Removal of London Stansted LYD 6R/5S SIDS

EGSS LYD SIDs
Stage 4 Update and Submit
Step 4B

Airspace Change Proposal
V1.0

NATS Unclassified

Action	Position	Date
Produced	Airspace Change Assurance, NATS Future Airspace & ATM	February 2021
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1. Contents

2. Introduction

NATS En-route Ltd (NERL) is currently in the process of rationalising its Doppler Very High Frequency Omnidirectional Range (DVOR) navigation beacons. Whilst maintaining or improving safety, this program aims to reduce costs and the dependency on ground-based navigation aids (NavAids) by decommissioning and removing ageing superfluous DVORs. This program will also remove any existing dependency on these NavAids from any current en-route procedures e.g. Standard Terminal Arrival Routes (STARs).

The LYD DVOR in the south of England was selected to be removed from our network of ground based NavAids and the Airspace Change Proposal (ACP) which dealt with the associated network changes was approved in October 2018. The LYD DVOR is scheduled to be decommissioned by the end of 2023.

The LYD DVOR has the following airport instrument flight procedure dependencies which were not captured in the original NERL ACP as this was focussed on en-route procedures: 2 Standard Instrument Departures (SIDs) at London City Airport, with whom NATS are working closely; and the Stansted LYD 6R/5S SIDs. This ACP is concerned with the removal of the Stansted LYD 6R/5S SIDs and as explained above, is in support of the wider DVOR programme of work.

The intent of this document is to summarise and satisfy the requirements of CAP 1616 Stage 4: Update design and submit airspace change proposal (ACP) to the CAA. The CAA reference is ACP-2020-066, and the link to the CAA progress page is here.

3. Executive Summary

This ACP proposes that Air Traffic Service (ATS) route M604 is extended from the DET DVOR to LYD. This would replace the final segment of the Stansted LYD 6R/5S SIDs, and would allow the removal of these SIDs. The DET 1R/1S SIDs which follow exactly the same track to DET would be used instead. After DET aircraft will route along the new portion of UK ATS route M604 to LYD, analogous to the current operation (see Figure 3). This is a technical flight planning change and will not have any impact on aircraft tracks over the ground. This change is necessary to remove the dependency on the LYDD DVOR which is planned to be removed from service in 2023. Note the LYD VOR is being removed from service, but the LYD DME will remain in service. Hence the LYD waypoint will continue to be used.

4. Current Airspace Description

4.1 LYD 6R/5S Departures

The current LYD 6R (Runway 22) and LYD 5S (Runway 04) SIDs are used by Stansted Airport departures to the South East. The LYD 6R/5S SIDs are coincident with the DET 1R/1S SIDs up until the Detling DVOR, where the DET 1R/1S departures join the UK Air Traffic Service (ATS) route network. The LYD 6R/5S departures continue direct to LYD, maintaining 5,000 ft where they join the network. The LYD 6R/5S and DET 1R/1S SIDs are shown in Figure 1.

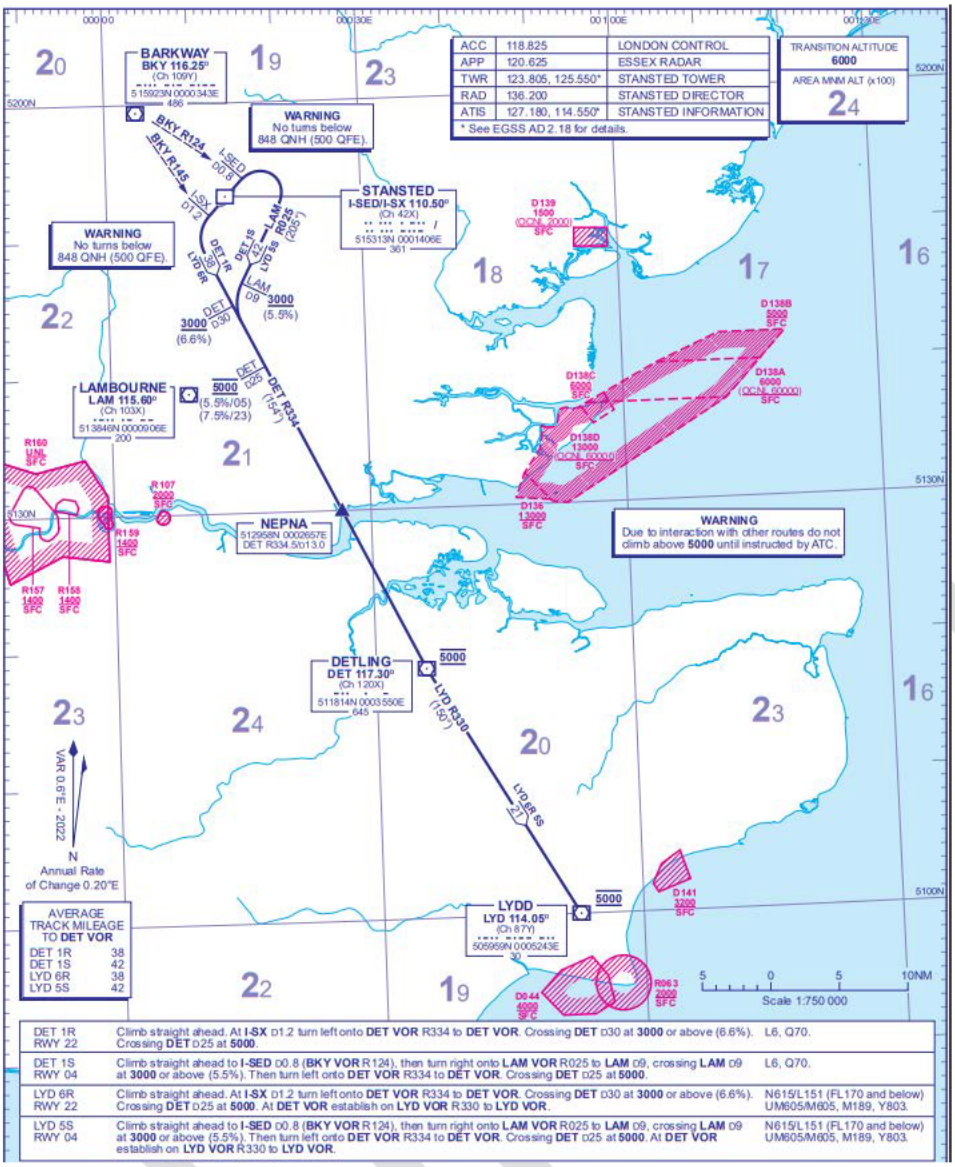

Figure 1: Standard Instrument Departure Chart for LYD 6R/5S and DET 1R and 1S. (UK AIP AD 2 EGSS-6-4)

4.2 Current traffic numbers

The traffic details of aircraft which flight planned via LYD in 2019 and in 2020 (January-September) Vs the numbers of those that actually flew over LYD are shown in Table 1.

Year	Flight Planned Via LYD	Actually flew over LYD
2019	1,076	96
2020[1] (January - September)	504	15

Table 1: Flight details for Stansted Airport LYD departures

In 2019, <9% of aircraft which filed for a LYD departure actually flew over the DVOR. The remaining 91% were tactically vectored by air traffic control (ATC). Aircraft flying the LYD SIDs only climb to 5,000 ft by LYD. A traffic sample from June 2019, Figure 2, shows that no aircraft departing London Stansted flew over LYD at less than FL200 with most reaching FL70 by DET. This demonstrates that the majority of aircraft are tactically instructed to leave the SID by air traffic control ATC prior to reaching LYD.

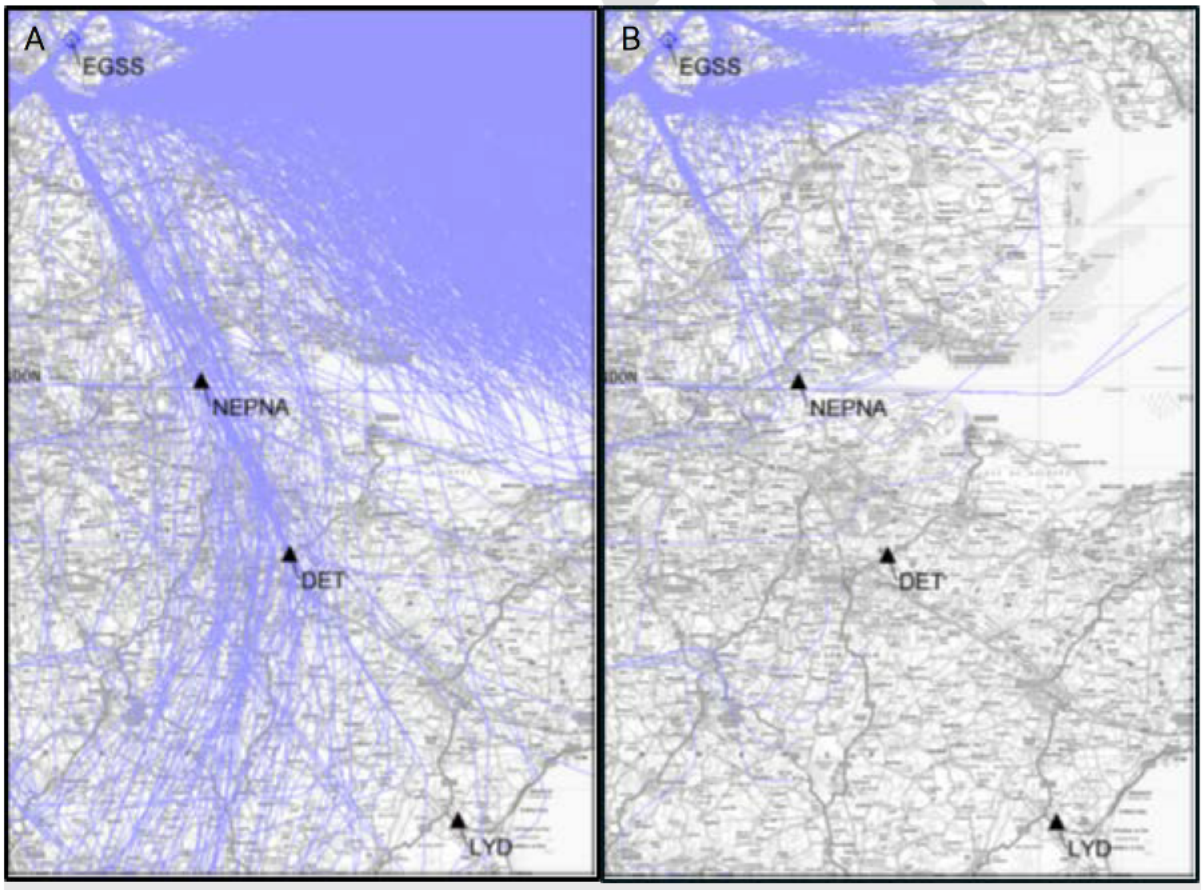

Figure 2: Tracks of aircraft departing Stansted Airport to the South and East in June 2019. A- Aircraft up to FL200, B- Aircraft up to FL70.

[1] Aviation was heavily impacted in 2020 by the Covid-19 Pandemic. As such Data from 2020 does not represent typical use of the airspace, and has therefore not been updated from the Stage 1-3 documentation, to reflect the whole year.

4.3 Operational efficiency, complexity, delays and choke points

There are no specific issues relating to operational efficiency, complexity, delays or choke points which has led to this ACP. This is a technical flight planning change which is necessary to remove London Stansted's dependency on the LYD DVOR which is planned to be removed from service. This change will result in no change in Air Traffic Control Officer (ATCO) or pilot behaviour as well as leading to no change in the frequency of flights nor the lateral or vertical traffic dispersion.

There will be no change to the availability of this route. Therefore, there will be no increase in the number of aircraft departing Stansted via LYD as a result of the ACP.

4.4 Safety issues

There are no specific issues relating to safety addressed in this ACP.

Ensuring the safety of the proposed changes is a priority for NATS. NATS has a dedicated safety manager for the DVOR Rationalisation Programme who ensures that the safety representatives from SARG have oversight of the safety assurance process. Section 10 contains further details on the safety assessment for this proposal.

4.5 Environmental issues

This proposal will not lead to a significant change in the number of flights or flightpaths: lateral or vertical tracks of any aircraft routing currently flown. Some aircraft operators will calculate that they need less fuel then currently as this ACP will lead to a reduction in planned level flight on the SID. This could lead to a reduction in fuel/ CO_2/ greenhouse gas emissions. There is no expected impact on noise.

5. Statement of Need

The following text is taken from the DAP1916 Statement of Need submitted in 26th August 2020, Submission Number DAP1916V2-117 for this airspace change proposal.

In order to facilitate the eventual removal and decommissioning of the LYD DVOR the LYD 6R/5S SIDs from Stansted Airport will be removed from the UK AIP and traffic routeing via LYD will us e the DET 1R/1S SIDs which are coincident with the LYD SIDs as far as DET. ATS Route M604 will be extended south from DET to LYD to replace the removed portion of the LYD SIDs . This change will result in no change to the usage of the route nor any change in lateral track or vertical profile of aircraft flight planning via LYD.

6. Proposed Airspace Description

6.1 Objectives for Proposed Design

The primary objective for this proposed airspace design is to remove the remaining dependency of London Stansted Airport on the LYD DVOR. This will be achieved by removing the dependant LYD 6R/5S from the UK AIP.

This change is in support of the NATS DVOR Rationalisation Program which aims to reduce the dependence on ground infrastructure without reducing en-route services.

6.2 Proposed New Airspace/ Route Definition and Usage

The proposed change is to remove the LYD 6R/5S from the UK AIP, removing the remaining dependency of Stansted instrument flight procedures (IFPs) on the LYD DVOR.

This ACP proposes that aircraft currently departing London Stansted using the LYD 6R/5S SIDs will fly the coincident DET 1R/1S SID. This SID finishes at DET. The remaining portion of the LYD SID will be replicated by extending UK ATS Route M604 from DET to LYD to replace the removed portion of the LYD SIDs. This new segment of M604 will be Route Availability Document (RAD) restricted so that it is only available to those flights which would have flown the defunct LYD 6R/5S SIDs.

These changes will maintain connectivity to the UK ATS network whilst ensuring there will be no changes to the frequency nor to the vertical or lateral dispersion of flights. The current LYD and DET SID routes along with a density plot of aircraft flying the LYD SIDs for June 2019 and proposed changes are shown in Figure 3.

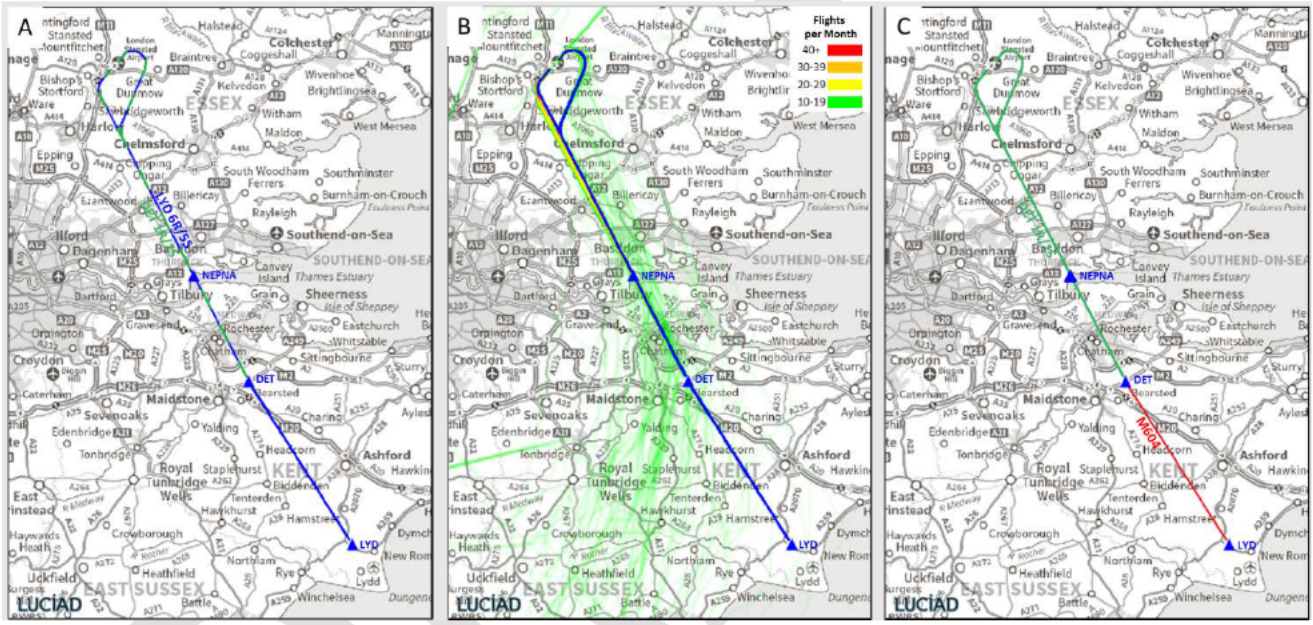

Figure 3: A - Map showing the published tracks of the LYD 6R/5S (Blue line) and coincident DET 1R/1S (Green line) SIDs; B - Density plot of all EGSS departures with flight-planned routing via LYD in June 2019; and C - proposed extension to UK ATS route M604 (Red line) to replace the truncated portion of the LYD SID following its removal from the UK AIP.

6.2.1 AIP and associated changes

The following sections, shown in Table 2, of the UK AIP will require updating and are further described below:

UK AIP Section	Brief description of Change
ENR 3.3	Extend M604, DET to LYD
EGSS AD2.19 RADIO NAVIGATION AND LANDING AIDS	Delete reference to LYD VOR
EGSS AD2.24 AD 2.EGSS-6-4 STANDARD DEPARTURE CHART - INSTRUMENT (SID) DETLING/LYDD - ICAO	Delete references to LYD 6R/5S Delete note 9

Table 2: Brief description of AIP changes required for Option 2

Changes to ENR 3.1 (M604)

The proposed changes to the ATS route M604 are shown in Table 3:

Current Route/ SID	Current connectivity	Proposed connectivity	Proposed change and impact
ATS Route M604 (RNAV5)	*INBOB - INPUT - … - FRANE - DET*	*INBOB - INPUT - … - FRANE - DET - LYD*	Extend M604 south from DET to LYD No impact to connectivity or predicted change to flight behaviour.

Table 3: Proposed changes to LYD SIDs and ATS Route M604

Changes to EGSS AD2.19 RADIO NAVIGATION AND LANDING AIDS

The proposed changes to LYD in UK AIP section EGSS AD2.19 RADIO NAVIGATION AND LANDING AIDS are shown in Table 4:

Type of Aid CAT of ILS/MLS MAG Var/VOR Declination	Ident	Frequency	Hours of Operation	Position of transmitting antenna coordinates	Elevation of DME transmitting antenna	Remarks
~~VOR/~~DME ~~0.90°E (2022) 0.3°W (2018)~~	LYD	87Y 114.050 MHz	H24	505958.87N 0005243.18E	30 FT	~~VOR DOC: 30 NM/50000 FT.~~

Table 4: Proposed changes to LYD entry to EGSS AD2.19

Changes to EGSS AD2.24 AD 2.EGSS-6-4 STANDARD DEPARTURE CHART - INSTRUMENT (SID) DETLING/LYDD - ICAO

Currently the DET 1R/1S SIDs are not available H24, they are unavailable between 0500-2200 summer and 0600-2300 winter. There is no associated restriction with the LYD 6R/5S SIDs. The DET 1R/1S SIDs availability will be updated to H24 to ensure that aircraft departing Stansted via LYDD can continue to do so with no discernible difference to the aircraft tracks over the ground.

References to the LYD DVOR and LYD SIDs will be removed

The proposed changes to the LYD/DET SID Chart AD2.EGSS-6-4 are shown in Figure 4 below:

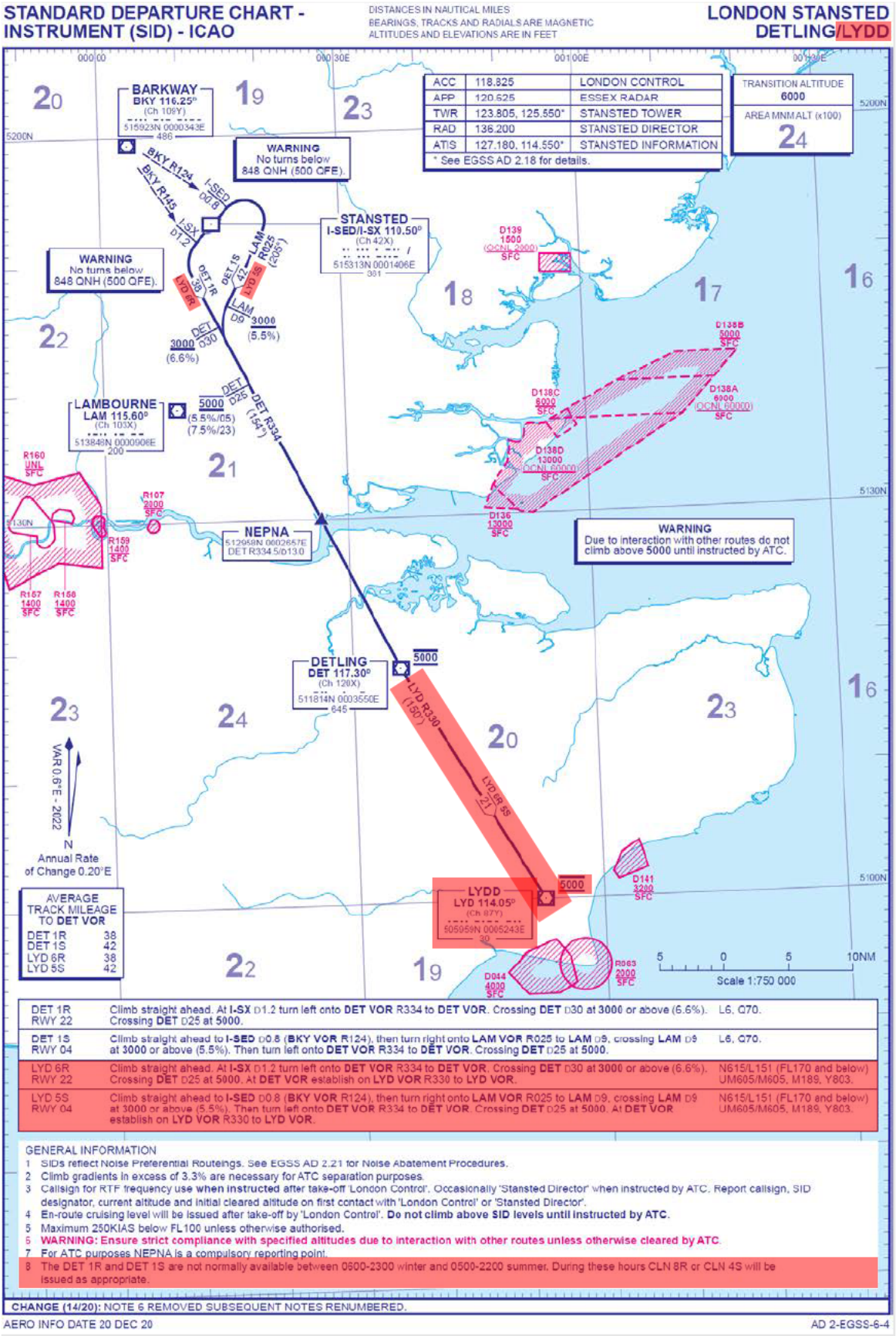

Figure 4: LYD/DET SID Chart AD2.EGSS-6-4 with proposed deletions highlighted red.

Standard Route Document (SRD) Changes

The SRD for aircraft departing London Stansted for aircraft currently flying a LYD SID will be updated to reflect this change, see Table 3:

ADEP/Entry	SID	Min	Max	Route-Segment	STAR	ADES/Exit	Remarks	Scenario
EGSS	~~LYD~~ DET	MC	175	M604 LYD M189 NEVIL G27 ANGLO	JSY2B	EGJJ	Notes: 312	
EGSS	~~LYD~~ DET	MC	175	M604 LYD M189 NEVIL G27 ANGLO	JSY2H	EGJJ	Notes: 312	
EGSS	~~LYD~~ DET	MC	175	M604 LYD M189		NEVIL		
EGSS	~~LYD~~ DET	MC	175	M604 LYD M189 HAWKE DCT DRAKE L151		SITET		
EGSS	~~LYD~~ DET	MC	175	M604 LYD M189 HAWKE DCT DRAKE N859		SITET		
EGSS	~~LYD~~ DET	MC	245	M604 LYD M189 WAFFU M605		XIDIL		
EGSS	~~LYD~~ DET	245	265	M604 LYD M189 WAFFU UM605		XIDIL		

Table 5: Proposed changes to the SRD

The following technical documents provide further information on the proposed designs

- A technical definition document which contains the WGS84 data in excel format. This contains information on ATS routes such as levels, route designators and significant waypoint names. It is awaiting approval by the CAA mapping team. Reference 7.

7. Impacts and Consultation

NATS completed engagement activities with stakeholders identified as those most likely to be affected by the proposed design. These stakeholders are listed in Appendix section 15.2 below. Stansted Airport presented the airspace change to their Noise and Track Keeping Working Group (NTKWG) on 22nd October 2020. The Consultation section (Section 6) of the Multi-Gateway Document (Ref 4) details the engagement activities completed prior to the consultation going live.

NATS commenced consultation on the proposed airspace changes presented herein on Monday 30th November 2020. The consultation was conducted via an online portal where users could submit a formal response alongside viewing the Consultation Document (Ref 5). The Consultation Document provides an overview into how the consultation was administered; an overview of the current airspace; the proposed changes and the impact of the proposed changes.

The consultation was open for two weeks; closing on the 14th December 2020. Two response were received during this period which supported the change. A full summary of how the consultation was run and the feedback received can be found in the consultation report (Ref 6).

7.1 Net impacts summary for proposed route

Category	Impact	Evidence
Safety/Complexity	No impact on safety or complexity	See sections 4.3, 4.4 and 10
Capacity/Delay	No impact on capacity/ usage or delay	See sections 4.3
Fuel Efficiency/CO_2	Negligible impact. Aircraft which previously flew the LYD 6R/5S will fly and flight plan a reduced distance of 21 NM at 5 000 ft on the DET SIDs/ extended ATS Route M604. This will allow aircraft to carry less 'excess' fuel. The overall effect will be positive, and no flights will be penalised as a result of the change.	See sections 4.5 and 7.6
Noise – Leq/SEL	No impact, this is a level 2C change.	N/a
Tranquillity, visual intrusion (AONBs & National Parks)	No impact, this is a level 2C change.	N/a
Local Air Quality	No impact, this is a level 2C change.	N/a
Other Airspace Users	Minimal impact, no changes to volume or classification of airspace.	See sections 7.3 - 7.6

7.2 Units affected by the proposal

The changes described in this ACP will affect flights departing London Stansted airport which currently fly the LYD 6R/5S SIDs. London Stansted have been fully engaged throughout the project.

Flights departing London Stansted which previously flew the LYD 6R/5S SIDs will fly be instructed to fly the coincident DET 1R/1S SIDs and then route along the RAD restricted new section of M604 direct to LYD.

The proposed changes will require the removal of the LYD 6R/5S from UK AIP as well as an update to M604 description, see section 6.2.1.

These changes will have no impact on the frequency or vertical and/or lateral dispersion of flights.

7.3 Military impact and consultation

The changes described in this proposal will cause no changes to ATCO or flight behaviours. Therefore, there will be no perceived change to todays operation.
The MOD were invited to respond to the consultation via DAATM. The MOD declined to respond indicating they had no objections to this airspace change.

7.4 General Aviation airspace users impact and consultation

Design Principle 4 (DP4) stated that "*The proposed changes should minimise the impact on stakeholders, including ground-based stakeholders and other airspace users*" which this option meets.

Members of the GA Community were targeted through the NATMAC engagement. No members of the GA community responded which is consistent with the perceived negligible impact of this proposal on the GA community.

7.5 Commercial air transport impact and consultation

Representatives of Commercial air Transport were targeted through NATMAC Engagement. Stansted airport also conducted targeted engagement relating to this ACP with their local stakeholders. This included airlines which operate out of Stansted airport.

This proposal was supported by Stansted Airports Consultative Committee which includes representatives of commercial air transport.

7.6 CO_2 environmental analysis impact and consultation

Although it is not a key driver behind this airspace change – removal of the LYD 6R/5S SIDs and use of the DET SIDs/ extension of ATS Route M604 would provide a fuel saving. Departures which currently use the LYD SIDs will fly and flight plan a reduced distance of 21 NM on the DET SIDs/ extended ATS Route M604.

Currently for flight planning purposes, these portions are flight planned to be flown at 5,000ft; however, aircraft are invariably climbed to higher levels subject to the traffic scenario at the time.

Some Aircraft Operators calculate fuel required based on the flight plan. By removing the LYD SIDs and effectively reducing the 5,000ft level portion of the flight, the calculated fuel required will be less. Hence after the SIDs have been removed and replaced by the DET SIDs/ extension of M604, the aircraft will be able to fly carrying less 'excess' fuel.

The actual fuel uplift is difficult to quantify. However, the overall effect will be positive, and no flights will be penalised as a result of the change.

7.7 Local environmental impacts and consultation

Design Principle 4 (DP4) stated that "*The proposed changes should minimise the impact on stakeholders, including ground-based stakeholders and other airspace users*" which this option meets.

London Stansted has communicated the planned change with their local stakeholders via the NTKWG. The following stakeholders: Stansted Airport, Stansted ACC (Airport Consultative Committee), Stansted Airport EIG (Environmental Issues Group) and Stansted Airport FLOPSC (Flight Operations Performance & Safety Committee) have also been targeted which ensured local stakeholders were targeted for consultation.

This proposal was supported by Stansted Airports Consultative Committee which includes members of the local community. DP3, "The proposed changes should minimise any changes to actual flight behaviours – laterally, vertically or in dispersal is met by this proposal and ensures there will be negligible impact on the local community as a result of this proposal.

7.8 Economic impacts

This change will require no changes to the Electronic Flight Progress System (EFPS) as the DET SIDs are already in the system.

The cost to the ANSP (NATS) for implementation of the change and adaptation of systems is estimated to be approx. £65,000.

The decommissioning of the LYD DVOR will lead to an annual saving of circa £10,000. This is scheduled to occur in 2023.

Removal of the LYD SIDs effectively removes a portion of level flight from the flight plan. This will lead to some aircraft operators carrying less fuel; reducing fuel uplift and burn.

8. Analysis of Options

8.1 Airspace Change Design Options

In order to remove London Stansted's dependencies on the LYD DVOR, NATS developed three separate options on how best to achieve this. These are known as Option 0 (do nothing), Option 1 and Option 2. They are summarised in the Stage 1-3 Multi-Gateway document (Ref 4).

The first considered option, Option 0 (do nothing), would retain the LYD 6R/5S SIDs as is and would not remove Stansted's dependency on the LYD DVOR. Options 1 and 2 would remove Stansted's dependency on the LYD DVOR and are as follows:

- Option 1- RNAV replication of the LYD 6R/5S SIDs
- Option 2- remove the Stansted 6R/5S SIDs and use existing DET SIDs/ extend M604 to replace the removed SIDs (Preferred Option)

8.2 Design Options Assessment

NATS Designed four design principles, constructed around the general objectives of this ACP, in order to assess the three options. These design principles are listed in the Appendix, Section 15.3 below.

The three design options were qualitatively assessed against these design principles in order to evaluate if the principle had been met, partially met or not met. The full evaluation can be found in the Multi-Gateway Document- Section 5 (Ref 4).

Design option 0 (do nothing) was deemed unsuitable as it did not meet DP2- Remove Stansted Airport procedure dependencies on the LYD DVOR through appropriate and proportional design changes.

Design option 1 was rejected as it only partially met 2 DPs:

- DP3- The proposed changes should minimise any changes to actual flight behaviours – laterally, vertically or in dispersal
- DP4- The proposed changes should minimise the impact on stakeholders, including ground-based stakeholders and other airspace users.

Design option 2, NATS preferred option, met all DPs and was the single option NATS took forward to consultation as covered in section 7 above.

9. Airspace Description Requirements

	The proposal should provide a full description of the proposed change including the following:	Description for this proposal
a	The type of route or structure; for example, airway, UAR, Conditional Route, Advisory Route, CTR, SIDs/STARs, holding patterns, etc	SID, see section 6
b	The hours of operation of the airspace and any seasonal variations	H24 (unchanged from today)
c	Interaction with domestic and international en-route structures, TMAs or CTAs with an explanation of how connectivity is to be achieved. Connectivity to aerodromes not connected to CAS should be covered	This proposal would not have any impact on current connectivity- See Section 6.2
d	Airspace buffer requirements (if any). Where applicable describe how the CAA policy statement on 'Special Use Airspace – Safety Buffer Policy for Airspace Design Purposes' has been applied.	N/a– this proposal does not change any existing/ introduce new buffers.
e	Supporting information on traffic data including statistics and forecasts for the various categories of aircraft movements (passenger, freight, test and training, aero club, other) and terminal passenger numbers	This proposal will have no impact on airspace usage – see Sections 4.3 and 6.2.
f	Analysis of the impact of the traffic mix on complexity and workload of operations	This proposal will have no impact on traffic mix – see Sections 4.3 and 6.2.
g	Evidence of relevant draft Letters of Agreement, including any arising out of consultation and/or airspace management requirements	N/a – this proposal does not change any existing/ introduce new LoAs; cross-border elements are not impacted.
h	Evidence that the airspace design is compliant with ICAO Standards and Recommended Practices (SARPs) and any other UK policy or filed differences, and UK policy on the Flexible Use of Airspace (or evidence of mitigation where it is not)	No Change to current operation.
i	The proposed airspace classification with justification for that classification	No change to existing airspace classification.
j	Demonstration of commitment to provide airspace users equitable access to the airspace as per the classification and where necessary indicate resources to be applied or a commitment to provide them in line with forecast traffic growth. 'Management by exclusion' would not be acceptable	N/a – this proposal does not change any existing/ introduce new airspace user access.
k	Details of and justification for any delegation of ATS	No change to the delegation of ATS

10. Safety Assessment

Option 2 would maintain the current level of safety and no additional potential safety issues have been identified. As discussed during the Assessment Meeting (Ref 3), there would be no potential interface issues between the Stansted DET SIDs and the extension of current ATS Route M604. The SIDs and the ATS Route would be contained within Controlled Airspace with no issues from either a flight planning acceptance or ATC perspective. Option 2 would also not require any procedural design work or subsequent review work from the CAA; the changes will be covered as minor AIP updates. Procedures will continue to follow the normal NATS safety process.

11. Operational Impact

	An analysis of the impact of the change on all airspace users, airfields and traffic levels must be provided, and include an outline concept of operations describing how operations within the new airspace will be managed. Specifically, consideration should be given to:	Evidence of compliance/ proposed mitigation
a	Impact on IFR general air traffic and operational air traffic or on VFR General Aviation (GA) traffic flow in or through the area	No impact to air traffic – see Sections 7.4 - 7.5
b	Impact on VFR operations (including VFR routes where applicable);	No impact to VFR Operation – see Section 7.4
c	Consequential effects on procedures and capacity, i.e. on SIDs, STARs, and/or holding patterns. Details of existing or planned routes and holds	EGSS LYD SID will no longer be available. See section 6.2
d	Impact on aerodromes and other specific activities within or adjacent to the proposed airspace	No impact on aerodrome other than the EGSS LYD SID will no longer be available. No impact to other relevant activities – see section 7.2
e	Any flight planning restrictions and/or route requirements	Extended portion of M604 will be RAD restricted so that it is currently only available to aircraft flying the LYD 6R/5S SIDS. See section 6.2

12. Supporting Infrastructure/ Resources

	General requirements	Evidence of compliance/ proposed mitigation
a	Evidence to support RNAV and conventional navigation as appropriate with details of planned availability and contingency procedures	N/a Current RNAV 5 coverage is demonstrably adequate
b	Evidence to support primary and secondary surveillance radar (SSR) with details of planned availability and contingency procedures	Traffic uses the same regions today in a similar manner from a surveillance point of view. Demonstrably adequate for the region.
c	Evidence of communications infrastructure including R/T coverage, with availability and contingency procedures	Traffic uses the same regions today in a similar manner from a communications point of view. Demonstrably adequate for the region.
d	The effects of failure of equipment, procedures and/or personnel with respect to the overall management of the airspace must be considered	Existing contingency procedures based on the LYD DVOR will be removed. Other contingency procedures and management protocol will continue to apply as today.
e	Effective responses to the failure modes that will enable the functions associated with airspace to be carried out including details of navigation aid coverage, unit personnel levels, separation standards and the design of the airspace in respect of existing international standards or guidance material	As above (12d)
f	A clear statement on SSR code assignment requirements	No change to SSR code allocation
g	Evidence of sufficient numbers of suitably qualified staff required to provide air traffic services following the implementation of a change	No training or additional qualifications required

	General requirements	Evidence of compliance/ proposed mitigation
a	The airspace structure must be of sufficient dimensions with regard to expected aircraft navigation performance and manoeuvrability to fully contain horizontal and vertical flight activity in both radar and non-radar environments	As today – no proposed changes to the airspace structure (technical changes only). See Section 6.2
b	Where an additional airspace structure is required for radar control purposes, the dimensions shall be such that radar control manoeuvres can be contained within the structure, allowing a safety buffer. This safety buffer shall be in accordance with agreed parameters as set down in CAA policy statement 'Safety Buffer Policy for Airspace Design Purposes Segregated Airspace'. Describe how the safety buffer is applied, show how the safety buffer is portrayed to the relevant parties, and provide the required agreements between the relevant ANSPs/ airspace users detailing procedures on how the airspace will be used. This may be in the form of Letters of Agreement with the appropriate level of diagrammatic explanatory detail.	As today – no proposed changes to the airspace structure (technical changes only).
c	The Air Traffic Management system must be adequate to ensure that prescribed separation can be maintained between aircraft within the airspace structure and safe management of interfaces with other airspace structures	As today – no proposed changes to the airspace structure (technical changes only).
d	Air traffic control procedures are to ensure required separation between traffic inside a new airspace structure and traffic within existing adjacent or other new airspace structures	As today – no proposed changes to existing ATC procedures
e	Within the constraints of safety and efficiency, the airspace classification should permit access to as many classes of user as practicable	As today – no proposed changes to existing airspace classification.
f	There must be assurance, as far as practicable, against unauthorised incursions. This is usually done through the classification and promulgation	As today – no proposed changes to existing airspace classification or volume.
g	Pilots shall be notified of any failure of navigational facilities and of any suitable alternative facilities available and the method of identifying failure and notification should be specified	Existing contingency procedures will continue to apply
h	The notification of the implementation of new airspace structures or withdrawal of redundant airspace structures shall be adequate to allow interested parties sufficient time to comply with user requirements. This is normally done through the AIRAC cycle	No new airspace structures. All changes will be promulgated through the AIRAC cycle.
i	There must be sufficient R/T coverage to support the Air Traffic Management system within the totality of proposed controlled airspace	No change from today's-controlled airspace. R/T coverage demonstrably adequate as per current day.
j	If the new structure lies close to another airspace structure or overlaps an associated airspace structure, the need for operating agreements shall be considered	No proposed new airspace structures.
k	Should there be any other aviation activity (low flying, gliding, parachuting, microlight site, etc.) in the vicinity of the new airspace structure and no suitable operating agreements or air traffic control procedures can be devised, the change sponsor shall act to resolve any conflicting interests	No proposed new airspace structures.

13. Airspace and Infrastructure

	ATS route requirements	Evidence of compliance/ proposed mitigation
a	There must be sufficient accurate navigational guidance based on in-line VOR/DME or NDB or by approved RNAV derived sources, to contain the aircraft within the route to the published RNP value in accordance with ICAO/ Eurocontrol standards	No change from today's-controlled airspace. RNAV5 NavAid coverage is demonstrably adequate.
b	Where ATS routes adjoin terminal airspace there shall be suitable link routes as necessary for the ATM task	M604 will be extended to cover portion of SID lost by removing LYD SID. Connectivity will be maintained as per the current operation
c	All new routes should be designed to accommodate P-RNAV navigational requirements	Confirmed- RNAV5 will be used

	Terminal airspace requirements	Evidence of compliance/ proposed mitigation
	There are no proposed changes to terminal airspace structures	

	Off-route airspace requirements	Evidence of compliance/ proposed mitigation
	There are no proposed changes to off-route airspace structures	

14. Environmental Assessment

	Theme	Content	Evidence of compliance/ proposed mitigation
a	WebTAG analysis	Output and conclusions of the analysis (if not already provided elsewhere in the proposal)	N/a – Overall the effect will be positive although it cannot be calculated. See Section 7.6
b	Assessment of noise impacts (Level 1/M1 proposals only)	Consideration of noise impacts, and where appropriate the related qualitative and/or quantitative analysis If the change sponsor expects that there will be no noise impacts, the rationale must be explained	N/a – this is a Level 2C Change
c	Assessment of CO_2 emissions	Consideration of the impacts on CO_2 emissions, and where appropriate the related qualitative and/or quantitative analysis If the change sponsor expects that there will be no impact on CO_2 emissions impacts, the rationale must be explained	Overall, this ACP will have a positive impact on CO_2 emissions although this can not be calculated. See section 7.6
d	Assessment of local air quality (Level 1/M1 proposals only)	Consideration of the impacts on local air quality, and where appropriate the related qualitative and/or quantitative analysis If the change sponsor expects that there will be no impact on local air quality, the rationale must be explained	N/a – this is a Level 2C Change
e	Assessment of impacts upon tranquillity (Level 1/M1 proposals only)	Consideration of any impact upon tranquillity, notably on Areas of Outstanding Natural Beauty or National Parks, and where appropriate the related qualitative and/or quantitative analysis If the change sponsor expects that there will be no tranquillity impacts, the rationale must be explained	N/a – this is a Level 2C Change
f	Operational diagrams	Any operational diagrams that have been used in the consultation to illustrate and aid understanding of environmental impacts must be provided	No change to environmental impacts as covered in sections 7.6 and 7.7
g	Traffic forecasts	10-year traffic forecasts, from the anticipated date of implementation, must be provided (if not already provided elsewhere in the proposal)	No foreseeable change to capacity or tracks over the ground. See section 4.2
h	Summary of environmental impacts and conclusions	A summary of all of the environmental impacts detailed above plus the change sponsor's conclusions on those impacts	No foreseeable environmental impact. See section 7.7

15. Appendices

15.1 References

Ref No	Name	Hyperlink
1	PROJECT NAME CAA web page – progress through CAP1616	Link
2	Stage 1 Assessment Meeting – slide pack	Link
3	Stage 1 Assessment Meeting Minutes	Link
4	Stage 1-3 Multi-Gateway Documentation	Link
5	Stage 3, Consultation Document	Link
6	Stage 3, Categorisation of Responses (incorporating Step 4A, Update Design)	Link
7	Technical Definition Document WGS84	Supplied as part of ACP

15.2 List of Consultation Stakeholders

The consultation was considered most relevant to the targeted stakeholders listed below (who were emailed to notify them and invite them to respond to the consultation), but was not exclusive to this list.

Type	Stakeholder
Stansted Airport and Stansted Airports Main Stakeholders	Stansted Airport
	Stansted ACC (Airport Consultative Committee)
	Stansted Airport EIG (Environmental Issues Group)
	Stansted Airport FLOPSC (Flight Operations Performance & Safety Committee)
Relevant NATMAC Members	Airlines UK
	Airspace4All
	Airport Operators Association
	Airfield Operators Group
	Aircraft Owners and Pilots Association
	Airspace Change Organising Group
	Aviation Environment Federation
	British Airways
	Bae Systems
	British Airline Pilots Association
	British Business and General Aviation Association
	British Microlight Aircraft Association / General Aviation Safety Council
	Guild of Air Traffic Control Officers
	Heavy Airlines
	Low Fare Airlines
	Ministry of Defence- Defence Airspace and Air Traffic Management
	NATS
	PPL/IR
	UK Flight Safety Committee

15.3 List of Design Principles

The following four design principles were used to assess the design options against:

Design Principle (DP)	Priority
DP1: The proposed airspace change must maintain or enhance the current level of safety	High
DP2: Remove Stansted Airport procedure dependencies on the LYD DVOR through appropriate and proportional design changes	High
DP3: The proposed changes should minimise any changes to actual flight behaviours – laterally, vertically or in dispersal	Medium
DP4: The proposed airspace change should minimise the impact on stakeholders, including ground-based stakeholders and other airspace users	Medium

15.4 Glossary

ACC	Airport Consultative Committee
ACP	Airspace Change Proposal
AIP	Aeronautical Information Package
AIRAC	Aeronautical Information Regulation and Control
ANSP	Air Navigation Service Provider
ATC	Air Traffic Control
ATCO	Air Traffic Control Officer
ATM	Air Traffic Management
ATS	Air Traffic Service
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
CO_2	Carbon Dioxide
DAATM	Defence Airspace Air Traffic Management
DET	Detling DVOR
DME	Distance Measuring Equipment
DP	Design Principle
(D)VOR	(Doppler) Very High Frequency Omnidirectional Range
EFPS	Electronic Flight Information System
EGSS	Stansted Airport (ICAO Code)
EIG	Environmental Issues Group
FLOPSC	Flight Operations performance and Safety Committee
FLXXX	Flight Level XX
ft	Feet
GA	General Aviation
H24	24 Hours
ICAO	International Civil Aviation Organisation
IFP	Instrument Flight Procedures
LYD	LYDD DVOR/DME
MOD	Ministry of Defence
NATMAC	National Air Traffic Management Advisory Committee
NavAid(s)	Navigation Aid(s)
NERL	NATS En-route Ltd.
NM	Nautical Mile
NTKWG	Noise and Track Keeping Working Group
PPR	Permanent and Planned Redistribution of traffic
RAD	Route Availability Document
RNAV	Area Navigation
RNP	Required Navigational Performance
SARG	Safety and Airspace Regulation Group

SID	Standard Instrument Departure
SRD	Standard Route Document
SSR	Secondary Surveillance Radar
STAR	Standard Terminal Arrival Route

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