

LONDON AIRSPACE MANAGEMENT

PROGRAMME (LAMP) PHASE 1A

CAA DECISION: PART APPLICABLE TO

LAMP PHASE 1A MODULE C

CAP 1366/C

Published by the Civil Aviation Authority, 2015

The latest version of this document is available in electronic format at www.caa.co.uk

CONTENTS

CONTENTS	3
CAA DECISION: PART APPLICABLE TO LAMP PHASE 1A MODULE C	4
INTRODUCTION	5
INFORMATION THAT HAS BEEN CONSIDERED	7
PROPOSAL OVERVIEW	7
CHRONOLOGY AND CONSULTATION	10
STATUTORY DUTIES	12
Safety	13
The most efficient use of airspace	16
Requirements of aircraft operators and owners	17
Interests of any other person	19
Guidance on environmental objectives	20
Integrated operation of ATS	23
Interests of national security	24
International obligations	24
REGULATORY DECISION	24
ANNEX A	27
Proposed network route system for London City and Biggin Hill arrivals overlaid on today's London City and Biggin Hill flight paths	27
ANNEX B	28
Proposed London City departures to the south above 4000ft AMSL, overlaying today's London City and Biggin Hill flight paths	28
ANNEX C	29
New controlled airspace in the Thames Estuary	29
ANNEX D	30
Conditions of the CAA's decision to approve the Module C proposal	30
ANNEX E	32
UK's International Obligations relating to Performance-Based Navigation	32
GLOSSARY	34

CAA DECISION: PART APPLICABLE TO LAMP PHASE 1A MODULE C

LONDON AIRSPACE MANAGEMENT PROGRAMME (LAMP) PHASE 1A

AIRSPACE CHANGE PROPOSAL – MODULE C

LONDON CITY NETWORK CHANGES

PROPOSED BY NATIONAL AIR TRAFFIC SERVICES (NATS)

References:

- A. Module C – London City Network Changes ACP Issue 2 dated March 2015.
- B. London Airspace Consultation Document dated 14 October 2013.
- C. London Airspace Management Programme (LAMP) – Stakeholder Organisations and General Public Final Report dated April 2014.
- D. London Airspace Consultation – design report Following Consultation Feedback on Route Network (above 4000ft) over Sussex, Essex and Kent dated February 2015.
- E. LAMP Phase 1A Controlled Airspace Requirements for the Thames Estuary and Kent dated 2 April 2015.
- F. LAMP Phase 1A: ACP Environmental Benefits Report v 1.2 dated March 2015.
- G. LAMP Phase 1A Bridging Module Issue 1 dated February 2015.
- H. Route Design Assurance Report Issue 2 dated March 2015 (as amended).
- I. Project Safety Assurance Report Issue 1 dated February 2015 (as amended).
- J. Instrument Flight Procedure designs.

INTRODUCTION

1. In February 2015, National Air Traffic Services (NATS) submitted an Airspace Change Proposal (ACP) titled the London Airspace Management Programme (LAMP) Phase 1A proposal to the Civil Aviation Authority (CAA), to propose changes to airspace in the south-east of England including proposals to change a number of arrival and departure procedures at a number of aerodromes. LAMP Phase 1A is a major airspace change designed to deliver modifications to airspace arrangements affecting a broad swathe of south-east England from Stansted to the Isle of Wight in order to provide, primarily, capacity and efficiency benefits. There are five individual elements (referred to as Modules) of the LAMP Phase 1A proposal.
2. The justifications presented by NATS for the LAMP Phase 1A proposals are that it will modernise airspace structure, improve the operational efficiency of the airspace providing capacity for the future, minimise future delay, improve the environmental performance of the airspace, reduce average CO₂ per flight and reduce the incidence of low level overflight of populated areas.
3. It is acknowledged that of themselves, none of the Modules will increase the capacity of the airspace at this time but each of the Modules collectively contribute to a modernisation of the airspace that enables further systemisation, as and when further phases of airspace change are developed for the south-east of England and are put forward for consideration by the CAA.
4. This decision document expressly incorporates the contents of the **CAA Decision: Part applicable to each LAMP Phase 1A Modules A – E¹** which thereby forms part of the CAA's decision in respect of the airspace change proposal in this Module. This decision document contains the information and decisions specific to the proposal outlined in LAMP Phase 1A Module C (Reference A).

¹ <http://www.caa.co.uk/CAP1366>.

5. This Module proposes a number of changes at London City Airport (LCY) and some procedures for adjacent airports as detailed below:

New Standard Arrival Routes (STARs) for LCY together with new Point Merge arrival 'transition' procedures.

Revised routing for LCY southerly SIDs (now RNAV-1²).

New RNAV-5 STARs for Southend.

Lowering of some Controlled Airspace (CAS) in the Thames Estuary to support the new procedures.

Re-routing of Stansted, Cambridge, Luton and Northolt 'Detling' departures towards Clacton before turning to the south-east.

New ATS routes within existing CAS.

RNAV-1 replications of the low altitude portions of the existing ten LCY conventional Standard Instrument Departure (SIDs) with RNAV-1 SID replications, and introduction of RNAV-1 replication arrival procedures of the LCY radar vectored arrival flight paths to intercept the Instrument Approach Procedures (IAP) for both Runway (Rwy) 09 and Rwy 27 with RNAV-1 arrival procedures; these procedures are covered in Module B.

A portion of the Runway 09 arrival 'transition' procedure will also be used by traffic inbound to Biggin Hill.

New Gatwick RNAV-5 STARs routing inbound to TIMBA from the north-east/east.

Re-sectorisation of NATS control sectors in the south and south-east.

6. This proposal has been the subject of a consultation by the sponsor which was followed by the publication of a consultation feedback report. When submitted to the CAA this proposal was accompanied and supported by the documents detailed as References above.³
7. The purpose of this document is to provide an overview of the proposal and the CAA's decision on it.

² RNAV-1 denotes a performance-based navigation (PBN) standard of area navigation for use in the design of instrument flight procedures for departures and arrivals.

³ <http://www.caa.co.uk/Commercial-industry/Airspace/Airspace-change/Decisions/London-Airspace-Management-Programme-Phase-1A/>.

INFORMATION THAT HAS BEEN CONSIDERED

8. In making this decision, the CAA has considered the documents set out above and set out in the **CAA Decision: Part applicable to each LAMP Phase 1A Modules A – E** and we have recorded our analysis of that material in the CAA's Operational Report, Consultation Report and Environmental Assessment.⁴

PROPOSAL OVERVIEW

9. This proposal relates to proposed changes to the structure of airspace above 4000ft AMSL. It is closely interrelated with the changes proposed in Module B which in the main affect the airspace structure only below 4000ft AMSL. The proposals in this Module relate to airspace network design. That is they relate to the part of airspace that is the interface between en-route (generally above FL195) and the lower ATS (air traffic services) airspace structure. These proposals represent a significant step change that aims to re-distribute the arrival flow of aircraft into London City Airport above 4000ft AMSL, with associated changes to Southend arrivals from the south and east, and arrivals into the Gatwick TIMBA hold from the north-east and east.
10. The main focus of the proposal is to introduce new RNAV-1 'point merge' arrival routes for London City from JACKO in the north-east and from GODLU in the south-east (see Annex A for a diagram (from the consultation feedback report) of the revised flight paths superimposed onto existing flight paths). New RNAV-5 STARs will feed traffic via JACKO and GODLU into these new arrival procedures.

⁴ <http://www.caa.co.uk/Commercial-industry/Airspace/Airspace-change/Decisions/London-Airspace-Management-Programme-Phase-1A/>.

11. Module B⁵ proposes RNAV-1 departure and arrival replications – all up to 4000ft AMSL which largely follow the existing tracks over the ground. In this Module C, **new** tracks over the ground are proposed for the London City southerly departures from Rwy 27 (EKNIV1A) and Rwy 09 (EKNIV1H) as follows:

In Module B, it is proposed that the Rwy 27 Dover/Lydd 5T SIDs are replicated by the EKNIV1A RNAV-1 SID up to LCN06, then the following **new** track routing is proposed in this Module: LCN06-LCE06-SODVU-EKNIV (termination point).

Note: the change after LCN06 occurs from approximately Hornchurch (Harold Hill).

In Module B, it is proposed that the Rwy 09 Dover/Lydd D5U SIDs are replicated by the EKNIV1H RNAV-1 SID up to LCE 03, then the following **new** track routing is proposed in this Module C: LCE03-LCE06-SODVU-EKNIV (termination point).

Note: the change after LCE03 occurs from approximately Upminster.

12. Therefore, the tracks of the initial parts of the southerly SID procedures are portrayed in the Module B consultation document at pages 22 – 32 and largely follow the existing tracks over the ground. The new portions (the higher altitude sections) of the EKNIV SIDs proposed in this Module C, were included in the consultation for this Module C, as detailed in Reference B Part E (as referred to above).
13. A diagram to show the proposed change of the higher altitude section is shown at Annex B (extract from the consultation in Reference D).
14. Re-routing of Stansted SIDs via Detling to Dover (in Module A – see diagram at Annex C), Luton and Northolt SIDs via Detling to Dover (in Module D – see diagram at Annex D), and the re-positioning of the Gatwick STARs above 7000ft AMSL from the east, which in turn enables the revised routing of the Stansted SID switch routing (Module A), and the South Coast changes in Module E are an integral part of the route network change and enablers for changes detailed in this Module, and are covered in the those Modules proposals and decisions.⁶
15. A number of new routes within existing controlled airspace (CAS) are proposed as part of this Module and as part of the overall LAMP Phase 1A package; some routes are covered by other Modules where indicated, but for completeness are also detailed here:

⁵ CAP 1366/B <http://www.caa.co.uk/Commercial-industry/Airspace/Airspace-change/Decisions/London-Airspace-Management-Programme-Phase-1A/>.

⁶ In addition as part of re-routing, Cambridge flight planned departures currently routing via DET to Dover, will also be re-routed via CLN, then via (U)M84.

(U)M84 for the re-routed Stansted SIDs aligned from CLN to KONAN (in Module A).

M85 for the re-routed Luton and Northolt SIDs (in Module D).

M87 for connectivity for the LCY EKNIV SIDs from EKNIV to UMTUM to join L9.

M91 for connectivity for the LCY EKNIV SIDs from EKNIV to Lydd to join existing ATS routes.

(U)N16 for Bournemouth, Southampton and Farnborough departures routing Goodwood to Biggin, to join L9 to route via Dover (for traffic at FL165 and above entering Belgian Airspace – covered in Module E).

(U)N16 from Biggin to Barkway via Brookmans Park for traffic routing into aerodromes in East Anglia leaving controlled airspace (CAS) at Barkway (covered in Module E).

N20 from KUNAV to Goodwood for Farnborough, Bournemouth and Southampton arrivals (covered in Module E).

16. Minor route re-alignments for Y8 (now WAFFU direct Goodwood), and M8 (now SUBIP-ELDAX-WAFFU) are also proposed – this is part of Module E.
17. These proposals require revisions to some existing ATS route segments where new waypoints are included.⁷
18. This proposal requires new Gatwick RNAV-5 STARs with small alignment changes into the existing TIMBA hold located at the end of the STARs (the hold alignment remains the same; the changes proposed are only to the arrival tracks to the holding pattern from the north-east and east which will occur above 7000ft AMSL). It is proposed that the TIMBA Hold associated with these STARs becomes an RNAV-1 holding pattern but with no fundamental change to its location or orientation.
19. New Southend RNAV-5 STARs from the east, south and south-west are also proposed.
20. A volume of Class A controlled airspace in the Thames Estuary and over a small part of Kent has been lowered to provide airspace containment for the new London City and Southend procedures. A diagram (extract from the AIC Y076/2015), to show the proposed new airspace structure in the Thames Estuary is at Annex C.
21. It is also proposed that a new RNAV-1 arrival transition will be implemented and used by suitably approved aircraft flying into Biggin Hill; these arrivals will have a

⁷ Such revisions are notified in published AIP amendments.

common flight path until a position to the south-east of London City where the transition for Biggin Hill will terminate to enable aircraft to intercept the instrument approach procedure for Biggin Hill. This point is just to the south-east of Sidcup where aircraft are currently radar vectored towards the runway extended centreline by Air Traffic Control.

22. Finally, significant re-sectorisation of NATS' control sectors in the south and south-east is proposed to accommodate the revised procedures.⁸ A summary of these changes is shown in the AIC Y076/2015.

CHRONOLOGY AND CONSULTATION

23. The formal stages of this airspace change proposal commenced with a Framework Briefing between the CAA and the airspace change sponsor (NATS) on 12 February 2013.
24. NATS undertook a consultation with aviation and environmental stakeholders, and made the consultation widely available through a NATS website from 15 October 2013 to 21 January 2014 as detailed in Reference B. Additionally, the sponsor conducted a number of media events throughout the regions affected by the changes to ensure publicity. This was followed by the publication of an initial consultation feedback report detailed in Reference C.⁹ Following the consultation, the proposed designs were refined. NATS then published a design feedback report (Reference D) in February 2015 prior to submitting the Module C airspace change proposal (together with the other Modules) to the CAA.
25. Following submission of the airspace change proposal to the CAA, NATS identified an additional requirement to lower the altitude of CAS (controlled airspace) in the Thames Estuary (thereby increasing the total volume of controlled airspace) to support the changes for the Southend STARs. As a result, a further aviation consultation was conducted on 2 April 2015 (by means of engagement with NATMAC¹⁰) to seek feedback on modifications to the volume of controlled airspace proposed in Reference B. The consultation for this modification is at Reference E.

⁸ The elements of re-sectorisation are not subject to regulatory approval as this is an internal NATS re-structuring of control sectors to reflect changes in controllers' area of responsibility.

⁹ It should be noted that the consultation for changes in this Module was combined with proposals for changes to procedures at Gatwick Airport. Those proposals for Gatwick have **not** been taken forward; however, some minor alterations for arrivals above 7000ft AMSL inbound to the Gatwick TIMBA hold from the east and north-east have been proposed as set out above.

¹⁰ NATMAC is the National Air Traffic Management Advisory Committee which is comprised of a broad cross representative body of airspace users and air navigation service providers, including NATS and the MOD.

26. We conducted an assessment of the consultation based on the criteria set out in the **CAA Decision: Part applicable to each LAMP Phase 1A Modules A – E** incorporated into this decision document. We concluded that the consultation was adequate and met CAA requirements. The consultation feedback reports were of a good quality and met CAA requirements. We concluded that NATS had properly taken the results of the consultation into account. We reached this conclusion by undertaking an analysis of the sponsor's consultation feedback and conclusions in comparison with the original consultation responses from stakeholders. Of the stakeholders identified, 62 aviation stakeholders responded to the consultation together with 137 non-aviation stakeholders. In addition, 883 members of the public provided responses to the sponsor. The sponsor had correctly identified the points raised and had responded to those issues adequately. Our full analysis in this regard is set out in the CAA's Module C Consultation Assessment.¹¹ We reached this conclusion for the following reasons.
27. We took into account the significant amount of publicity NATS generated to highlight the consultation was on-going. We are satisfied that NATS took all reasonable steps needed to bring the consultation to the attention of stakeholders that would want to consider the impact of the changes proposed and comment on them.
28. The consultation was conducted by the use of a swathe methodology. This means that rather than the nominal track of the proposed routes being plotted on a map, stakeholders were asked to consider that a new flight path could be anywhere within a defined swathe and comment on the factors affecting their location. The swathes were shown on the consultation map, along with information that once final design work was complete the nominal track of the proposed route could be anywhere within that swathe. This was the first time this method had been employed in an airspace change consultation. The advantage of this methodology over the line method is that it reduces the possibility that the consultation fails to identify or put on notice people in those locations that could potentially be affected by the proposed change. It could be argued that the disadvantage is that the while the sponsor had not yet narrowed down the precise location of the new routes it would propose, no-one including the consultees knew exactly where the nominal track of the proposed routes would eventually be.
29. This methodology was tested with The Consultation Institute who considered that, provided that swathes were not excessively wide, the methodology was valid. In their view, this method could provide valuable information which could

¹¹ <http://www.caa.co.uk/Commercial-industry/Airspace/Airspace-change/Decisions/London-Airspace-Management-Programme-Phase-1A/>.

constructively influence the final design. It was therefore decided upon at an early stage following CAA discussion with The Consultation Institute that the swathe methodology covered any route subsequently established in the area of the swathe. Therefore, as the routes that are the subject of this proposal were included in the swathes consulted upon, the CAA has concluded that the routes eventually decided upon, and set out in the airspace change proposal, were consulted upon. Stakeholders were asked to assume that the 'line' could be anywhere within the swathe and comment accordingly.

30. A number of Local Authorities suggested that a further round of consultation should be undertaken once final flight paths were decided upon. This did not occur. Having taken into account the early discussion we had with The Consultation Institute (set out above) we have concluded that the use of swathes as described above has not hindered the ability of participants in the consultation to understand the effect of the proposed changes on them or caused participants to underestimate who may be affected by the changes proposed. On the contrary, in our view the consultation methodology caused more people rather than less to consider, at the time the consultation was taking place, that they may be affected or impacted by the proposed changes.
31. We have therefore concluded that the consultation's contents and methodology, and the Consultation Feedback Report met out our requirements as set out in CAPs 724 and 725.¹² This was a competent and satisfactory consultation and the sponsor demonstrated a willingness to engage with various stakeholders. Further detail of the CAA's assessment of the consultation is set out in the CAA Module C Consultation Assessment.¹³

STATUTORY DUTIES

32. As set out in the **CAA Decision: Part applicable to each LAMP Phase 1A Modules A – E**, the CAA's statutory duties and functions are contained in section 70 of the Transport Act 2000 (the Transport Act), the CAA (Air Navigation) Directions 2001, as varied in 2004 (the 2001 Directions), and the 2014 Guidance to the CAA on Environmental Objectives relating to the exercise of its air navigation functions (the 2014 Guidance).¹⁴

¹² CAP 724 <https://www.caa.co.uk/CAP724> and CAP 725 <https://www.caa.co.uk/CAP725>.

¹³ <http://www.caa.co.uk/Commercial-industry/Airspace/Airspace-change/Decisions/London-Airspace-Management-Programme-Phase-1A/>.

¹⁴ Revised in 2014 by the Department for Transport
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/269527/air-navigation-guidance.pdf.