

Future Airspace Strategy Implementation South:
ATS Route Network managed by NERL under
London Airspace Management Programme 2

LAMP CAP1616 Compliance/
NATS-CAA 04-Dec-2018 Meeting notes

The NATS logo is displayed in a bold, italicized, blue sans-serif font. It is positioned on the right side of the page, above a large, decorative blue graphic element that consists of two parallel lines curving downwards and then back up to the right, resembling a stylized 'S' or a flight path.

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Action	Organisation	Role	Date
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0. Introduction – LAMP CAP1616 Compliance Meeting held 4th December 2018

- 0.1 This document provides some notes and context around a set of three presentations given by NATS to the CAA, using NATS IT equipment connected to CAA display screens.
- 0.2 Its purpose is to be a brief contextual record of some of the conversations had in the meeting. The talking points below are attributed to NATS or CAA, not to individuals.
- 0.3 The presentations themselves were marked NATS Private due to some commercially confidential items where it is undesirable to publish NATS Intellectual Property Rights (IPR). The presentations were never supplied to the CAA directly, thus are not available under FOIA.
- 0.4 Publishable, redacted versions of the presentations are supplied as part of these notes.
- 0.5 The presentations were titled:
 - 1 Airspace Design Methodology Discussion
 - 2 Multi-phased deployment
 - 3 Timeline Update
- 0.6 The following CAA and NATS staff attended the meeting – names will be redacted for publication:

CAA Attendees:	CAA Roles:	NATS Attendees:	NATS Roles:
[Redacted]	Airspace Regulator Communities & Coordination Principal Airspace Regulator Airspace Regulator, Case Officer Communities & Coordination Principal Airspace Regulator Legal Advisor	[Redacted]	Project Manager Community Relations Manager Senior Research Analyst Manager Operational Concepts Manager Airports Concepts Senior Airspace Change Specialist

- 0.7 Future Airspace Strategy Implementation (South), known as FASI-S, is the umbrella name for the concept to modernise air traffic services (ATS) in the South East of England. This is a collaborative exercise between 15 airports, and NATS as the UK’s enroute air navigation services provider (ANSP).
- 0.8 The NATS part of FASI-S is known as London Airspace Management Programme (LAMP). Its scope is to improve the ATS route network at higher levels, with individual airports improving the network for their arrivals and departures at lower levels.

1. Airspace Design Methodology Discussion

- 1.1 See the first presentation titled “Airspace Design Methodology Discussion” (redacted to remove commercially confidential items).
- 1.2 NATS presented the use of new tools and design methods, and explained how NATS intends to integrate the design methodology into the CAP1616 Stage 2 process. To summarise:
 - 1.2.1 NATS will input various design parameter sets into the new tools. Some parameter sets will be biased towards a particular design priority, others to a balance of priorities.
 - 1.2.2 The tools will output various Design Priority Network Prototypes (DPNPs). These DPNPs are not “design options” within the meaning of CAP1616. They are illustrative theoretical prototypes for further development, not viable practical networks for consideration. They will also output some metrics to allow comparison – not perfect, but usefully illustrative.
 - 1.2.3 They are a means by which NATS can engage our stakeholders and illustrate how different design priorities affect the network, other things being equal. That stakeholder engagement will continue to refer back to Stage 1 Design Principles and how they informed the parameter sets for the tools.
 - 1.2.4 This stakeholder engagement on DPNPs would develop into a preferred DPNP, which would then be split into manageable elements for further development and optimisation.
 - 1.2.5 Each element would have an iterative design process applied, refining it from a purely data-driven tool output to a viable practical network element.
 - 1.2.6 As part of the stakeholder engagement strategy, key stakeholders would be invited to attend and provide feedback, during the iterative design process. NATS does not expect all stakeholders to attend all iterations due to the likely number and duration, however a certain commitment is expected. The CAA stated that, provided ample opportunity has been given and reasonable

efforts made to engage the appropriate key stakeholders, and suitable evidence can be provided to demonstrate, it will be considered at the time of submission to the CAA.

- 1.2.7 Some elements will explore how other elements interact as part of a sub-network.
- 1.2.8 When all the iterations are complete, it will be possible to collate them into one or more viable practical networks.
- 1.2.9 At this point we move into formal CAP1616 design options, with the creation of appropriate Stage 2 documentation. NATS aims to submit that documentation in April 2020. For more timeline details see Section 3 on page 7.
- 1.3 The above sub-paragraphs summarise NATS' design methodology presentation. The following paragraphs provide context around wider LAMP discussions.
- 1.4 The CAA previously had reservations regarding LAMP's proposed status as a Level 2 vs Level 1 proposal, within the meaning of CAP1616, and repeated them in this meeting. The CAA was of the view that any influence LAMP exerts on the positioning of lower altitude routes, defined by the airports under FASI-S as "letterboxes", meets the definition of a Level 1 change as it will have the potential to alter traffic patterns below 7,000 feet. As the CAA is required to confirm the Level of a change when Stage 2 of CAP1616 is completed, the CAA again highlighted the significant risk that LAMP will be delayed if it is not prepared as a Level 1 change. It is NATS view that they will be a stakeholder in the airports' ACPs and not the designer or sponsor. All stakeholders will give feedback to the airports' designs – including NERL and Airlines. The LAMP project is working with the other FASI-S stakeholders to understand the strategy for the stage 2B submissions for the various ACP modules. A further meeting with the CAA will be scheduled to clarify these matters.
- 1.5 The CAA also has reservations that the airports are behind NATS on their individual CAP1616 timelines, which may lead to the perception of a pre-determined LAMP solution due to ongoing development work using indicative letterboxes. In effect, how can NATS do design development work when they cannot formally know the locations of each airport's letterbox because the airports are running months behind NATS in their respective CAP1616 processes?
- 1.6 The airports have been asked by the Transport Minister for Aviation (Baroness Sugg) to provide NATS with indicative letterbox locations. All parties including the CAA are aware that these letterbox locations are collaborative, indicative, and subject to complete change. All parties are also aware that preliminary work will be done, using these indicative letterboxes, in order to prove the feasibility of airspace network modernisation in the southeast.
- 1.7 NATS' position is that LAMP should be a Level 2 ACP with aviation stakeholders (including the airports) as the primary audience. The scope covers changes to the wider, higher enroute network. The airports are clear that they are responsible for the changes below 7000ft and as such are expected to manage their local community relationships. The CAA highlighted that it considers it likely that LAMP will be confirmed as a Level 1 change, and NATS should ensure that its proposal meets the requirements of a Level 1 change, including working in conjunction with airports to ensure that each airport also consults on LAMP.
- 1.8 Airports are stakeholders of their neighbouring airports under FASI-S and must engage with each other on their letterbox locations, i.e. the interface between the upper NATS' LAMP network and the airports' planned lower arrival/departure routes. Should there be a potential conflict, NATS expects the airports to work together towards a resolution, with NATS' providing assistance if needed. Each airport is ultimately responsible for defining its own letterbox locations via appropriate stakeholder engagement and the CAP 1616 process. NATS will respond to those letterboxes wherever they may be and does not plan to influence their definition.
- 1.9 NATS is capable of continuing to work on the upper network prototyping:
 - Without knowledge of the precise, final locations of the airports' lower letterboxes;
 - With the knowledge that all the indicative locations could change (or not); and
 - On the understanding that, regardless of whether the letterbox locations change or not, the airports remain responsible for their development and definition.

- 1.10 Once the airports have progressed through their respective CAP1616 Stage 1 Gateway Assessment into Stage 2 Develop and Assess, more design details on those letterboxes will be forthcoming in accordance with CAP1616 process, and lower/upper design synchronisation can begin.
- 1.11 The CAA questioned what NATS strategy would be in the management of an airport whose FASI(S) deployment plan differs or become different from the norm. How do NATS propose to incorporate an airport that does not initiate or changes their timeline during the ACP process. A number of scenarios were touched upon.
- 1.12 ██████████ suggested it may be useful to develop a matrix of possible scenarios and we schedule another meeting with the CAA to articulate and develop how we jointly believe those scenarios would be deployed and impact on the LAMP development and delivery.
- 1.13 NATS has committed to supporting airports, in a proportionate manner.
- 1.14 Letters of Agreement (LoAs) will need to be in place between NATS and each airport, for the benefit of both. This LoA would set out the need for airports to engage their stakeholders on all Level 1 matters (which they are already expecting to do), with NATS providing appropriately proportionate support should the airport's letterbox location need to be adjusted due to network requirements. An example was discussed in the meeting as a likely compliant piece of work. Should the above situation apply, NATS would supply the airport with appropriate information and data on the network influences leading to such a change, in order for the airport to effectively engage its stakeholders with the best available information. Should this situation arise, NATS would consider that the CAP1616 Level 1 requirements had been fulfilled since NATS information will have been given to the correct stakeholders by the airport, as part of its engagement.
- 1.15 NATS contends that the Airspace Change Organising Group (ACOG), a body dedicated to the management and oversight of FASI-S sponsors, is the mechanism through which such LoAs should be agreed, and also through which any conflicts should be resolved.
- 1.16 NATS is confident that this will allay CAA concerns and confirm LAMP's Level 2 status.

2. Multi-phased deployment of a large-scale change

- 2.1 See the second presentation. The following paragraphs presume the approval of a LAMP ACP in order to provoke discussion on deployment implications and does not prejudice the CAP1616 process.
- 2.2 NATS explained that the concept that a consultation and ACP must necessarily describe the entire future network – the “all new” scenario – whilst being impractical to attempt to describe every possibility of single deployments in the progression towards the end design.
- 2.3 NATS explained that there are too many potential permutations of deployment during the transition from “all old” to “all new” (examples given in the presentation).
- 2.4 The CAA requested clarification on interim deployments. NATS stated that each interim deployment would incrementally introduce the ACP design, with interfaces to the “old” pre-existing arrangements on a deployment-by-deployment basis, with each deployment interfacing with the “old” arrangements. Thus the final deployment would fulfil the complete ACP design, removing all the interim interfaces.
- 2.5 The CAA and NATS discussed the timing of stakeholder consultation and it was noted that large scale infrastructure projects such as LAMP and FASI-S would be expected to require many years to complete and community populations may change over that time. NATS also stated that we continue to expect LAMP to remain a Level 2 en route network ACP, with aviation specialist stakeholders. FASI-S airports would expect to consider local community stakeholder populations under their Level 1 ACPs.

2.6 The CAA asked how NATS would decide what to implement first. NATS answered that we would not know the scale or sequence until later in the process, however before any deployment occurs we would provide an indication of scale and impact.

2.7 NATS is confident that this proposed way forward meets the spirit of CAP1616.

3. Timeline Update

3.1 See the third presentation, redacted to remove commercially confidential items.

3.2 NATS' previously stated timeline was:

Gateway	Gateway Assessment date	Document Deadline
Stage 1 Define	25 May 2018	11 May 2018
Stage 2 Develop & Assess (macro-scale)	25 Jan 2019	11 Jan 2019
Stage 2 Develop & Assess (micro-scale)	20 Dec 2019	The original presentation slide pack had a typo of '16 Dec'. It has been corrected to read 06 Dec 2019
Stage 3 Consult	Summer 2020	
Stage 4 Update & Submit ACP	Spring 2021	
Stage 5 Decide	CAA decision period TBC	
Stage 6 Implement	Spring 2022 onwards	

3.3 At the meeting, NATS updated the timeline as follows:

Gateway	Gateway Assessment date	Document Deadline
Stage 1 Define	Actual Stage 1 completion 27 July 18	
Stage 2 Develop & Assess	24 April 2020	10 April 2020
Stage 3 Consult	Winter 2020/21	
Stage 4 Update & Submit ACP	Spring 2022	
Stage 5 Decide	TBC, estimated winter 2022/23	
Stage 6 Implement	Winter 2023/24+	

3.4 The CAA requested that the updated timeline gets published on their airspace change portal. NATS considers that the publication of this document to fulfil that request, when combined with the CAA's own portal management expertise.

End of document