Existing SID: CPT 1A/1H, CLN 1A/1H, EKNIV 1A/1H

Proposed SID: SAXBI 1A/1H, ODUKU 1A/1H, SOQQA 1A/1H

SID Truncation Sponsor Details:

	En-Route ANSP	**Airport ANSP**	**Airport Authority**
Unit	NATS Swanwick	NATS London City	London City Airport Ltd
Name	[redacted]	[redacted]	[redacted]
Contact details Phone: E mail:	[redacted]	[redacted]	[redacted]

1. **Stage 1** Statement of Need

1.1 For completeness and ease of reference, insert details of DAP1916

NATS Operational Service Enhancement Project (OSEP), EGLC SID Truncations.

NATS OSEP will deliver small scale changes across UK airspace between now and 2027. The OSEP changes will deliver benefits through enabled fuel/CO2 savings, reduced routing inefficiency, safety improvements and alleviating capacity hotspots.

Current Situation
The extant EGLC (CLN 1A/1H, CPT 1A/1H & EKNIV 1A/1H) SIDs have long level-capped sections where the flight profile is unnecessarily restricted, and do not correspond to the typical flight trajectories of aircraft using the SIDs. This can result in unnecessary additional fuel being carried by some operators.

Cause
The extant SIDs are legacy routes, which are not reflective of the actual flight profiles on these departures.

Issue to be addressed
Remove the long level-capped sections of the departure procedure so that the flight planned profile is more reflective of the actual flight profile. This will enable some operators to reduce fuel uplift on the in-scope departures which are consistently well above SID altitude by the time they reach the end of the current SIDs. The truncated portions of the SIDs will be replaced by extending/creating ATS routes back to the most suitable point.

There will be no change to flight trajectories over the ground.

Associated factors relevant to the issue:
Environmental SID truncation will enable a reduction of CO2 emissions.
Economic SID truncation will enable a reduction in fuel burn, hence saving aircraft operators money.
Safety Radio fail procedures will be reviewed to ensure they remain safe.

Note: Only the EGLC RNAV SIDs mentioned above are in-scope of this ACP. The conventional SIDs will be addressed separately.

1.2 Date of Assessment Meeting/Teleconference/E mail Confirmation that proposal may be submitted

Assessment Meeting- 8th February 2022

1.3 **Design Principles.** The SID Truncation Design Principles are listed below.

Design Principle	Description
Safety	
DP1 Safety	Safety is always the number one priority.
Policy	
DP2 Airspace Modernisation Strategy	Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it.
Environmental	
DP3 No change to lateral flight paths	None of the proposed changes to definitions of SIDs would result in a change to lateral flight paths, or in the degree of dispersal.
DP4 No lowering of vertical flight paths	None of the proposed changes to definitions of SIDs would result in flight paths being lower at a given point along the SID. If the proposed change results in flight paths being higher, this is acceptable.
DP5 No increase in noise impact on the ground.	Noise impact to those on the ground: SID truncation will not alter lateral profiles of aircraft using the SID, hence there will be no change to noise impact to people on the ground. If the proposed change results in flight paths being higher, and hence the noise impact is reduced, this is acceptable.
DP6 No detriment in visual impact	SID Truncation will not cause detriment to visual impact resulting from aircraft being lower. If the proposed change results in flight paths being higher, and hence the visual impact is reduced, this is acceptable.
DP7 Reduction of CO_2 emissions	Reduction of CO_2 emissions will be prioritised. The objective of the SID truncation is to ensure that the flight-plan route enables a lower required fuel uplift (due to improved flight-plan profile). For some operators this can result in a net reduction in per-flight CO_2 emissions.
Airspace use	
DP8 No change to CAS	SID truncations will require no change to extant controlled airspace.
Technical	
DP9 RCF appropriate	Ensure that the radio communications failure (RCF) procedures are appropriate.
DP10 Simplify routes where possible	Avoid creation of additional link routes which are very close to existing routes.
DP11 Minimise technical complexity	Avoid creating situations where ATM system or flight planning constraints introduce unnecessary complexities to the ATC operation.

2. Stage 2

2.1 **Options Appraisal.** The options proposed and options discounted (where applicable) are detailed below. This section describes the options for the truncated SIDs themselves, and the options for onward connectivity from the truncation points to rejoin the ATS route network. One option for SID truncation, and one option for onward connectivity is required per SID pair, in any combination.

SID Options

CPT (SAXBI)

Options proposed and why:

0. Do nothing
1. Using the CAA SID Truncation Policy, truncate SIDs at HEN.
2. Withdraw CPT SIDs and utilise existing BPK SID.
3. Using the CAA SID Truncation Policy, truncate closer to the airport than BPK.
4. Using the CAA SID Truncation Policy, truncate at new fix SAXBI between BPK & HEN.

Options discounted and why:

0. Do nothing
Would not deliver a reduction in CO_2 emissions (DP7)

1. Using the CAA SID Truncation Policy, truncate SIDs at HEN
This option offers some reduction in CO_2 emissions, (DP7), whilst minimizing technical complexities (DP11) associated with other options. However, Option 4 delivers greater benefit.

2. Withdraw CPT SIDs and utilise existing BPK SID
This option offers significant reduction in CO_2 emissions, (DP7). However, there is an operational need to differentiate between northbound and westbound departures by SID. The technical requirement in order to progress this option is therefore incompatible with DP11.

3. Truncate closer to the airport than BPK
This option offers the highest reduction in CO_2 emissions, (DP7). Truncation prior to BPK would require termination at different points for RWY09 and RWY27, introducing flight-planning and technical complexities, contrary to DP11. Also, the existing CPT 1A SID includes a 200kt speed constraint until BPK. Truncation prior to BPK would not retain this element, therefore any such truncation would not ensure an identical profile is followed. (See Considerations below for further detail).

Options Progressed

4. Truncate at new fix SAXBI, between BPK & HEN
This option offers significant reduction in CO_2 emissions, (DP7), whilst minimizing technical complexities (DP11). Full APDO assurance of new fix SAXBI will be provided separate to this Request document. Aircraft utilising these SIDs will be required to flight-plan N27 CPT to ensure current lateral track is maintained.

CLN (ODUKU)

Options proposed and why:

0. Do nothing
1. Using the CAA SID Truncation Policy, truncate SIDs at first common waypoint LCE05, co-located with existing waypoint ODUKU.

Options discounted and why:

0. Do nothing

Would not deliver a reduction in CO_2 emissions (DP7)

Options Progressed

1. Using the CAA SID Truncation Policy, truncate SIDs at LCE05, co-located with existing waypoint ODUKU

This option offers significant reduction in CO_2 emissions, (DP7). To ensure adherence to DP3, aircraft utilising these SIDs will be required to flight-plan M84 CLN to ensure current lateral track is maintained.

Note: There is no change required to the upper limit of ATS Route M84, as aircraft do not routinely achieve higher than FL245 before CLN.

EKNIV (SOQQA)

Options proposed and why:

0. Do nothing
1. Using the CAA SID Truncation Policy, truncate SIDs at first common waypoint LCE06.
2. Using the CAA SID Truncation Policy, truncate SIDs at existing waypoint SODVU.
3. Using the CAA SID Truncation Policy, truncate SIDs at separate existing waypoints LCE03 (1A) & LCN06 (1H).

Options discounted and why:

0. Do nothing

Would not deliver a reduction in CO_2 emissions (DP7).

2. Using the CAA SID Truncation Policy, truncate SIDs at existing waypoint SODVU

Whilst this option does offer a reduction in CO_2 emissions (DP7), a greater benefit is achieved through Option 1. Therefore, this option has been discounted.

3. Using the CAA SID Truncation Policy, truncate SIDs at separate existing waypoints LCE03 (1A) & LCN06 (1H)

Whilst this option does offer the greatest reduction in CO2 emissions (DP7), it introduces safety related issues (DP1) and operational/technical complexities (DP11). Therefore, this option has been discounted (see further detail below).

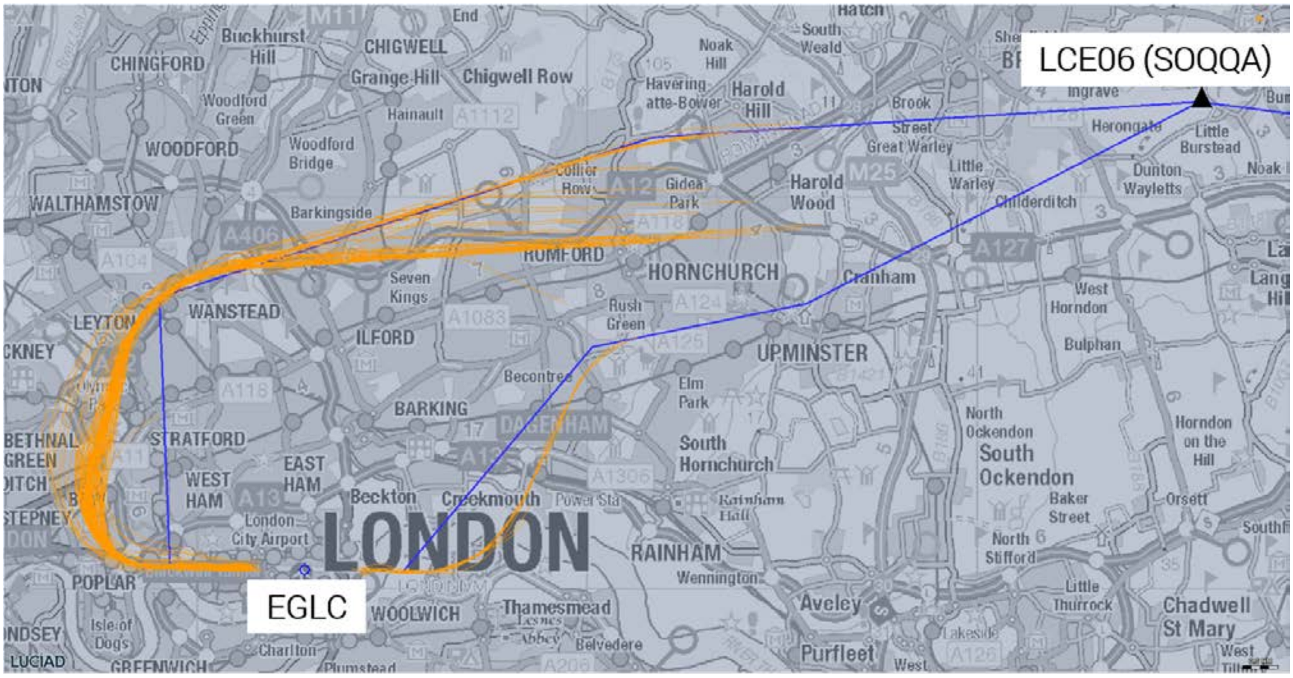
Options Progressed

1. Using the CAA SID Truncation Policy, truncate SIDs at LCE06

This offers significant reduction in CO_2 emissions (DP7), whilst minimizing technical complexity (DP11). The terminal waypoint LCE06 will be assigned the 5LNC SOQQA. As with the current procedures, it is recognised that Option 1 truncates the SID at a point outside controlled airspace, however this is mitigated by:

- An RCF procedure that ensures aircraft will climb in sufficient time to remain within controlled airspace for the lateral duration of the SID, should the scenario arise.
- As the proposed truncation mirrors the vertical profile of the existing procedure, operational experience and evidence demonstrates the management of the vertical profile to ensure airspace containment is maintained. The diagram below shows the

point at which aircraft achieve 4000ft prior to the base of controlled airspace change:

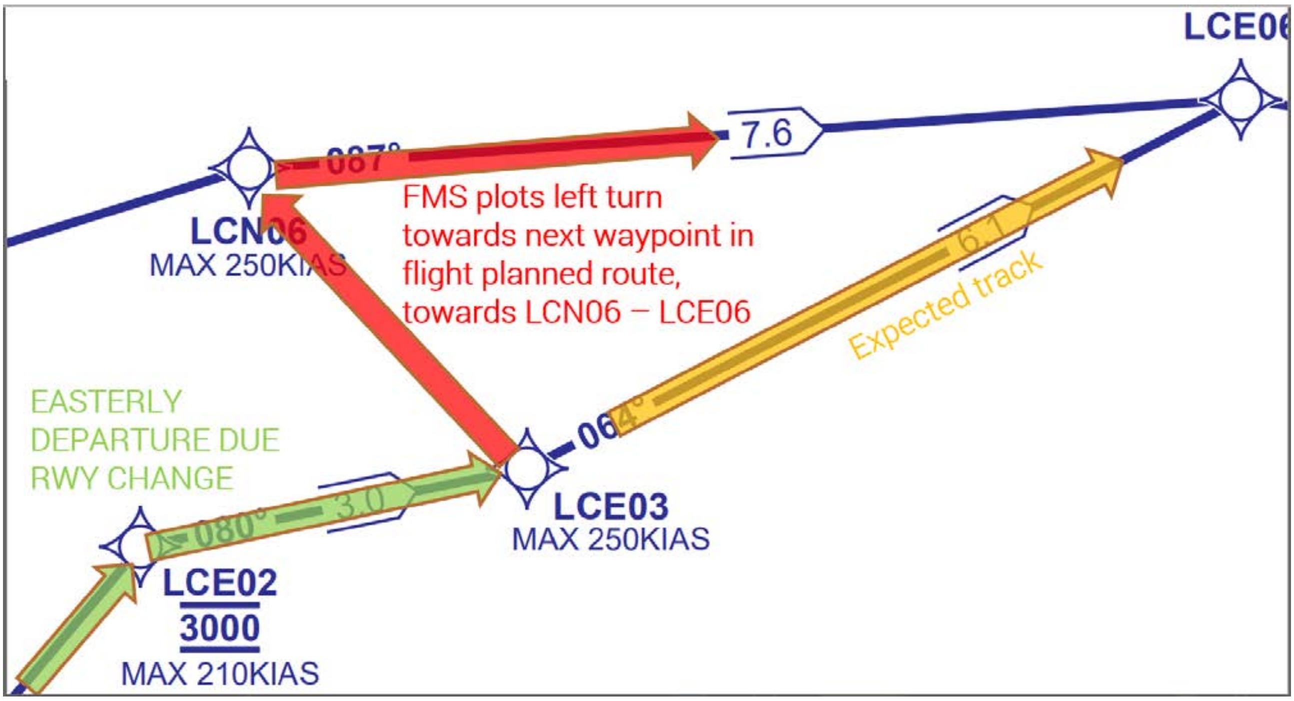


Aircraft utilising these SIDs will be required to flight-plan M87 EKNIV to ensure current lateral track is maintained.

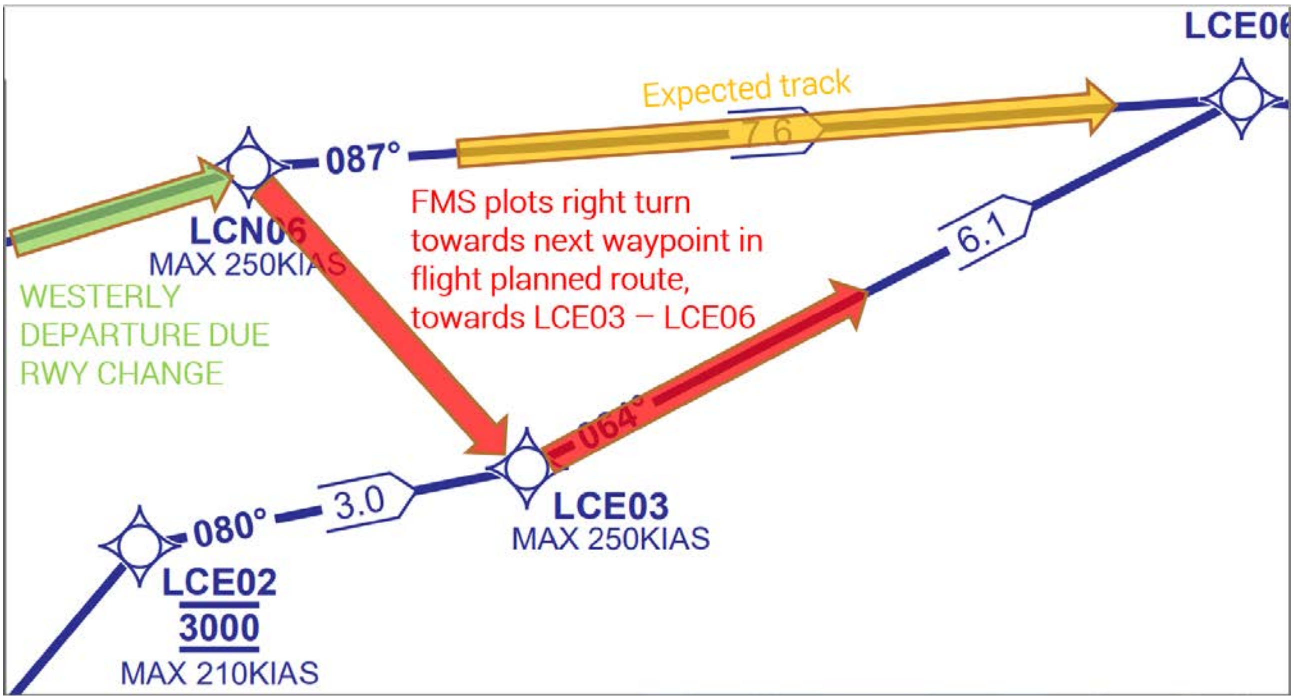
Considerations

The primary consideration for avoiding truncation at different points for easterly/westerly departures (CPT Option 3 & EKNIV Option 3) is safety related and follows past experience over several instances depending where the truncation occurs. The potential scenario occurs where an aircraft has flight planned to join the ATS route network via truncation point A (based upon SID A from RWY X), but due to operating on RWY Y at the point of departure, the aircraft is subsequently issued SID B to join the ATS route network at truncation point B.

In this instance, while a disconnect should show on the FMS, past instances have shown us that this is not always picked up by the crew, or at least not in a sufficiently timely manner to ensure they request clarification prior to the disconnect. Taking the EKNIV example, this could result in an aircraft on an EKNIV 1H (truncated to LCE03) taking an unexpected left – right dogleg towards LCN06 before routing to LCE06 shortly after departure when cockpit workload is likely to be high. This would affect Controller situational awareness and erode longitudinal separation from a 2-minute subsequent EKNIV 1H (via LCE03 – LCE06).



This scenario would also be mirrored in the opposite instance for a LCN06 truncation deviating towards LCE03, which would result in the additional risk associated with the aircraft turning towards the final approach for RWY27:



There are additional engineering impacts in terms of the mechanism for identification of the SID to be issued. Currently the 5LNC is delivered by NAS, with EFPS adding the appropriate suffix for the runway in use. This would require significant adaptation change, contrary to DP11.

Our consideration of these factors, along with our experience of routinely managing the vertical profile of traffic on the existing SIDs, have resulted in discounting options truncating at different points for both easterly and westerly operations.

<u>Connectivity Options</u> (common to the in-scope SIDs)

Options Proposed:

a) Extend existing ATS routes
b) Newly designated ATS routes
c) No change to existing ATS routes, use flight-plannable DCTs to establish connectivity to the ATS route network

Options discounted and why:

c) No change to existing ATS routes, use flight-plannable DCTs instead. Flight-plannable DCTs are less transparent as they are not published in the AIP and would not appear on the associated SID chart. This would increase technical complexity and therefore not meet DP11.

Options Progressed:

Suitable connectivity between the SID end point and the ATS route network can be achieved through either extending existing ATS routes (Option a) or creating newly designated ATS routes (Option b). However, the preferred option is to extend existing ATS routes as this limits the creation of additional link routes (DP10) and avoids increased flight-planning/engineering complexities (DP11). When there is not a suitable existing ATS route available to be extended, a new ATS route will be introduced.

3. Stage 3

3.1 Consultation and Sponsor Confirmation Statement

<table>
<tr><td colspan="2">This proposal has been submitted following consultation with the aerodrome authority. As sponsor/co-sponsor we confirm that that there is no change to track over the ground, no change to vertical profiles, no change to NPRs and no effect on adjacent SIDs.</td></tr>
<tr><td>NATS NERL
Name [redacted]</td><td>Aerodrome
Name [redacted]
(Approval by email, relevant text extract below)</td></tr>
<tr><td colspan="2">Approved by the aerodrome authority</td></tr>
</table>

4. Stage 4

4.1 SID Truncation Change Submission Details

Requirements	**Details To Be Submitted by Sponsor**		
New SID Designator (To be Co-ordinated with SARG)	SAXBI 1A (RWY27) SAXBI 1H (RWY09)	ODUKU 1A (RWY27) ODUKU 1H (RWY09)	SOQQA 1A (RWY27) SOQQA 1H (RWY09)
New 5LNC(s) (if applicable)	SAXBI (reserved by ICARD process)	n/a	SOQQA (reserved by ICARD process)
Truncation Position	Approx 3nm after BPK on HEN track	LCE05 (ODUKU)	LCE06 (SOQQA)
Co-ordinates of Truncation Position	514504.0315N 0001113.7682W (Proposed)	513531.78N 0001715.47E	513623.75N 0002328.43E
Revised Track / Distance to Truncation Position	No change in track of SID to truncation point **See proposed SID chart amendment in Appendix 2.**		
Navaid coverage (to ensure position is definable)	Not applicable, some existing waypoints are being renamed.		
Safety Assessment Details			
Confirmation interacting ATS Routes/SIDs not affected.	NATS ATC experts have assessed the adjacent ATS routes and SIDs and none are affected.		
RCF Implications: **(1) Describe impacts of proposed change on extant RCF procedures (confirmation that they have been examined and remain fit for purpose, or** **(2) If revised RCF procedures are required, state why, and provide the proposed details with the draft AIP amendment.**	CPT (SAXBI) RCF procedure remains as current, as far as HEN, to ensure vertical separation from traffic holding at BNN. RCF procedure removed from SID chart (see draft chart at Appendix 2), and will be added to AD2.22 (see Appendix 1 for details). CLN (ODUKU) RCF procedure removed from SID chart (see draft chart at Appendix 2), and will be added to AD2.22 (see Appendix 1 for details). EKNIV (SOQQA) RCF procedure remains as current, aside from a name change (reference to LCE06 updated to SOQQA). Procedure removed from SID chart (see draft chart at Appendix 2), and will be added to AD2.22 (see Appendix 1 for details).		
Airspace Containment confirmation	The proposed truncations maintain or improve existing controlled airspace containment.		
Adaptation and AIRAC implementation confirmation – provide confirmation that changes have been co-ordinated with the aerodrome for the date proposed.	The target implementation date of AIRAC 09-2022 (8th Sept 2022) has been coordinated with London City Airport. AIS Submission Deadline: 10th June 2022		
AIP amendments			

Confirmation there is no impact to NPRs.	No impact
Name change to NPR tables in Aerodrome AD 2.21	N/A
SID chart amendments	
Revisions to chart	**See Appendix 2**
Any other amendments to SID Chart (include PDF copy of chart showing changes required)	**See Appendix 2**

4.2. **ATS Route Details**

Submit details for New ATS Route in AIP Format.
(See Appendix 1)

CPT (SAXBI) 1A/1H

The truncated portion of these SIDs will be replaced by new ATS route N27, and additionally the waypoint RODNI will be introduced to the HEN – CPT track. RODNI is currently a compulsory reporting point on the conventional EGLC procedure as well as the Luton and Northolt CPT SIDs. Its inclusion within the flight-planned route will provide additional tactical benefit for controllers.
N27 will now route SAXBI – HEN - RODNI – CPT. RODNI will not be a compulsory reporting point on the ATS route N27, but will remain a compulsory reporting point on the remaining SIDs. This does not present any coding issues.
The upper limits of N27 will be set at FL460 to allow operators to file their most efficient vertical profile. Data from 2019 indicates aircraft can achieve in excess of FL300 by CPT.
The tracks flown will be co-incident with that of the disestablished portion of the SID. Refer to Aerodata spreadsheet for full details.

CLN (ODUKU) 1A/1H

The truncated portion of these SIDs will be replaced by joining the existing ATS Route M84 at the truncation point ODUKU. M84 was previously extended to enable this truncation in December 2018. The truncation was unable to take place at that time due to EFPS build limitations however the ATS route connectivity remained to enable the future truncation which is being requested in this proposal.

EKNIV (SOQQA) 1A/1H

The truncated portion of these SIDs will be replaced by extending the existing ATS Route M87 to route LCE06 (SOQQA) – SODVU – EKNIV – UMTUM. The tracks flown will be co-incident with that of the disestablished portion of the SID.

5. Options Appraisal

Options:
The SID options and connectivity options can be combined as follows:

CPT (SAXBI):
SID *Option 1 with*
ATS route connectivity Option b)

CLN (ODUKU)
SID *Option 1 with*
ATS route connectivity Option a)

EKNIV (SOQQA)
SID *Option 1 with*
ATS route connectivity Option a)

These SID truncations are justified on the basis of fuel saving and associated reduction in CO_2 emissions that may be achieved by some operators.

Currently for flight-planning purposes the portions of the SIDs proposed to be truncated are flight-planned to be flown at 3,000ft. However, aircraft are climbed to higher levels subject to the traffic scenario at the time. Some Aircraft Operators calculate the fuel required based on the SID level constraints, for which there is a significant fuel weight benefit as a result of the level constraint terminating sooner. Other Operators calculate the fuel required based on previous experience of what is flown in practice, and as a result there is no fuel weight benefit. (zero weight benefit).

Truncation of these SIDs reduces the 3000ft level part of the flight and better reflects what is typically operated today. This results in fuel calculations that are more representative of the flight profile and therefore offers an opportunity for fuel savings for those operators who currently flight-plan for the full SID. Hence after the SID has been truncated the aircraft will be able to fly carrying less ‘excess’ fuel. The reduction of an aircraft’s weight also results in less fuel required to get to a destination; to carry more weight (fuel) the aircraft will burn more fuel.

The main advantage of SID Truncations is the removal of excessively conservative assumptions from operator’s fuel planning systems. There are some factors which cannot be determined because each aircraft’s operator and planning system acts differently, and each type/route may also be considered differently. This means that the fuel weight reduction of any truncation could be zero or it could be significant.

The overall effect will be positive and will fall within the range as described in Table E2 below, and no flights will be penalised as a result of the change.

Table E2			
Group	**Impact**	**Level of Analysis**	**Evidence**
Communities	Noise impact on health and quality of life	Qualitative	The SID truncation will not change the trajectories of flights. Therefore, there will be no change in impact.
Communities	Air quality	Qualitative	The changes are above 1,000ft, and will not change the trajectories of flights. Therefore, there will be no change in impact.
Wider society	Greenhouse gas impact.	Quantify	This SID truncation does not change the flight trajectory of aircraft. For some flight-planning systems, it does reduce the amount of fuel required to be uplifted. Hence depending on the flight-planning system being used the change can either have zero benefit or a small reduction in fuel uplift and associated CO_2 emissions. The proposed truncations could reduce CO_2 emissions by between: • 0 and 60kg per flight for proposed CLN truncation. • 0 and 75kg per flight for proposed CPT truncation. • 0 and 31kg per flight for proposed EKNIV truncation.
Wider society	Capacity/ resilience	Qualitative	The SID truncation will not change the capacity/resilience. Therefore, there will be no change in impact.
General Aviation	Access	Qualitative	The SID truncation will not change GA access. Therefore, there will be no change in impact.
General Aviation/ commercial airlines	Economic impact from increased effective capacity	Qualitative	The SID truncation will not change the economic impact from increased effective capacity. Therefore, there will be no change in impact.
General Aviation/ commercial airlines	Fuel burn	Monetise and quantify	SID truncations remove excessively conservative assumptions from the fuel planning system. This may provide a fuel uplift planning benefit. Reducing an aircraft's weight means less fuel is needed to get to the destination. To carry more fuel (weight) the aircraft must burn more fuel. As per previous SID Truncation Requests, NATS have assumed an aircraft could burn up to 4.5% of its fuel per hour to carry the weight of that same fuel. There are dependencies which we cannot accurately determine because each aircraft's operator and planning system acts differently, and each type/route may also be considered differently. The uplift benefit (weight reduction) of any individual truncation may be zero, or it may be significant. <u>Zero weight benefit</u> - Operators whose flight-planning system calculates fuel uplift based on previous experience of how the SID is flown in practice and based on historic data. For these operators SID truncation will give no benefit in reduced fuel uplift. <u>Significant weight benefit</u> - Operators whose flight-planning system calculates fuel uplift based on the most conservative fuel plan, based on the rigorous worst-case assumption that the SID is flown to its lowest possible design-altitude and to its full design-length before climb is issued to a more economical level. An example of a "significant weight benefit" for a London City Airport departure could be a twin-engine small jet, using the truncated CLN/CPT/EKNIV SID, on a 2-hour short-haul flight. Should such a flight follow a conservative fuel plan assumption as described above, a SID truncation of 35.6nm/45.2nm/18.1nm respectively (the proposed truncation distances) could reduce the fuel uplifted to the aircraft by c.210kg/260kg/110kg, meaning the aircraft is 0.2t/0.3t/0.1t lighter. Over the course of a 2-hour flight, this lighter aircraft means c.19kg/24kg/10kg less fuel would be burnt (and saving c.60kg/75kg/31kg of CO_2 from being emitted as a consequence). The monetized projected fuel burn savings are in a range between zero and c.£17/£22/£9 (npv) per flight. This was based on the IATA jet fuel price of 1207.25USD/tonne converted to 928.28GBP/tonne (Apr 13th, 2022, 1.30$/£) multiplied by the fuel saved.
Commercial airlines	Training cost	Qualitative	No associated training costs
Commercial airlines	Other costs	Qualitative	There are no other costs known which would be incurred by commercial aviation.
Airport/ ANSP	Infrastructure costs	Monetise and quantify	No infrastructure costs which would be incurred by the Airport or ANSP.
Airport/ ANSP	Operational costs	Qualitative	This proposal would not lead to a change in operational costs.
Airport/ ANSP	Deployment costs	Monetise and quantify	Training Costs: negligible – notification via SI Delivery of change under AIRAC process: c.£5k NPV

Note:

The figures used in the ‘Fuel Burn – Monetise and Quantify’ section of Table E2 (above) are an indication of the level of benefit that could be achieved, and are not definitive values.

Fuel burn is calculated from Base of Aircraft Data (BADA), in this case the data used was for an E170. Total fuel burn was calculated using the truncation distance, the flight duration (2 hours is typical for a London City departure), and by including a 4.5% penalty to determine hourly fuel burn to carry the weight of that same fuel (as utilised in *ICAO. Doc 10013,”Operational Opportunities to Reduce Fuel Burn and Emissions”. s.l. : ICAO, First Edition, 2014*). This information allows us to calculate the reduction in fuel needed, and the total fuel burned to carry this extra fuel. A factor of 3.18 is applied to the fuel burned to calculate the CO_2e value, as is common practice.

Appendix 1: ENR AIP amendments

EGLC SID Truncations – AIP Changes V4.0

GEN 2.5

HEN – Update purpose to AE

HENTON – Update purpose to AE

ENR 2.1

London TMA 1

Add N27 to list of ATS routes in remarks

London TMA 3

Add N27 to list of ATS routes in remarks

London TMA 5

Add N27 to list of ATS routes in remarks

London TMA 10

Add N27 to list of ATS routes in remarks

London TMA 11

Add N27 to list of ATS routes in remarks

Southern CTA

Add N27 to list of ATS routes in remarks

ENR 3.3

Add new ATS route N27 and amend ATS route M87 as per Aerodata.

ENR 4.1

Include entry for HEN NDB as per EGLC AD 2.19 section, add remark "No associated En-route navigational dependency.".

ENR 4.4

Add SOQQA as per Aerodata spreadsheet.

Add SAXBI as per Aerodata spreadsheet.

Add SODVU as per current published coordinates on EGLC EKNIV 1A/1H SIDs.

Add RODNI as per current published co-ordinates in AD 2.EGLC-6-3

Amend Remarks / Usage as per below

SAXBI	Add EGLC SIDs
SOQQA	Add EGLC SIDs
EKNIV	Delete EGLC SIDs
ODUKU	Add EGLC SIDs
RODNI	Add EGGW SIDs EGLC SIDs

AD 2 EGLC

AD 2.22

Para 2c Note 1

Amend ‘RNAV 1 Departures via EKNIV’ to ‘RNAV 1 Departures via SOQQA’

Para 3c

Outbound Aircraft

~~For the purposes of radio failure, the climb to flight planned level should be commenced after the last position where an altitude is specified in the Communications Failure Procedure Text Box which is shown in the Standard Departure Chart - Instrument (SID) - ICAO at AD 2-EGLC-6-1 to 6-7.~~

In the event of complete RCF in an aircraft, the pilot shall operate secondary radar transponder on Mode A code 7600 with Mode C and follow the procedure published on the SID and thereafter commencing climb to flight planned level after the last position where an altitude is specified in the communication failure procedure text box, with the exception of those listed below:

i. ODUKU 1A/1H
   Pilots should follow the procedures shown at ENR 1.1, paragraph 3.4.

ii. SAXBI 1A/1H
   Without descending from last assigned level, if higher, follow lateral track of coded procedure. Maintain 3000 FT ALT to SAXBI then route via N27 to HEN, climb to cross HEN at 5000 FT ALT. After HEN, climb to flight planned level.

iii. SOQQA 1A
   Without descending from last assigned level, if higher, follow lateral track of coded procedure. Maintain 3000 FT ALT to LCN06. Climb to 4000 FT ALT to be level 4NM before SOQQA and maintain. After SOQQA, climb to flight planned level.

iv. SOQQA 1H
   Without descending from last assigned level, if higher, follow lateral track of coded procedure. Maintain 3000 FT ALT to LCE03. Climb to 4000 FT ALT to be level 3NM before SOQQA and maintain. After SOQQA, climb to flight planned level.

AD 2.24

AD 2.EGLC-6-4 Update EKNIV 1A/1H to SOQQA 1A/1H as per attached marked up chart.

Add note ‘For RCF Procedure see AD 2.22, 3(c)’

AD 2.EGLC-6-5 Update CPT 1A to SAXBI 1A as per attached marked up chart.

Add note ‘For RCF Procedure see AD 2.22, 3(c)’

AD 2.EGLC-6-6 Update CPT 1H to SAXBI 1H as per attached marked up chart.

Add note ‘For RCF Procedure see AD 2.22, 3(c)’

AD 2.EGLC-6-7 Update CLN 1A/1H to ODUKU 1A/1H as per attached marked up chart.

Add note ‘For RCF Procedure see AD 2.22, 3(c)’

AD 2.EGLC-6-8 Update EKNIV 1A/1H coding tables as per attached SOQQA 1A/1H coding tables.

AD 2.EGLC-6-9 Update CPT 1A coding table as per attached SAXBI 1A coding tables.

AD 2.EGLC-6-10 Update CPT 1H coding table as per attached SAXBI 1H coding tables.

AD 2.EGLC-6-11 Update CLN 1A/1H coding table as per attached ODUKU 1A/1H coding tables.

AD 2 EGKB

AD 2.22

Para 2 Table Standard Departure Routes – Via ATS Route Network

Amend entry for Departure to West as below:

Departure to	Designator	Via	Route
West	SAXBI 2	N27	DET – N601 – BPK – SAXBI

AD 2 EGTO

AD 2.22

Para 1 Table

Amend row for west as below.

Departure to	Designator	Via	Route and Altitude
West	SAXBI 3	N27	BPK – SAXBI Cross 20 DME BPK above 3000 FT climbing to 4000 FT.

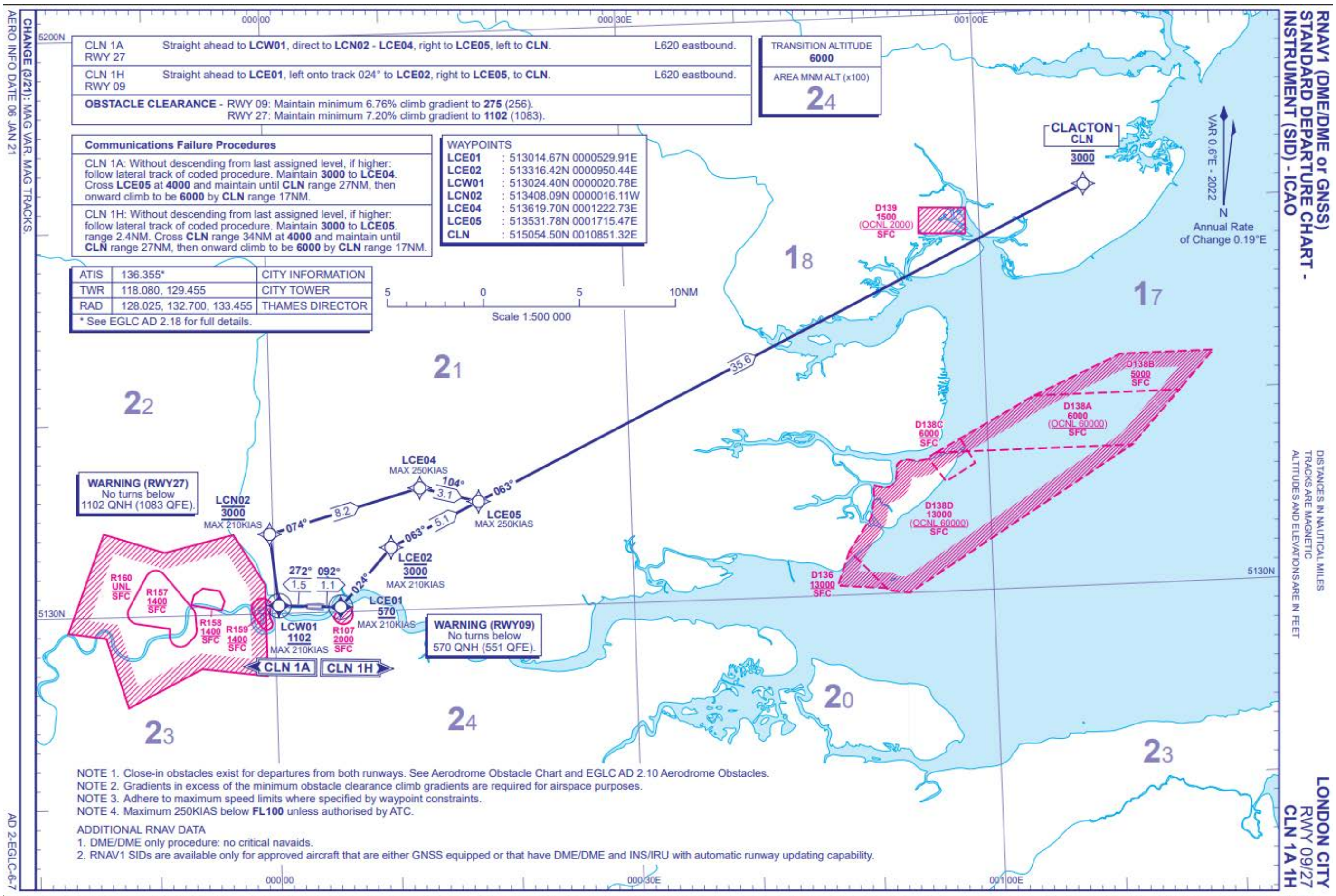
ENR 6

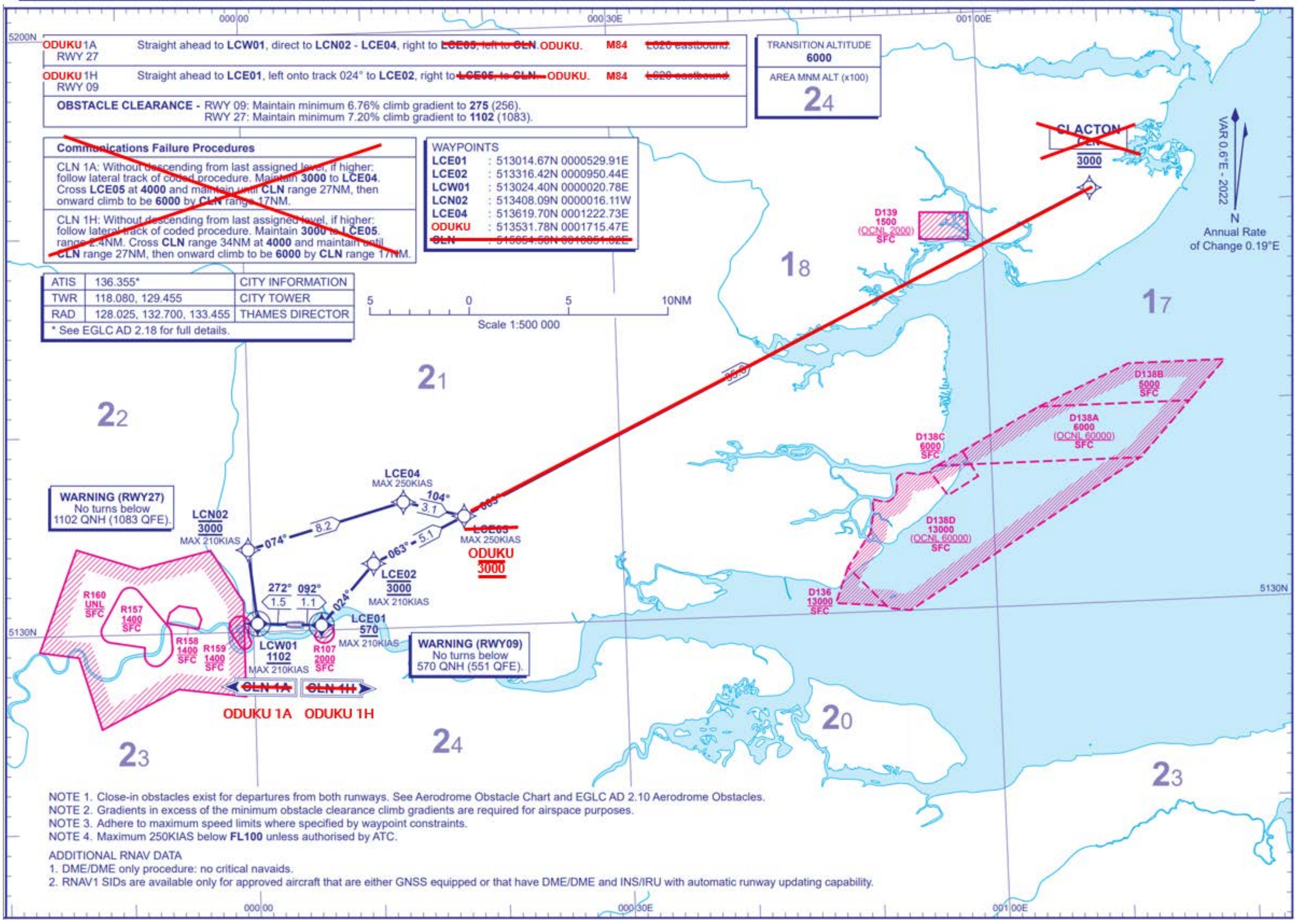
Update ENR 6-68 and ENR 6-70 with new and revised ATS routes as per the Aerodata Spreadsheet.

Add note to ENR 6-68 and ENR 6-70 'NDB HEN and NDB WOD are depicted as functioning NDBs however the NDBs are not required for en-route navigational purposes.'

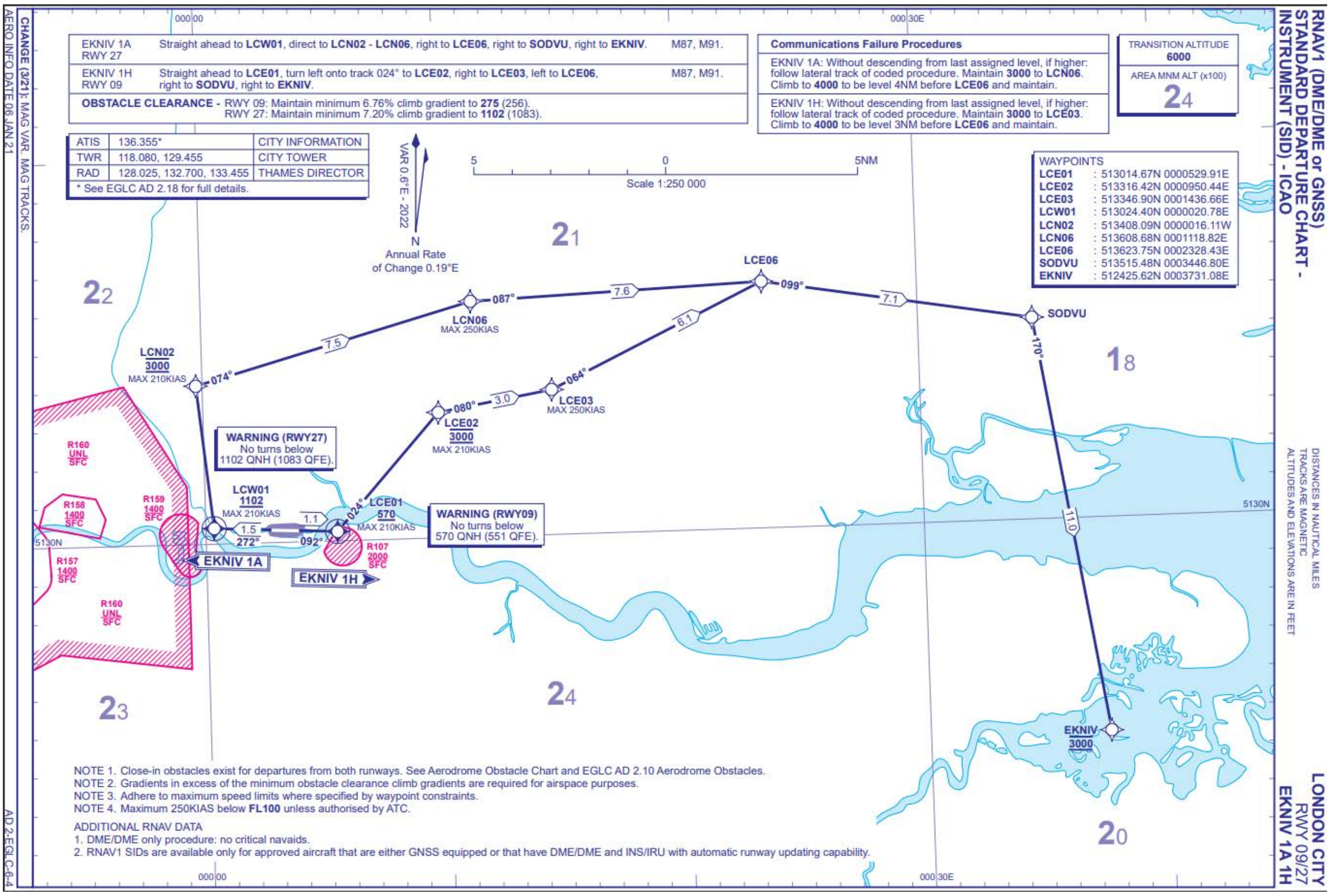
Appendix 2: SID Plates (original, followed by amended for comparison)

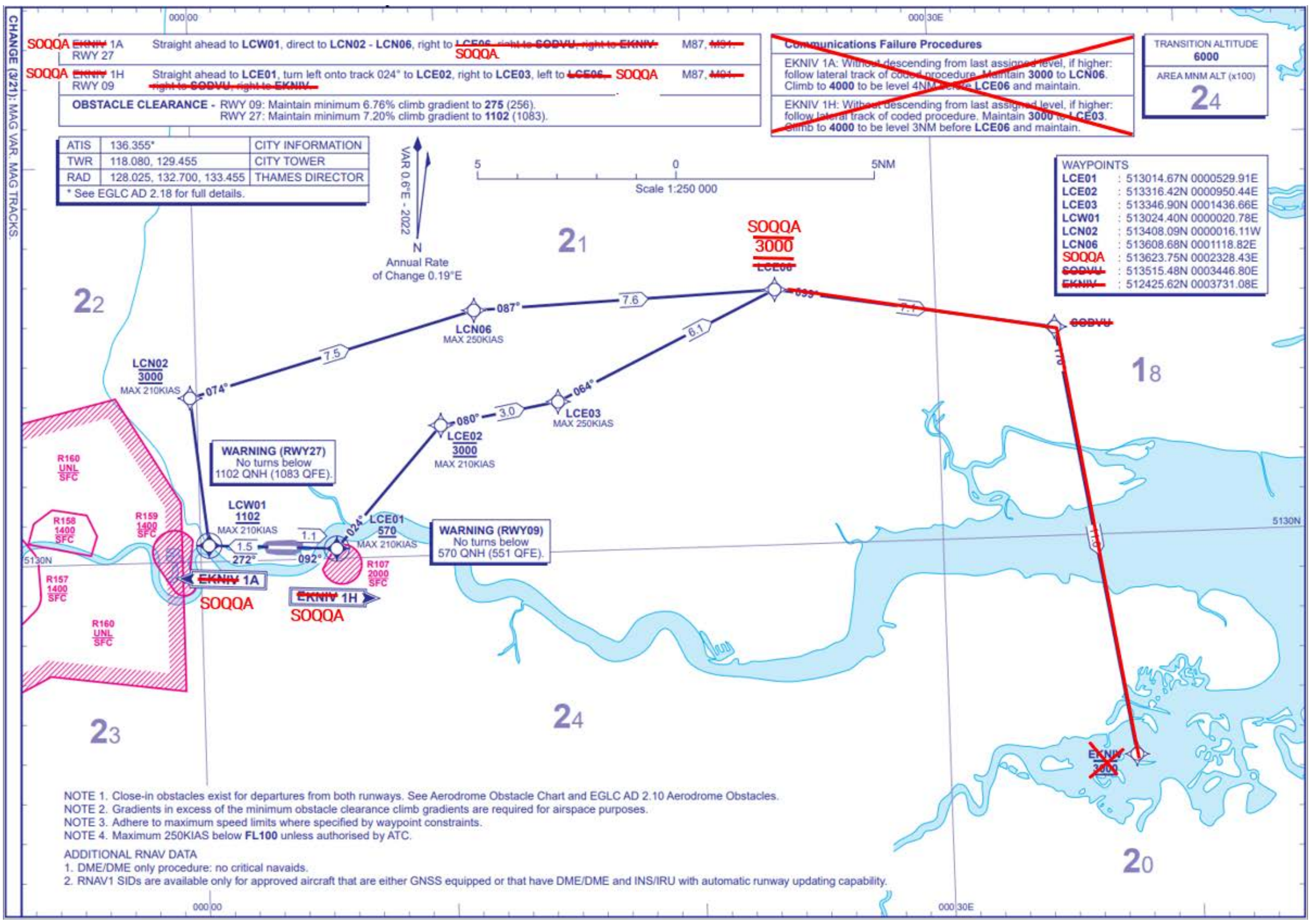
CLN 1A/1H (ODUKU 1A/1H)





EKNIV 1A/1H (SOQQA 1A/1H)





CPT 1A/1H (SAXBI 1A/1H)

Please refer to the latest Design Assurance Report as submitted to the CAA for details.

SARG Airspace Regulatory Approval use only.

Serial	Design Check	Design Approved/ Not Approved	Verified By
1a	**SID revised track and distance.**		
1b	**Co-ordinates verified.**		
1c	If errors evident, SID revised track and distance entered below.		
2a	**ATS Route track and distance.**		
2b	**ATS Route terrain clearance assured.**		
2c	If errors evident, ATS Route revised track and distance entered below.		
3	**Navaid infrastructure** (adequate coverage for new termination point).		
4	**RCF procedures.**		
5	**Interacting procedures.**		
6	**Airspace Containment.**		
7	**SID chart – proposed changes.**		
8	**SID chart proof from AIS.**		
9	**Final Options Appraisal.**		
10	**Safety Assessment.**		
11	**NPR Tables – proposed changes (if applicable).**		
12	**SID truncation proposal confirmed as a Level Zero change.**		
13	**DfT advised if changes made to SIDs at designated airports.** **(following approval)**		

Change recommended by:

Name………....

Date................

Change referred back to sponsor for the following reason (insert details)

Change approved by:

Name……….....　　　　**Appointment**…………

Date................