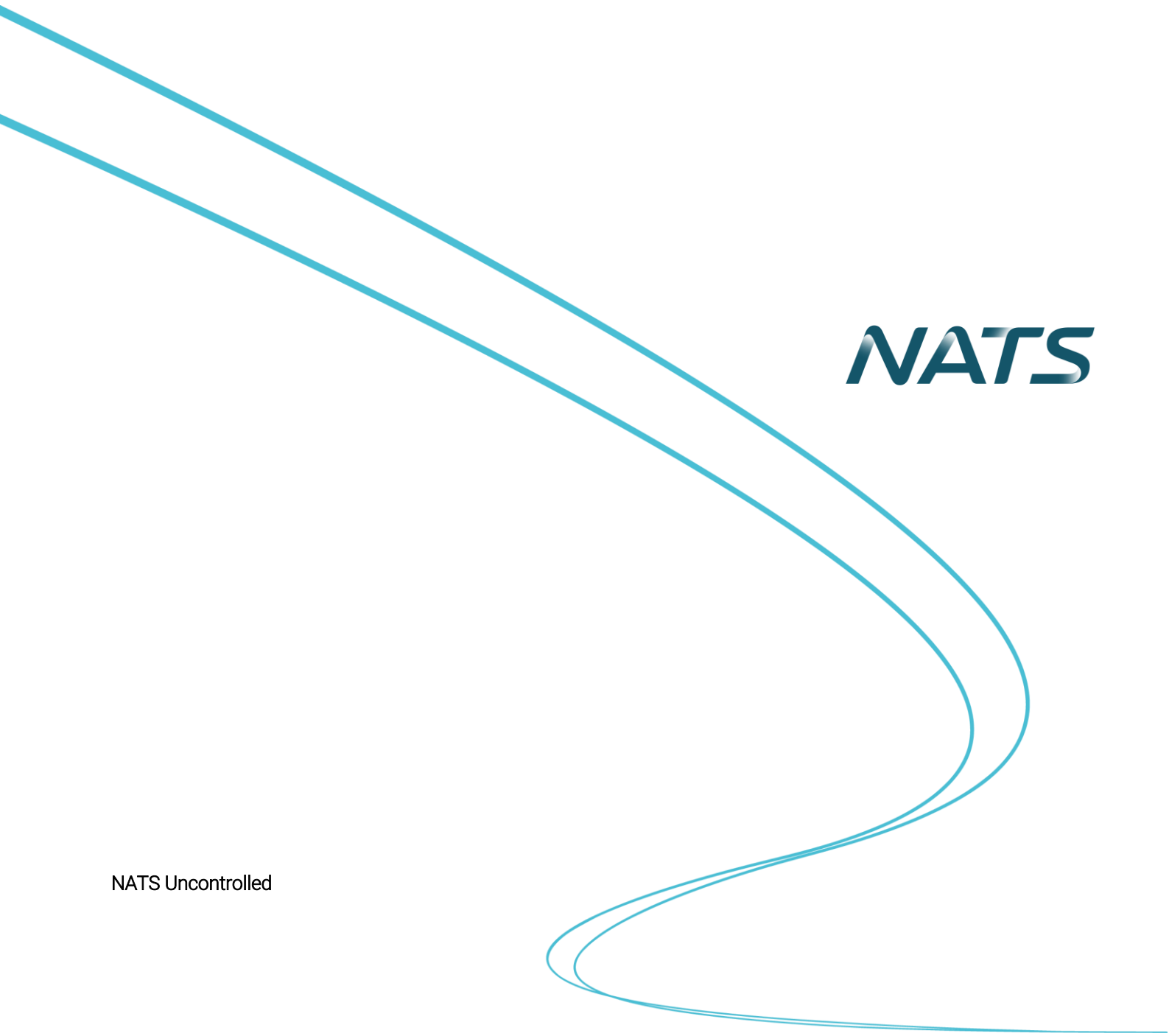
DVOR Rationalisation
Removal of En Route Dependencies
GWC batch

DVOR GWC STARs
CAP1616 Stages 1-4 Multi-Gateway

Executive Summary



NATS Uncontrolled

DVOR Rationalisation Removal of En Route Dependencies - GWC

NATS operates 46 DVORs around the UK which are going through the first batch of rationalisation; due to them operating beyond their design life and no longer being needed due to RNAV5 mandated ATS routes. Within the UK, there are several en-route instrument flight procedures (IFP) which are dependent on these radio navigation aids (navaids). As a number of them are scheduled to be removed from service, the en-route IFP definitions require updating so that they no longer refer to the navaids scheduled to be removed.

This airspace proposal is focussed on standard instrument arrival routes (STARs) and their associated holding patterns, using the Goodwood (GWC) DVOR as a materially important navaid. It aims to reduce dependence on this ground infrastructure without reducing en-route service. The location of GWC would be renamed as a 5-letter name code 'POZAR'.

This proposal also contains some administrative changes for other routes on STAR charts, not impacted by the GWC DVOR removal. These administrative changes are also included as we are taking the opportunity to reassess the ATS routes routing through GWC; in an effort to improve the overall network in a logical manner.

A CAA-led consultation with NATMAC was completed in 2009, whereby airlines were broadly supportive with the rationalisation project. NATS reduction in expenditure was highlighted as a favourable item. We have also engaged with all relevant airports which will need to administratively update their AIP sections, in order to refer to the new 5LNC POZAR.

NATS developed the following five Design Principles, alongside an overriding safety principle, to describe potential methods of removing the en-route dependencies.

Design Principle	Description
DP1 Admin	Remove unnecessary references to DVORs which are not material to the procedure
DP2 Withdraw	Some STARs are rarely used, some do the same job, some have segments in common with other STARs
DP3 Replicate	PBN Replication – replace conventional STARs/Holds with RNAV STARs/Holds
DP4 Truncate	Draft STAR Truncation Policy. When applied logically to STARs with many common segments, can result in withdrawal of unnecessary duplicate STARs. The truncated conventional STAR is always RNAV-replicated
DP5 Technical amendment	Minor changes to a STAR which currently cannot be flown as it is formally defined, for legacy reasons – these changes always reflect what would actually happen in practical terms

NATS developed the following four airspace design options in order to facilitate the removal of the GWC en-route dependencies, and enable additional administrative changes.

Option 0 – Do nothing. Retain all the STARs, holds and ATS routes unchanged from today's AIP definition.
Option 1 – Using the CAA policies, replicate STARs/holds using RNAV, exactly as defined in the AIP without considering any practicalities.
Option 2 – Examine the use of existing STARS, holds and ATS Routes from a practical point of view, re-evaluate how they are used and how the network may be improved by rationalising/truncating/replicating them in a considered manner.
Option 3 – Remove all existing STARs, holds and ATS routes that refer to or use the GWC DVOR.

We evaluated the four design options and concluded that Option 2 best met the Design Principles and was progressed.

The primary objective for this proposed airspace design is to remove any en-route IFP dependencies on the GWC DVOR. This will be achieved by replacing the current connectivity using RNAV5 procedures for applicable Gatwick STARs. As mentioned above, there are also a few administrative changes to some ATS Routes; and London City and Southend STARs.

A full summary of all of the proposed changes and associated impacts can be found on Pages 4 - 7 below. This includes a full list of all IFPs: their current connectivity, the proposed connectivity and the impact of the proposed change for each IFP.
There is no predicted change to flight behaviour as a consequence of this airspace change proposal. This means that there would be no change to pilot or controller behaviour (apart from using designation changes), and no change to lateral or vertical traffic dispersion. The proposed changes will also not alter route usage within the associated airspace.

For full details of the progress of this airspace change proposal, please see the CAA's online portal.

The ACP was submitted to the CAA on Friday 11th January 2019.

If the proposal is approved by the CAA, implementation of the proposed design would be implemented on the 28th February 2019.

Summary of benefits and impacts

Category	Impact
Safety/Complexity	No impact on safety or complexity
Capacity/Delay	No impact on delay
Fuel Efficiency/CO_2	No impact, there will be no change to lateral or vertical tracks
Noise – Leq/SEL	No impact, this is a Level 2C change
Tranquillity, visual intrusion (AONBs & National Parks)	No impact, this is a Level 2C change
Local Air Quality	No impact, this is a Level 2C change
Other Airspace Users	No impact, no changes to volume or classification of CAS

Impact assessment – Gatwick STARs

Current IFP	Current route connectivity/STAR	Design principle	How	Proposed route Connectivity/STAR	Impact of proposed change on connectivity Impact of proposed change on flight behaviour
GWC 1G	Y8 - GWC-HOLLY-WILLO	4 Rep	Same (RNAV5)	POZAR1G-HOLLY-WILLO	Same, no impact to connectivity. No predicted change to flight behaviour.
ABSAV 1G	L980 - ABSAV-AVANT-GWC-HOLLY-WILLO	4 Rep	Same (RNAV5)	Same (GWC now POZAR) ABSAV 2G	Same (GWC now POZAR), no impact to connectivity. No predicted change to flight behaviour.
TIMBA 1C	N/A - GWC – SFD – TIMBA/LUMBA - LARCK	3 Withdraw	Not Required	Not Required	Since the introduction of SAIP AD1 in November 2017 any stack swaps involving Gatwick (EGKK) inbound traffic, from the southwest from WILLO to TIMBA, have utilised the TELTU 1G stack swap STAR; rather than the TIMBA 1C STAR
TIMBA 1D	N/A - MID- MAY- LARCK – TIMBA/LUMBA	4 Rep	Same (RNAV5)	SAME MID 1X	*Same, no impact to connectivity.* *No predicted change to flight behaviour.* 'X' designator used in order to adhere to CAA request to name the Route Indicator as 'X, Y, Z, Q'; to demonstrate an extraordinary STAR i.e. stack-swap or contingency.

Impact assessment – London City STARs

Current IFP	Current route connectivity/STAR	Design principle	How	Proposed route Connectivity/STAR	Impact of proposed change on connectivity Impact of proposed change on flight behaviour
GODLU 1G	L980 – DOMUT - KATHY – BIDVA – EVEXU – SOXUX – OKVAP - GODLU	5 Trunc 4 Rep	Trunc KATHY	L980 –KATHY 1C – BIDVA – EVEXU – SOXUX – OKVAP - GODLU	L980 is common to the STAR leg, no impact to connectivity. No predicted change to flight behaviour. 'C' designator used in order to adhere to CAA request to name the Route Indicator after the destination airport (C – London City).
GODLU 1H	L620 – SAMIZ – BIDVA – EVEXU – SOXUX – OKVAP - GODLU	2 Admin	Rename to SAMIZ 1C	Same – SAMIZ 1C	No impact to connectivity, or change to flight behaviour. 'C' designator used in order to adhere to CAA request to name the Route Indicator after the destination airport (C – London City).

Impact assessment – Southend STARs

Current IFP	Current route connectivity/STAR	Design principle	How	Proposed route Connectivity/STAR	Impact of proposed change on connectivity Impact of proposed change on flight behaviour
GEGMU 1F	L613 – SOVAT – ERKEX – OKVAP – ATSAP – ADVAS - GEGMU	2 Admin	Rename to SOVAT 1S	Same – **SOVAT 1S**	No impact to connectivity, or change to flight behaviour. 'S' designator used in order to adhere to CAA request to name the Route Indicator after the destination airport (S – Southend).
GEGMU 1G	M189 – NEVIL – OSPOL – NETVU – SOXUX – OKVAP – ATSAP – ADVAS - GEGMU	2 Admin	Rename to NEVIL 1S	Same - **NEVIL 1S**	No impact to connectivity, or change to flight behaviour. 'S' designator used in order to adhere to CAA request to name the Route Indicator after the destination airport (S – Southend).
GEGMU 1J	L620 – SAMIZ – BIDVA – EVEXU – SOXUX – OKVAP – ATSAP – ADVAS – GEGMU	2 Admin	Rename to SAMIZ 1S	Same – **SAMIZ 1S**	No impact to connectivity, or change to flight behaviour. 'S' designator used in order to adhere to CAA request to name the Route Indicator after the destination airport (S – Southend).
GEGMU 1K	L980 – DOMUT – KATHY – BIDVA – EVEXU – SOXUX – OKVAP – ATSAP – ADVAS - GEGMU	5 Trunc 4 Rep	Trunc KATHY	L980 –**KATHY 1S** – BIDVA – EVEXU – SOXUX – OKVAP – ATSAP – ADVAS - GEGMU	L980 is common to the STAR leg, no impact to connectivity. No predicted change to flight behaviour. 'S' designator used in order to adhere to CAA request to name the Route Indicator after the destination airport (S – Southend).

Impact assessment – ATS Route Re-designations

Current Route Name	Current Route	Proposed Route Name	Proposed Route	Notes	Impact of proposed change on connectivity Impact of proposed change on flight behaviour
UY8	KUNAV – BANVA – WAFFU - GWC	Y8	GAPLI – TESDO – RIGDI – GITUS – BUMUX – SAMIZ – POZAR – WAFFU – BANVA - KUNAV	Replaces UN20 west of SAMIZ U designator removed	Same, no impact to connectivity. No predicted change to flight behaviour.
Y8	KUNAV – BANVA – WAFFU - GWC				
N20	KUNAV – ELDAX – NOTGI – EVEXU - GWC	Same - N20	KUNAV – ELDAX – NOTGI – EVEXU	Truncation at EVEXU will remove the dual designation from between POZAR(GWC) and EVEXU	Route connectivity maintained by N859 which is now bi-directional. No predicted change to flight behaviour.
N859	SITET – DRAKE – INKEK – EVEXU GWC – VAPID – CPT – DIGUT – KIDLI – HON – UTUXA – SANBA	Same - N859	Same except now bi-directional between EVEXU and POZAR (GWC)	Removes the dual designation from between POZAR(GWC) and EVEXU	Same, no impact to connectivity. No predicted change to flight behaviour.
UN16	GWC – OTSID – BIG – BPK – BKY	N16	POZAR – OTSID – BIG – BPK - BKY	U designator removed	Same, no impact to connectivity. No predicted change to flight behaviour.
N16	GWC – OTSID – BIG – BPK – BKY				