DVOR Rationalisation and NDB Withdrawal

NATS Update – SAM, OCK, LON

NATMAC 83

1st June 2018

NATS Project Manager
NATS Airspace Change Specialist

NATS

Brief history

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- NATMAC consultation (CAA, August 2009)
  - Reduce from 46 VOR-DMEs to 19 VOR-DMEs, withdrawal of NDBs for en route purpose
  - Maintain appropriate en route navaid coverage
  - NATMAC Informative summarises consultation feedback (CAA, October 2010)

- CFD (2013), DCS (2014) VORs removed from service, decommissioned
- BEN, MAC VORs removed from en route service, remain in place supporting HIAL Airports (via maintenance contract)
- DVR, LYD, LON, GAM, *WHI*, SAM and OCK in progress now
- Others on the way, see planning timeline (later slide)

How are navaids removed from service?

- Impact assessment - identify relevant AIP data

- En route

- Airport

(GA considerations – later in this slide pack)

How are navaids removed from service?

NATS

- **Impact assessment – Identify** instrument flight procedures in the AIP which have a "conventional nav" dependency on the navaid:
    - STAR, hold, SID, instrument approach

- Remove the **en route** dependency NATS (NERL):
    - STAR truncation, PBN STAR/hold replication
    - ACP via CAP1616 – scalable

- Remove the **local** dependency (airport):
    - SID, instrument approach
    - ACP via CAP1616 – scalable

The stages of removing from service

- Removal of NATS en route dependency – STARs

- NATS give notice to airports

- Removal of airport dependency

- No flight dependencies remain

- Removal from service

- Removal from site
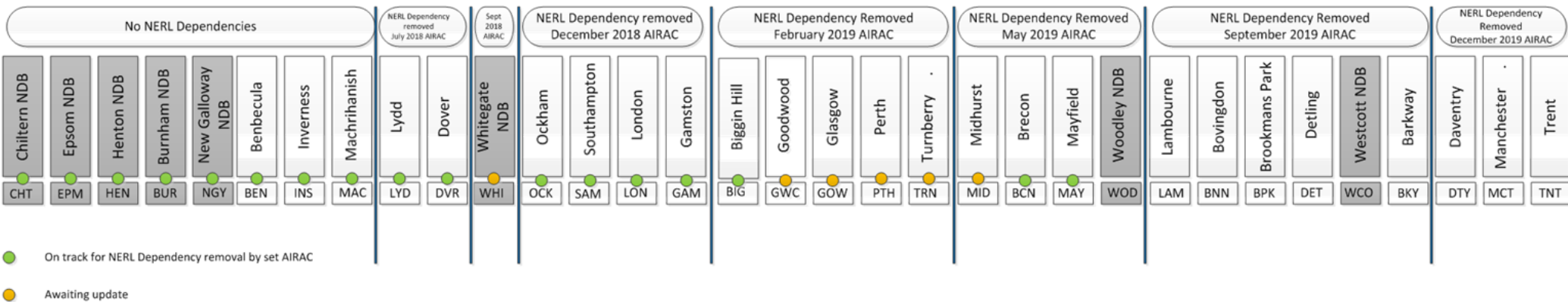
The stages of removing from service

NATS

- **Removal of NATS dependency** − The AIRAC date from which NATS will no longer have any "conventional nav" en route procedures reliant on the navaid (CAP1616 ACP complete)

- **NATS will formally notify all airports** which have AIP-published procedures using the navaid, giving at least one year's notice from planned removal of en route dependency, often longer. Airport carries out **CAP1616 ACP** work (scalable) using the notice period

- **Removal of airport dependency** - The AIRAC date from which the airport will no longer have any local procedures reliant on the navaid

- Once the **notice period** above comes to an end, there would be no dependencies on the navaid and NATS are able to withdraw navaid from service − CAA supports this

- **Removal from service** − The AIRAC date at which the navaid can be entirely withdrawn from the AIP − radiation could cease from this date, the structure may remain intact

- **Removal from site** − The date of electrical isolation, physical dismantling, removal of equipment, framework, structures or buildings etc.

Planning Timeline

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Phase 1 - NERL Dependency Removal Dates

| No NERL Dependencies | NERL Dependency removed July 2018 AIRAC | Sept 2018 AIRAC | NERL Dependency removed December 2018 AIRAC | NERL Dependency Removed February 2019 AIRAC | NERL Dependency Removed May 2019 AIRAC | NERL Dependency Removed September 2019 AIRAC | NERL Dependency Removed December 2019 AIRAC |

Chiltern NDB (CHT), Epsom NDB (EPM), Henton NDB (HEN), Burnham NDB (BUR), New Galloway NDB (NGY), Benbecula (BEN), Inverness (INS), Machrihanish (MAC), Lydd (LYD), Dover (DVR), Whitegate NDB (WHI), Ockham (OCK), Southampton (SAM), London (LON), Gamston (GAM), Biggin Hill (BIG), Goodwood (GWC), Glasgow (GOW), Perth (PTH), Turnberry (TRN), Midhurst (MID), Brecon (BCN), Mayfield (MAY), Woodley NDB (WOD), Lambourne (LAM), Bovingdon (BNN), Brookmans Park (BPK), Detling (DET), Westcott NDB (WCO), Barkway (BKY), Daventry (DTY), Manchester (MCT), Trent (TNT)

- 🟢 On track for NERL Dependency removal by set AIRAC
- 🟠 Awaiting update

Expect airports with dependencies on these navaids to receive letters giving at least 12 months notice from these dates

In progress: DVR and LYD

- **Removal of NERL Dependency** – approved for implementation 19th July 2018
  - AIRAC08-2018

- Impact assessment: DVR and LYD VOR en route procedures in the AIP
  - Heathrow STARs BIG 3C, BIG 1F (AIP ref AD2-EGLL-7-2)
  - WEALD (BIG u/s) equivalents also (AIP ref AD2-EGLL-7-3)

- These STARs are **not used** (12 month analysis of filed flightplans, RAD, SRD)

- LYD en route hold as per AIP section ENR 3.6 **this hold is not used** (controllers' expert opinion)

- Withdrawing these procedures from AIP causes **no impact**

- These are the only en route procedures for DVR and LYD

In progress: SAM OCK LON GAM

- **Removal of NERL Dependency** – in progress, planned implementation 6th December 2018
  - AIRAC13-2018

- STARs dependent on SAM LON OCK GAM have been analysed

- Some are being truncated where sensible – under *draft* CAA STAR truncation policy

  Needed: STAR Truncation policy published (when?)

  SID Truncation policy (Airport IFP, NATS assists in ACP)

- Replicated to RNAV5 standard (no fleet impact)

- Holds relevant to these STARs also being replicated (en route and terminal)

- STAR designation syntax change – currently named after *last* (holding) fix via a filed UK Difference, future STARs will be named after *first* fix on the STAR as per ICAO

- CAP1616 ACP – submitted to CAA for approval

- IFP data package complete to PANS-OPS standards – submitted to CAA for approval

In progress: STAR Truncation *example*

- OCK 2F has a common segment with ATS route P2
- Truncate at NIGIT – no change to connectivity
- Replicate the remainder
- Re-designate NIGIT 1H: NIGIT-new waypt for SLP-INTED (replaces "OCK")
- Shorter, simpler IFP – common sense approach
- Based on *draft* STAR Truncation policy
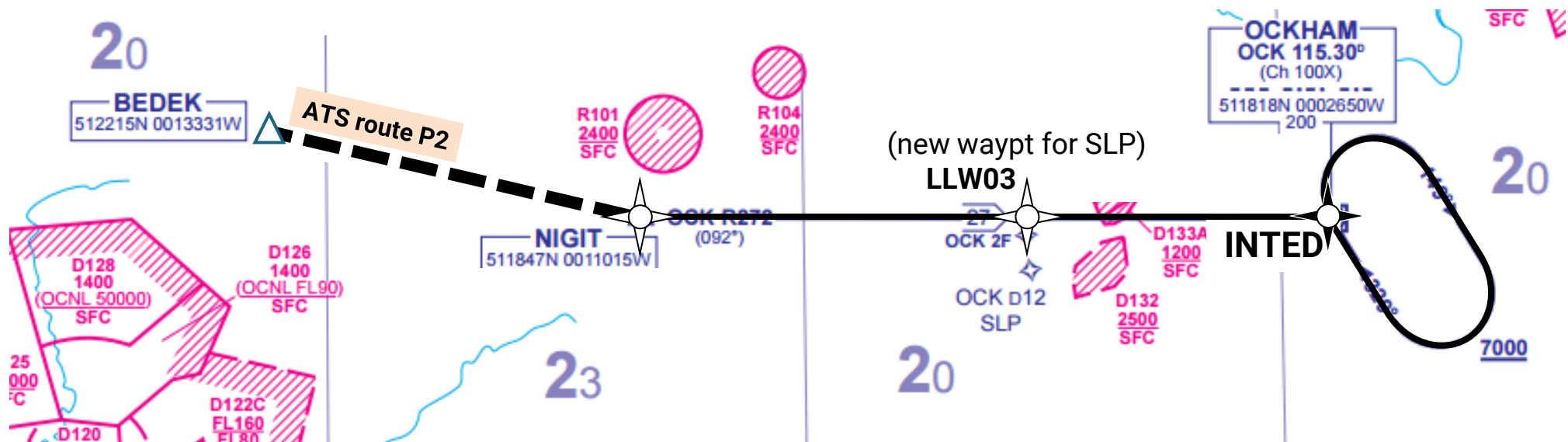
General Aviation − Impact Assessment

- Aug-Sep 2014 − NATS GA Lead asked for opinions on VOR use by GA, via "Flyer" forum (Link) or use search engine term *flyer forum VOR ground infrastructure*

- 72 different forum members responded, 11 pages, c.150 postings, c.7,500+ views

- Overall idea of a smaller, newer network of navaids UK-wide was generally accepted, due to proliferation of alternate nav methods such as low-cost GNSS devices

- No indication that this would cause major impacts on GA activities
  - Some forum members considered how their own individual secondary nav methods may need to be rethought

General Aviation − Call for feedback

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- Aspiration is for **all en route dependencies** to be removed by end 2019

- Then, airport procedures to be removed, leading to removal of navaid from service

- All other VORs will remain in service (maintained/renewed), smaller network

- Please **ask your organisation** to consider the mitigations it might need to implement or recommend to your members, given that VOR rationalisation from 46 to 19 is agreed in principle & supported by CAA (scope)

- Disseminate to any & all appropriate organisations under your purview

- Provide feedback by Mon 24th Sept 2018 (16 wks 3 days from today, Fri 1st June)

- NATS plans to collate feedback & present an update at NATMAC 84, in Oct 2018

- Please send to <u>airspaceconsultation@nats.co.uk</u>, subject "NATMAC VOR Feedback"

What about DMEs?

- DMEs will also be rationalised and optimised

- NATMAC consultation likely to be required

What about DMEs?

NATS

- DMEs will also be rationalised and optimised
  - Some will be removed
  - New ones will be installed, in different (new) locations
  - More about providing/retaining appropriate DME-DME coverage for PBN
  - Less about using DMEs as nav 'waypoints'

- NATMAC consultation required
  - Project timescale not finalised
  - NATMAC will be informed when more details available

NATS Unclassified

Summary and Next steps

NATS

- En route dependencies are being removed through ACP action
  - Aspire to complete by end 2019

- Timeline – see earlier slide

- NATS call for feedback on mitigations, from GA organisations
  - Respond by 24th Sept

- NATS notification letters to airports – will contain timeline, due to be sent later in June
  - Any airport dependent on a specific VOR **must take ACP action** (CAP1616)

- DME Rationalisation will happen
  - Further info in due course

Questions?

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