

15 June 2015 (updated 8 September 2015)

Gp Dir SARG (through Mg AR & Head AAA)

LAMP ACP – BRIEF FOR GROUP DIRECTOR SARG

INTRODUCTION

The London Airspace Management Programme (LAMP) Phase 1A Airspace Change Proposal (ACP) is sponsored by NATS. It also encompasses London City RNAV1 replications which is a separate module sponsored by London City Airport Limited.

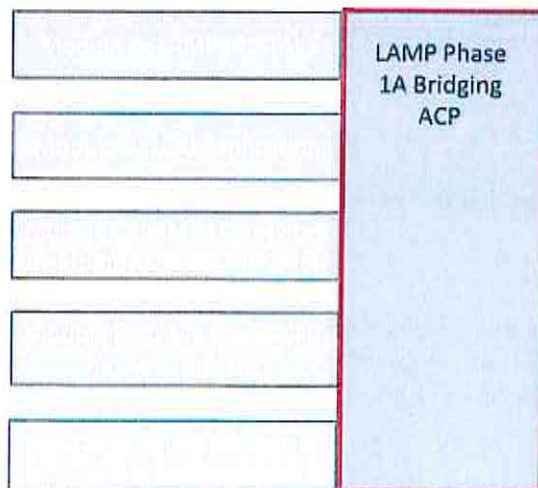
LAMP Phase 1A is the first phase of the LAMP which will modernise the airspace structures supporting airports in South East England. Phase 1A includes changes to some routes for London City (LCY), Gatwick, Stansted, Biggin Hill, Southampton, Bournemouth, Farnborough and Southend.

The original LAMP Phase 1A consultation included consultation for proposals for network airspace changes for both arrival and departure procedures at Gatwick airport which was co-sponsored by both Gatwick Airport Limited (GAL) and NATS; in addition, a further local airspace consultation was conducted by GAL for Gatwick changes with more specific details for Standard Instrument Departures (SID) and arrival procedures up to 4000ft. Those proposals have been suspended by both sponsors, and hence withdrawn from Phase 1A. Therefore, when viewing any consultation / ACP material for Phase 1A, references to Gatwick arrival and departure procedures are not relevant to this ACP except for changes to Gatwick TIMBA STARs routing into the TIMBA hold from the east and south (at Min Stack Level - FL 70 (7000ft) or above depending on pressures) which have to be slightly modified to integrate with the new LCY procedures.

ACP MODULES

The ACP is divided into separate modules as indicated below in Fig 1. A 'Bridging' ACP document is a source document to provide cross reference to all supporting modules and documents for all Phase 1A proposals; whilst not an individual ACP, it contains a summary of the complete environmental analysis (NATS ref LAMP G – at Attachment 1 to the Bridging Module ACP) – this ACP Environmental Analysis report (Issue 1.2 dated March 2015) must be considered when making the assessment of all supporting reports. In CAA electronic document storage, the Bridging ACP Folder also leads to an array of supporting material provided by the sponsors to meet the requirements of the guidance in CAP 725. ACP Modules A to E are individual proposals which have the supporting ACP submission material. As appropriate, individual Operational Reports, Consultation and Environmental reports are produced for Group Director's approval.

Figure 1 – LAMP Phase 1A Modules.

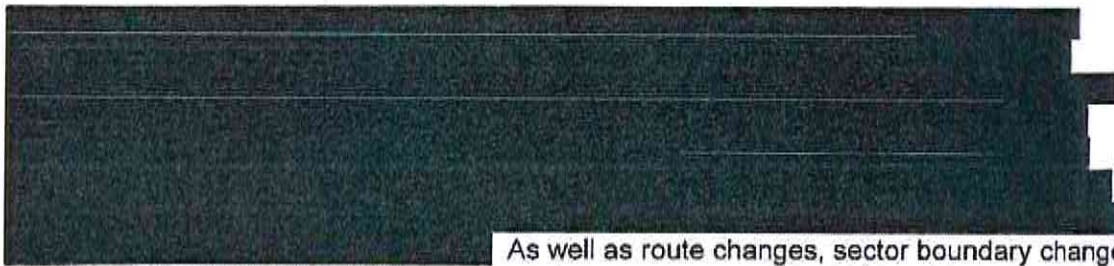


RATIONALE AND JUSTIFICATION

In the Bridging ACP, the sponsor states that each module of the ACP has its own justification and that justification for the LAMP Phase 1A as a whole will:

- Modernise airspace structures in line with the CAA mandates and expected European legislation;
- Improve the operational efficiency of the airspace providing capacity for the future and thereby minimising future delay;
- Improve the environmental performance of the airspace, reducing average CO₂ per flight and reducing the incidence of low level overflight of populated areas.

NATS has advised that as a whole, LTMA capacity is limited by the conventional route structure (in particular SIDs, STARs and holds at low levels) that aircraft flight plan via, but in practice rarely follow. To maintain efficiency air traffic controllers tactically intervene in many circumstances. This is particularly prevalent for LCY arrivals for which low altitude vectoring to achieve final route spacing leads to highly variable traffic patterns. This leads to an unpredictable air traffic environment and one that is potentially highly complex. This is described from an environmental point of view in Part F of the London Airspace Consultation document. The nature of the management of LCY arrivals is an important factor when considering the benefits that will be realised when the LCY proposals and supporting network proposals are implemented; this is discussed in the relevant consultation material, ACP modules and operational reports.



As well as route changes, sector boundary changes are also proposed with this ACP.

The justification for each ACP module will be covered in the relevant Op Reports.

OPTIONS

It has been clear from ACP analysis that other options must have been considered by the sponsor relating to the 'SID Switch' proposals for Stansted, Luton and Northolt (Modules A and D) but that these may not have been clearly presented in the ACP; hence, the sponsor was asked to clarify what options were considered. The response from NATS is at Attachment A. This demonstrates other options have been considered and discounted for a number of reasons.

CAPACITY DELAY ANALYSIS

This is covered in Section 6.1 (page 15) of the Bridging Module.

SAFETY ISSUES / ANALYSIS

The proposal has been developed and will be implemented in accordance with the NATS Safety Management System (SMS), as documented in the Project Safety Assurance Report (PSAR). In addition, this ACP includes a Route Design Analysis Report (RDAR). Safety

representatives from SARG ATM Ops have had oversight of the safety assurance process, and in conjunction with the SARG Airspace Regulation Case Officer, have completed an assessment of the NATS Analysis. The PSAR and RDAR documents are held in electronic folders. In the RDAR, where existing route spacing guidance does not provide guidance for the relevant interacting procedures, mitigation, (usually supported by thorough analysis, and in some cases supported by historical track data of existing procedures), has been provided by NATS and accepted by SARG to confirm that separation between aircraft and other airspace structures is assured.

All proposed procedures have been designed in accordance with ICAO PANS-OPS RNAV procedure design criteria.

ENVIRONMENTAL ANALYSIS

Whilst this ACP has been developed in separate modules with stand-alone justifications, NATS has also performed a system wide CO₂ analysis to determine the overall effect on CO₂. This is found in a separate report (Attachment 1 to the Bridging Module ACP - Ref LAMP G). A covering explanation of this analysis is shown in Section 6.6 of the Bridging Module. Individual airport track distance changes and fuel benefits are detailed in LAMP G and are not reproduced in Operational (Op) Reports in case of revision following the ERCD Environmental analysis.

Update – 4 Sep 15 – regarding the fuel and CO₂ calculations shown in the assessments and summarised in the Environmental Assessment Appendices which have been added to all Modules, the assessments have been checked by ERCD using a test case on the Module A assessment. These were considered acceptable and therefore, the remaining Module calculations were not re-performed by ERCD given that the Module A calculations by NATS were reasonable and did not suggest anything anomalous in the other Modules. However, as shown in the Environmental Analysis Appendices, adjustments were subsequently made (following a request from the CAA to the sponsor) to take account of the runway operational split usage as opposed to the 50/50% runway usage calculations initially performed by the sponsor. Hence, in the Environmental assessment, the initial NATS calculations have been revised from those shown in consultation and in the initial ACP submission. Details are presented on the Environmental assessments.

SCOPE OF CHANGE

In total, LAMP Phase 1a comprises:

- 5 new Gatwick RNAV5 Standard Arrival Routes (STAR)s into the existing TIMBA hold which will be re-designated as an RNAV Hold at the end of the STARs (the hold alignment remains the same, it is just the arrival tracks to the hold which will be modified).
- For LCY:
 - new STARs which route to new holding stacks named JACKO and GODLU; these STARs then lead into:
 - a new Point Merge arrival structure for Thames Radar for both Rwy 09 and Rwy 27;
 - new RNAV1 SID replications for all LCY departures, however, the departures to the South via new point 'EKNIV' are a re-alignment of the tail end of the existing SIDs via Detling (DET);
 - new Controlled Airspace (CAS) to support the new procedures.

Note: the existing conventional SIDs will be retained until such time as all aircraft operating into LCY become RNAV1 compliant.

- Re-sectorisation of TCSE, TCSW and AC DVR/WOR sectors to include a solution to address the S17 OPA Hotspot.
- Re-routing of Stansted, Cambridge, Luton and Northolt DET departures into TC EAST (out of TCSE).
- Re-routing of Thames arrivals from the North into TC EAST (out of TC MIDS and TCNE).
- Re-routing of the existing Southampton/Bournemouth STAR (SAM1D) towards Southampton (SAM) VOR.
- Lowering of CAS over the POMPI Triangle and around the Isle of Wight, within which, a new contingency hold for Solent traffic on the new SAM2D STAR will be located.
- New ATS link routes to provide connectivity for the re-routed Stansted, Luton and Northolt SIDs to re-join the previous routing to Continental Europe after Dover (DVR).
- New ATS link routes for the new LCY RNAV 1 SIDs via EKNIV to join the en-route structures at DVR and Lydd.
- New ATS route for Farnborough, Southampton and Bournemouth departures routing via BIG VOR to DVR VOR for entry to Europe at FL 195+.
- Raising of a small portion of CAS in the Worthing CTA 2 from FL 65 to FL 75.

Note: following a meeting between the SARG CO and NATS on 21 May 2015, further options for raising CAS over the English Channel are being considered. Due to NATS adaptation and project implementation tasks (associated with mapping, training, documentation, and the time available to agree changes before training commences), it will not be possible to implement options which prove to be feasible until sometime after Phase 1A implementation; any such changes will have to be co-ordinated with an ICAO 1:500,000 Southern England Chart revision either at the next routine update cycle, or with the Farnborough ACP should it be approved before the next ICAO chart cycle.

OUTSTANDING ISSUE AT TIME OF REPORT SUBMISSION

There are a number of procedure design issues (nothing major) to be addressed following the review of the design submissions. Some flyability assessments of the entry and exit procedures joining/leaving 3 RNAV en-route holds (on Gatwick and Southampton STARS) have yet to be completed. Outstanding issues are covered in the Operational Reports; updates on progress will be provided after the Exec review commences.

REGULATORY REQUIREMENTS

Whilst the sponsor has identified a number of specific safety requirements which will be addressed through procedures in MATS Part 2 and in training prior to implementation, the CAA will have to specify a number of Regulatory Requirements following the RDAR assessment in order to address particular design interactions between certain procedures or adjacent airspace structures. This will normally be in the form of a requirement for controller radar monitoring and intervention if required. These are detailed in the various Op reports.

IMPLEMENTATION PLANS

NATS plan to implement the change proposal with AIRAC 2/2016 on 4 February 2016 (the date specified in the ACP proposals has been delayed by NATS). A Group Director SARG decision is therefore required at the latest, by 16 September 2015. The AIS deadline for AIP amendments has been brought forward by 3 weeks from the normal deadline to 25 September due to the volume of charting and AIP amendments generated by this change.

Should the Director's decision be delayed by whatever reason, the implementation in February 2016 cannot be achieved.

ACP REVIEW – SUGGESTED READING ORDER

The Bridging Module should be read first; then it is suggested that the remaining Modules be read in the following order: A, D, B, C, and E referring to LAMP G (the Env Analysis) as appropriate.

OVERALL ASSESSMENT

Subject to acceptance of the consultation and environmental assessments, this ACP is recommended for implementation.



Attachment:

- A. E Mail confirming options considered by NATS.

ATTACHMENT A TO
LAMP ACP – BRIEF FOR
GROUP DIRECTOR SARG

From: [REDACTED]
Sent: 08 September 2015 06:37
To: [REDACTED]
Subject: RE: URGENT - LAMP ACP

[REDACTED]

A little more feedback on the options come in has come in from a member of the team who was on leave on Friday and yesterday, this is shown below along with a typo in red.

[REDACTED]

From: [REDACTED]
Sent: 07 September 2015 13:44
To: [REDACTED]
Subject: FW: URGENT - LAMP ACP

[REDACTED]

Regarding Stansted (Module A): The objective is to improve environmental and operational efficiency for Stansted DET departures and to enable the point emerge at London City. The proposal seeks to do this by changing the use of existing SIDs; any alternative approach would have involved redesigning SIDs, changing NPR and their swathes, and therefore changing the populations overflown – introducing new areas. Changes to SID alignments were therefore discarded as generic concept at the outset.

Use of the CPT SID and new routes to west of London were not considered on the basis of the route mileage to go west then all the way back to the east.

A direct route between CLN and KONAN to reduce mileage was considered, however this was not possible because of an interaction with Gatwick arrivals. These currently route via ERING and TEBRA to TANET, but will be changed as part of the LAMP Bridging ACP to route ERING and TEBRA to ABTUM. The position of ABTUM, which gives the kink in the (U)M84, provides additional track distance to enable Stansted departures to climb and Gatwick arrivals to descend such that the conflict at ABTUM is resolved, this would not be the case if (U)M84 was a direct route between NONVA and KONAN. In addition S15 also must transfer LTMA departures to MAAS/BRU by 10nm east of DVR. If they route NONVA – KONAN they wouldn't enter S15 until they were already 10nm east of DVR.

As ever we did also consider the do nothing option. The current operation could be maintained however the benefits for the Stansted operations described in the ACP document would not be realised.

It would also prevent the implementation of LAMP changes for London City Airport as part of the wider LAMP phase 1A, this is because the LC departures via EKNIV need to climb to min stack to enable them to climb sufficiently to jump the arrival stream along the estuary. This would put them in direct conflict with the STN DET departures (and also the LTN and Northolts) unless these DET departures are moved as proposed. This conflict could be managed with conditional release, but this would impact runway throughput at all the airports as well as increasing coordination workload for the Swanwick controllers.

There would also be additional workload issues for TC BIG/TC South: the TC BIG Sector now controls more airspace (above the Thames RMA and to capture the revised TIMBA STARs via ABTUM) and more of the London City departures than in current operations. The TC South ATCO's expanded responsibilities mean that working the Stansted flow via DET is no longer viable if current capacity in this sector is to be maintained.

We therefore we discarded the do nothing option.

It is a similar case for Luton and Northolt (Module D): The proposal sought to use the existing SID to MATCH. This replicates how controllers often tactically manage the Luton and Northolt departures today, taking them off the DET SID to track east to gain height to cross the Heathrow inbound stream.

Use of the CPT SID and new routes to west of London were not considered on the basis of the route mileage to go west then all the way back to the east. The position of the M85 link route was considered. Positions further west does not allow sufficient track miles for all aircraft to climb above the Heathrow LAM arrival flow. A position further west along (U)Q295 increases route mileage. A direct route between DAGGA and KONAN caused presentational issues for S15, the proposed alignment with the kink at ITVIP was deemed optimal from a controller workload point of view.

We did also consider the do nothing option. The current operation could be maintained however the benefits for the Luton and Northolt operations described in the ACP document would not be realised.

It would also prevent the implementation of LAMP changes for London City Airport as part of the wider LAMP phase 1A for the same reasons as discussed above. We therefore we discarded the no nothing option.

[REDACTED]

[REDACTED]

NATS

From: [REDACTED]

Sent: 04 September 2015 12:53

To: [REDACTED]

Cc: [REDACTED]

Subject: URGENT - LAMP ACP
Importance: High

[REDACTED]

In Modules A & D, no details of other options were provided. Please provide any evidence of any other options considered and subsequently rejected and provide rationale why the options were not considered. If no options were considered, please advise why.

A reply by Monday is desirable.

Regards,

[REDACTED]
