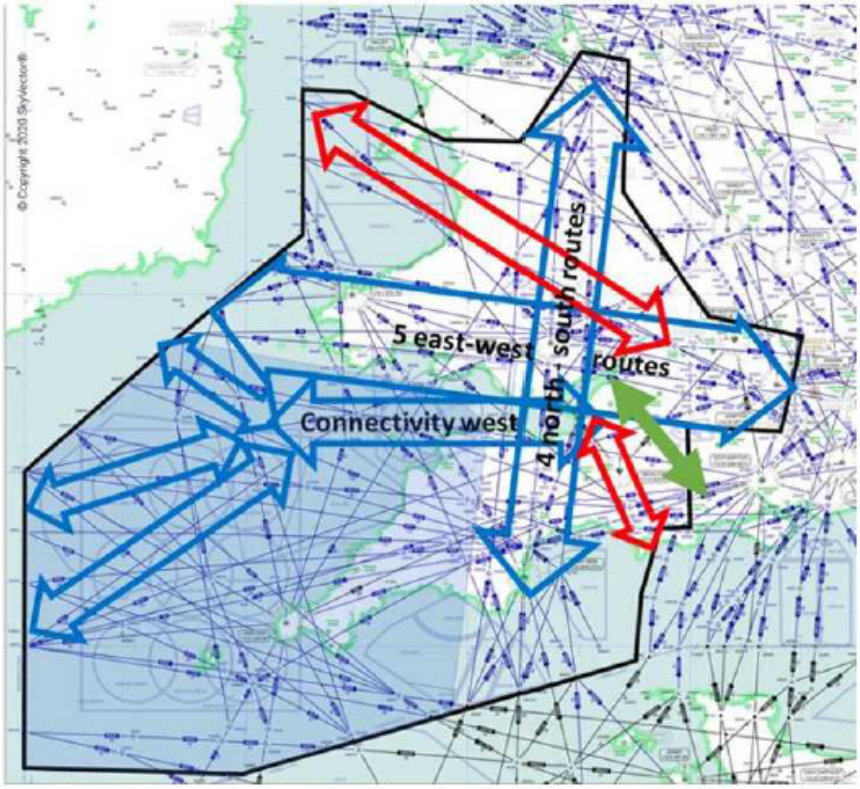
- create routes that offer fuel-efficient integration with the route network and offer operational agility.

Gatwick will aim to design departure routes that facilitate continuous climb, aligned to aircraft performance capabilities and embed operational flexibility, resilience and respite. Our arrival routes and procedures will aim to remove, or reduce, descent constraints keeping aircraft as high as possible for as long as possible keeping in mind the need to minimise noise impacts.

Gatwick are satisfied that the NATS design principles and the concept options put forward fit well and would support and enhance our proposed solutions going forward. Nevertheless, we offer comment or ask for further clarification on the following:

1. The LAMP D1 draft does not mention any timescales for deployment nor do the separate options identify how long they would take to implement. Is the preliminary information on this available? How and when will it be shared?

2. On page 7 you address the issue of COVID-19 and the decision to proceed with this deployment without the accompanying ACPs from the airports. As a result, you mention that you have adopted an assumption that the proposed design concept options will interface with the existing lower altitude arrival and departure routes. Although this approach ensures that the connectivity with the existing route structure is maintained, how will it ensure that your deployment does not constrain subsequent airspace design options below 7000ft in this airspace and potentially in the adjacent airspace, e.g. through restricting available routeings at upper flight levels. In other words, how do you intend to accommodate relevant aerodromes' FASI-S airspace changes that are submitted subsequently?
3. With your Option 4, we understand you have provided indicative direct route options at upper flight levels for illustrative purposes. We request that you investigate the feasibility of a new route further east than indicated, between Yeovilton and Salisbury Plain Danger Areas (green in the image below) as this may provide a shorter route for EGKK traffic than the Weymouth -Yeovilton route. Another benefit would be increased flexibility, since the provision of this direct routeing would potentially allow traffic to arrive from SAM SID rather than congested IMVUR – KENET.



Gatwick's responses to the specific NATS questions, detailed above, are as follows:

1. Gatwick is not directly affected by the changes outlined in the LAMP D1 ACP. Broadly, we have identified routeings at FL245 and above to have the highest potential interaction and dependency with our own FASI-S ACP, since we anticipate that most of the traffic to and from EGKK will be utilising this portion of the airspace as well as the Free Route Airspace (FRA) above FL305. We welcome and support the proposed mitigations, particularly the improved connectivity through provision of direct routes or more FRA at FL245 and above.

YOUR LONDON AIRPORT Gatwick

We expect that this would deliver environmental benefits and allow us greatest flexibility to optimise our own design options.

2. Gatwick concurs with the preferred options, since they maximise the available direct routes and/or free route airspace at upper airspace, while providing a systemised solution at lower airspace. Gatwick would prefer Option 6, then Option 4.
3. It is Gatwick's opinion that none of the other proposed options meets our requirements or fits as well with our planned changes as the preferred options 6 and 4.
4. Based on 2019 flight information, we can report that between 99.5 and 100% of aircraft arriving and departing Gatwick Airport were RNAV1 equipped.

If you require any further information, or wish to discuss any of the above points, please do not hesitate to contact the undersigned.

Yours sincerely

[redacted]

Airspace Change Manager
Gatwick Airport Ltd

NATS response To Gatwick

From: [redacted]

To: [redacted]

Subject: LD1 stakeholder feedback response

Hello

Many thanks for taking the time to respond. LD1 has taken the time to review all responses.

Here are the LD1 replies to the Gatwick response to the Stakeholder feedback document.

1. May 2023 target implementation date added to doc.
2. We have engaged individually with each FASI-S ACP sponsor to ensure that the proposed LD1 design is beneficial and does not constrain their FASI-S designs going forward. It should be emphasised that LD1 is the first of several LAMP deployments. When LD2 is developed it will be more directly concerned with the interfaces with Gatwick, and the subsequent deployments can (and will need to) make changes to the "LD1 airspace". This is an iterative change process and the changes in the LD1 airspace do not preclude further changes being introduced by subsequent LAMP deployments.
3. Suggestion noted and will be progressed to the design team for consideration

Regards

[redacted]

NATS

[redacted]

Manager, Airport Concepts

[redacted]

E[redacted]

NATS Corporate & Technical Centre,
4000 Parkway,
Whiteley, Fareham,
Hants, PO15 7FL.
www.nats.co.uk

Classification: Public

Heathrow Airport Limited
The Compass Centre, Nelson Road,
Hounslow, Middlesex TW6 2GW
[redacted]
W: heathrow.com

LHR Response to LAMP Deployment 1 (LD1) Stage 2 Engagement – 20th January 2021

To whom it may concern,

Heathrow Airport is responding to the Engagement material received on 11th December 2020 in respect of the ACP – LD1. Heathrow welcomes the opportunity to respond to the proposed options presented in the detailed document.

Despite the current ongoing pandemic situation and the effect that this has, and continues to have, on the aviation industry, Heathrow is fully committed to Airspace Modernisation both from a local perspective and as a national change to the airspace infrastructure. The options contained within the Engagement material present a further opportunity to modernise airspace with benefits to ANSPs, Airports and Airlines. Of the two options outlined as NERL preferred options, and from a conceptual perspective, we believe **Option 6** would provide the greatest opportunity to maximise these benefits, both short and long term.

It is important that the airspace designs are future proof and therefore consider, as far as practical, projected increases or changes in aircraft movements over the next decade, including to and from the London Terminal Area. From the material provided, we are unable to ascertain whether the 5nm separations proposed for Options 4 and 6 would provide future capacity required across the whole of the region under consideration and we propose that a hybrid model is not ruled out, for example with 3nm separations considered for the areas of greater anticipated traffic density (e.g. for the area to the East abutting the London Terminal Area in particular, but also for any other identified future bottlenecks).

Given the level of information in the material and its conceptual nature, it is not possible to fully understand the impact, interaction, and dependencies of the proposed options on the current route structure into and out of Heathrow. We therefore welcomed the bi-lateral on 13th January 2021 to discuss. Based on further discussions in this meeting we believe that some of Heathrow traffic above 7000' has the potential to be impacted by options proposed in this airspace change. Heathrow requests that NATS provides confirmation of the extent of potential impact, and further whether this would remain the same across all options presented.

Further, with the majority of FASI low level ACPs, including Heathrow's, paused due to the impact of the COVID-19 pandemic on the industry, we are unclear how the potential interactions and dependencies with the future low level FASI designs have been, and will be, considered within the options analysis. Without the opportunity to align designs, it is important for the wider ambitions of FASI that the future designs planned by airports below 7,000ft are not constrained by LD1 airspace designs which now plan to progress in advance of the wider programme. A mechanism is required to ensure that either the LD1 designs and options analysis are flexible enough to accommodate different entry and exit points to/from 7,000ft, or further evolutions of the airspace are planned by NERL within FASI alongside the lower level changes as the airports' programme re-mobilises.

In summary, whilst in principle we would endorse Option 6 as a concept, we require a more detailed understanding of the impacts to Heathrow's current and future operation as noted above. This provision of this additional information, through a Technical workshop, would enable Heathrow to assess the

Heathrow
Making every journey better

impacts of this ACP in more detail. This would then assist Heathrow in providing the agreement requested in the engagement material, ensuring that dependencies and potential interactions have been discussed, as required by the AMS compliance statement, understood, and where possible mitigated to minimise the risk to current and future operations at the Airport and wider network.

We recognise the desire for progression, and fully support the principle to initiate the UK airspace modernisation. We look forward to working with you to find a resolution to ensure deployments are planned which optimise the final designs from the ground to the UK airspace boundary.

Yours Sincerely

[redacted]

Head of Airspace and Airport Operations, Heathrow Airport

NATS response To Heathrow

[redacted]
Head of Airspace & Airport Ops
Heathrow Airport Limited
The Compass Centre
Hounslow
Middlesex
TW6 2GW

NATS
Corporate & Technical
Centre
4000 Parkway
Whiteley
PO15 7FL

27th January 2021

Dear [redacted]

LHR Response to LAMP Deployment 1 (LD1) Stage 2 Engagement

Many thanks for the above response which we received on 22nd January 2021. We would like to take this opportunity to thank you for the time taken to respond to the Stage 2 Engagement materials and for the comments that you have made regarding the project and the wider programme.

We are very pleased to note the comments regarding the ongoing commitment of HAL to Airspace Modernisation and welcome the agreement that this change will provide benefits to airspace users and stakeholders.

We recognise the desire of Heathrow to participate in the wider airspace programme once the economic climate allows and look forward to the ability to work collaboratively in order to understand the needs of all users of the relevant airspace. The future redesign of the airspace between Heathrow and the area covered by LD1, TC SW Deps, will be a key part of that work and we look forwards to working with HAL in order to understand your proposed new concepts of operation and how we can integrate them. Indeed, it is through extensive engagement with those airfields that directly interact with the LD1 airspace, by the LD1 team and over the last 18 months, that the broad designs for this change have been derived.

We understand that whilst Heathrow's paused ACP area does adjoin the LD1 ACP area, LD1 is focussed on the BCN (Brecon) and BHD (Berry Head) Sector groups which do not directly interface with Heathrow approach or Heathrow departures. Stack utilisation at Ockham and Bovingdon will not be impacted by the changes in LD1, although there may be some changes upstream to the routes that feed into these stacks. The detail of any such changes will be developed throughout our detailed design and consultation work in Stage 3 and as such we welcome the desire of HAL to be fully engaged and involved with this work.

We are firmly of the belief that the LD1 airspace change will provide benefit to airspace users in terms of safety, capacity, economic and environmental factors. In terms of future development then the LD1 airspace will benefit from the ability to interface with any changes brought about by subsequent deployments of LAMP and the overall TMA Redevelopment. These will be more directly focussed on the interfaces with Heathrow, as well as other sponsors, and will be cognisant of the requirements of your operation as they develop. This is our commitment as part of the wider Airspace Modernisation programme.

We hope that this provides you with a satisfactory response to the concerns you raised, should you have any further comments then we look forward to working closely together as the project continues.

Kind regards

[redacted]
Manager, Operational Concepts

Ports of Jersey

From: [redacted]
Sent: 03 February 2021 14:57
To: [redacted]>
Cc: [redacted]
Subject: Re: NATS LD1 Stakeholder Engagement

Good afternoon [redacted]

[redacted]

As you state the impact to Jersey operations is "no change as to how aircraft to and from Jersey are handled as part of this proposed airspace change."

Channel Island Airspace (CIA) extends from surface to FL195 officially although we operate aircraft up to FL250 in the north west/SKERY area with agreements in our LOAs with LAC and Brest. In addition, we have approval of 3nm radar separation within CIA, although mindful 5nm is required outside. With this in mind we would be happy with either Option 4 or 6. Assuming FRA is from FL245+, there is little/no impact to Jersey so no preference to either. I understand all our commercial operations are RNAV1 capable, there might be a minority of outdated Biz Jets unable to comply with RNAV1 and the odd "other" aircraft, however, these would not normally be filed above FL100.

I hope this helps and is not too late to add to your feedback.

Regards

[redacted]
Air Traffic Control Officer
Airspace Development Manager
Ports of Jersey
Jersey Airport / St Peter / Jersey / JE1 1BY
T [redacted]
E [redacted]
W www.ports.je

PORTS OF JERSEY
YOUR ISLAND GATEWAY