

NATS TMA Programmes

#120_AF1 LAMP Phase 1A and #119_AF1
Manchester TMA

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Co-financed by the European Union
Connecting Europe Facility

Pilot Common Projects (PCP) IR 716/2014

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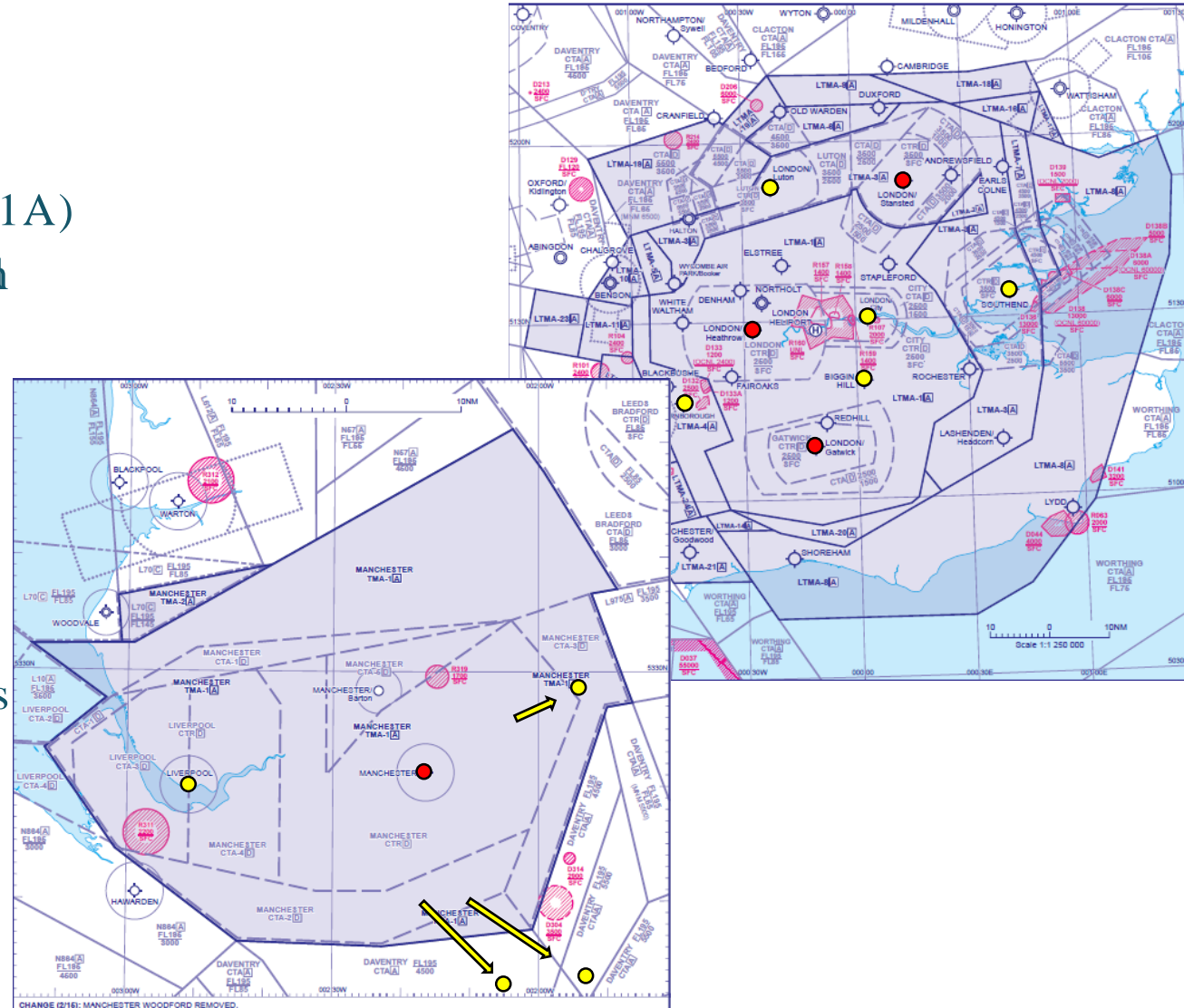
- PCP identifies two UK TMAs and includes four airports
 - Heathrow
 - Gatwick
 - Stansted
 - Manchester
- NATS was awarded INEA-funding for two airspace projects at CEF 2014 Call
 - #120_AF1 London Airspace Management Programme (LAMP) Phase 1A
 - #119_AF1 Redevelopment of Manchester TMA.



NATS and the PCP Sub-AF1.2



- Two applications submitted to INEA
- London TMA INEA Project (LAMP Phase 1A)
 - London TMA includes airports specified in the PCP and also many others including:
 - Luton, London City, Southend, Biggin Hill, Farnborough, Northolt...
- Manchester TMA INEA Project includes Manchester Airport and...
- TMA also includes nearby Leeds, East Midlands, Birmingham and Liverpool airports



London Airspace Management Programme (LAMP)



- LAMP is a once in a generation opportunity to modernise the airspace in the London Terminal Control region
- It is a key stepping stone between today's operation and the future SESAR 4D trajectory world of 2025+
- LAMP is required to enable delivery of the CAA's Future Airspace Strategy (FAS), a blueprint for tomorrow's airspace in the UK
- LAMP will deliver significant benefits for safety, environment, service and value for our customers
- LAMP is the biggest airspace change ever undertaken by NATS and requires the support of a large number of stakeholders
- A Programme made up of 2 further phases in RP3 – LAMP 1 and 2
 - LAMP 1A is complete.



What will LAMP achieve?

- Improve safety by reducing complexity and tactical interventions reducing controller/pilot workload
- Improve flight efficiency by introducing more Continuous Climb and Continuous Descent Operations and through new concepts such as Point Merge
- Provide enhanced navigation capability through RBN design (RNAV1 minimum)
- Provide capacity to meet future demand
- Significant environmental benefits through CO₂ and fuel saving
- Improved predictability for airports and airlines
- Overall improvement in controller/pilot workload.

Phase 1a Changes

- London City Airport
- Point Merge arrival structure
- New holding stacks & STARs
- New SID departures to the south
- New controlled airspace
- SIDs converted to RNAV SIDs
- Re-routing of some departures at Stansted & Luton
- New RNAV STARs into Gatwick and Southend
- Re-sectorisation of TC and AC sectors in southeast of UK
- Lowering of CAS to the south of the LTMA within which a new contingency hold for Southampton/Bournemouth/Farnborough.



Phase 1a Predicted Benefits

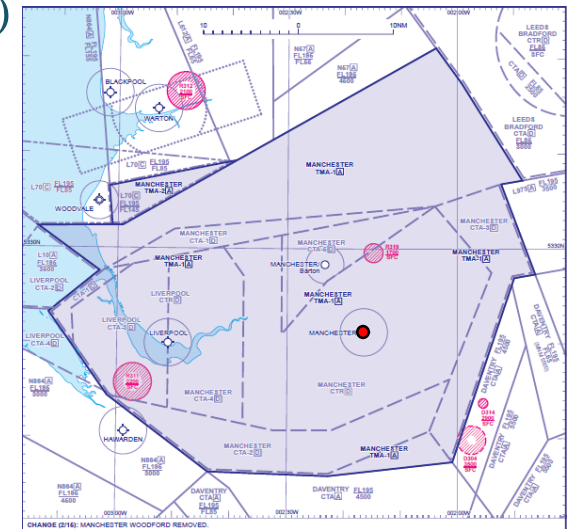
- Improvements to the London TMA safety risk index
- CO₂ / fuel saving (c. £10m p.a.+)
- Increased systemisation/use of RNAV
- Much improved predictability for London City Airport
- Freeflow for Stansted departures
- Increase in CCO/CDO and improved vertical profiles
- Reduction in cockpit workload
- Enables future airspace change for remainder of LAMP.



Manchester TMA Overview



- Introduction of a 3nm separation environment below FL285
- Introduce minimum radar separation to enable closer spaced routes
- Introduction of RNAV1 routes within the airspace (IoM/Antrim Sectors) “O”-Date AIRAC 12/2017
- Introduction of SIDs and STARs for all airfields in MTMA
- SIDs and STARs procedurally deconflicted by utilising SID to FL concept
- New SIDs/STARs at other airports enables decommissioning of DVOR(s)
- Point Merge introduced for Manchester Airport
- New RNAV transitions for Liverpool and Leeds Bradford Airport
- Revised holds for Birmingham and East Midlands Airport
- Will aid capacity by decreasing controller workload
- Complements CAA Future Airspace Strategy (FAS).



- **Deployment 3NM [Introduced Mar 2nd 2017]** – Tactical 3NM capability in the region
 - 3nm separation minima across PC AoR on a tactical basis, below FL285 within London FIR and below FL255 within Scottish FIR within controlled airspace.
 - Introduces the minimum radar separation required for closer spaced routes
 - Positive feedback from the OPS room & potential environmental benefits (awaiting NATS Analytics output)
- **Deployment IoM/Antrim [Planned 09/11/ 2017]** – IoM/ Antrim improvements
 - PBN route structure to deliver increased capacity.
- **Deployment Network [Target Q3 2018]** – (Birmingham/Leeds/Doncaster/Newcastle/Prestwick)
 - Introduction of new SID/STARs at Leeds. New SID at Birmingham. New STARs at Newcastle. Replicated SID STARs at Doncaster.

PLAS Deployments



- Deployment ScTMA [Target Q1 2019] (Edinburgh/ Glasgow)
 - New SID/STAR designs at Edinburgh & Glasgow
 - Allows removal of the GOW/PTH/TRN DVOR & NGY NDB
- Deployment MTMA [Target Q4 2019] MTMA (Manchester/ Liverpool/ Hawarden/ East Midlands)
 - MTMA re-design including delivery of Point Merge to deliver safety, environmental and capacity benefits
 - Revised SID STAR for East Midlands
 - Introduction of revised hold for Birmingham
 - Introduction of New CAS to support above
 - Allows removal of TNT & MCT DVOR.



Benefits from MTMA

- Increase in capacity and sector monitor values
- CO₂ and Fuel Savings ~ 29kT per annum
- Systemised airspace
- Removal/rationalisation of old Nav aids DVORs/DMEs.

Summary



- Risks exist in the deployment of airspace change
- Public consultation
- Decisions surrounding Heathrow Airport and third runway
- Target deployment by 1 January 2024 as identified in the PCP.



Questions?

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