

CAA Operational Assessment

Title of airspace change proposal	Removal of EGSS LYD 6R/5S SIDs
Change sponsor	NATS En-Route Ltd (NERL)
Project no.	2020-66
SARG project leader	[REDACTED]
<i>Case study commencement date</i>	19 Feb 2021
<i>Case study report as at</i>	12 Apr 2021
<i>Instructions</i> In providing a response for each question, please ensure that the 'status' column is completed using the following options: • yes • no • partially • n/a To aid the SARG project leader's efficient project management it may be useful that each question is also highlighted accordingly to illustrate what is: resolved Green not resolved Amber not compliant Red	
Executive Summary As part of the NATS Enroute Ltd (NERL) project to rationalise its Doppler Very High Frequency Omnidirectional Range (DVOR) navigation Beacons, NERL has proposed the removal of 2 conventional Standard Instrument Departures (SIDs), from London Stanstead (EGSS), that are dependent on the LYD DVOR. The removal of the LYD 5S/6R SIDs will support the DVOR rationalisation project and eventually allow the LYD DVOR to be decommissioned.	

1. Justification for change and options analysis (operational/technical) Status	
1.1	Is the explanation of the proposed change clear and understood? YES
	NERL are proposing the removal of the conventional LYD 5S and 6R SIDs from EGSS, and introduction of a new segment to an already established Air Traffic Services (ATS) route, M604, which currently runs north east from DET. The new segment will route south east from DET to LYD and will only be available to aircraft departing EGSS that wish to route to LYD, this will be achieved by restricting their availability in the Route Availability Document (RAD).
1.2	Are the reasons for the change stated and acceptable? YES
	As part of the NERL DVOR rationalisation program, NATS are decommissioning many of the UKs VOR/DME facilities. In this case, the LYD DVOR is being removed from service, but the LYD DME will remain in use, so the waypoint LYD will also remain. NATS stated that due to the low number of aircraft using the LYD 5S and 6R SIDs from EGSS (96 actual flights in 2019), coupled with the DET 1S and 1R SIDs remaining available (these SIDs follow the exact same ground track as the LYD 5S and 6R), it was not proportionate to propose RNAV replication of them. The introduction of the (RAD) restricted M604 segment will allow aircraft, that wish to depart EGSS via LYD, to route accordingly, without increasing traffic volumes or altering tracks along the ground.
1.3	Have all appropriate alternative options been considered, including the 'do nothing' option? YES
	Yes; do nothing was considered, but not considered viable as the LYD DVOR is planned to be decommissioned. NATS also considered RNAV replicating the LYD SIDs, but due to the low traffic numbers using the conventional SIDs, it was not considered a proportionate response.
1.4	Is the justification for the selection of the proposed option sound and acceptable? YES
	Yes; given the flight planning figures presented in para 4.2 of the submission v1.2, replicating the LYD SIDs would not have been a proportionate option. The selected option will still ensure connectivity to LYD from EGSS, for those operators that still require that routing, while removing the dependency on the LYD DVOR.
2. Airspace description and operational arrangements Status	
2.1	Is the type of proposed airspace design clearly stated and understood? YES
	Yes; 2 conventional SIDs will be removed from the AIP and a new segment to ATS route M604 will be included from DET to LYD in one direction (SE). This segment will be RAD restricted for EGSS departures routing via LYD, only.

2.2	Are the hours of operation of the airspace and any seasonal variations stated and acceptable?	YES
	The current conventional DET SIDs which are coincident with the LYD SIDs up to DET currently have time restrictions in place. NATS initially suggested making the DET SIDs H24, however, no impact assessment of removing the DET time restrictions was included with the ACP submission (v1 of 8 Feb 21). Following a CAA clarification question to NATS, they have now retained the time restrictions for the DET SIDs, unless an EGSS departure is routing to LYD via M604.	
2.3	Is any interaction with adjacent domestic and international airspace structures stated and acceptable including an explanation of how connectivity is to be achieved? Has the agreement of adjacent States been secured in respect of High Seas airspace changes?	YES
	Connectivity from DET will be maintained by utilising the new section of M604. To ensure that this is only used for LYD depts out of EGSS, it will be restricted in the RAD. NATS have included a standard route document (SRD) that shows the connectivity via DET and then M604, however, the ATS connectivity (v1.1 of the submission) from M604, is not transposed onto the proposed SID plate. (<i>Clarification question sent 25 Feb 21</i>). V1.2 of the makes it clear that the updated SID Plate will show the available connectivity to LYD via M604, by referencing the notes in the SID description.	
2.4	Is the supporting statistical evidence relevant and acceptable?	YES
	Traffic number data showing aircraft that filed and then actually flew the LYD SIDs in 2019 and 2020 is provided.	
2.5	Is the analysis of the impact of the traffic mix on complexity and workload of operations complete and satisfactory?	YES
	There will be no impacts. The connectivity remains through the DET SIDs and the extension to M604.	

2.6	Are any draft Letters of Agreement and/or Memoranda of Understanding included and, if so, do they contain the commitments to resolve ATS procedures (ATSD) and airspace management requirements?	N/A
	N/A	
2.7	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 ATC Procedures can be devised, what action has the change sponsor carried out to resolve any conflicting interests?	N/A
	N/A	
2.8	Is the evidence that the airspace design is compliant with ICAO SARPs, airspace design & FUA regulations, and Eurocontrol guidance satisfactory?	YES
	There is no new design. The introduction of an extension to an ATS route will be compliant in so far as is required.	
2.9	Is the proposed airspace classification stated and justification for that classification acceptable?	N/A
	N/A	
2.10	Within the constraints of safety and efficiency, does the airspace classification permit access to as many classes of user as practicable?	N/A
	N/A	

2.11	Is there assurance, as far as practicable, against unauthorised incursions? (This is usually done through the classification and promulgation.)	N/A
	N/A	
2.12	Is there a commitment to allow access to all airspace users seeking a transit through controlled airspace as per the classification, or in the event of such a request being denied, a service around the affected area?	N/A
	N/A	
2.13	Are appropriate arrangements for transiting aircraft in place in accordance with stated commitments?	N/A
	N/A	
2.14	Are any airspace user group's requirements not met?	NO
	This change will only effect EGSS departures that are required to or wish to flight plan to LYD and would have used the LYD 5S or the 6R SIDs before their removal.	
2.15	Is any delegation of ATS justified and acceptable? (If yes, refer to Delegated ATS Procedure).	N/A
	N/A	

2.16	Is the airspace design of sufficient dimensions with regard to expected aircraft navigation performance and manoeuvrability to contain horizontal and vertical flight activity (including holding patterns) and associated protected areas in both radar and non-radar environments?	N/A
	N/A	
2.17	Have all safety buffer requirements (or mitigation of these) been identified and described satisfactorily (to be in accordance with the agreed parameters or show acceptable mitigation)? (Refer to buffer policy letter.)	N/A
	There is no buffer requirement.	
2.18	Do ATC procedures ensure the maintenance of prescribed separation between traffic inside a new airspace structure and traffic within existing adjacent or other new airspace structures?	N/A
	There is no new structure and EGSS are aware that the LYD SIDs are being removed, so EGSS will no longer be able to issue them to departures. The ATS Inspector has recommended that a Supplementary Instruction (SI) is published to keep the relevant controllers informed.	
2.19	Is the airspace structure designed to ensure that adequate and appropriate terrain clearance can be readily applied within and adjacent to the proposed airspace?	N/A
	N/A	
2.20	If the new structure lies close to another airspace structure or overlaps an associated airspace structure, have appropriate operating arrangements been agreed?	YES

	The new section of M604 will cross other ATS routes, however, there will be no impact as a result of this due to the section being RAD restricted for EGSS LYD departures only.	
2.21	Where terminal and en-route structures adjoin, is the effective integration of departure and arrival routes achieved?	YES
	The new section of M604 will provide connectivity. The end of the current DET SIDs and the ATS route structure are all contained within CAS.	
3. Supporting resources and communications, navigation and surveillance infrastructure Status (CNS)		
3.1	Is the evidence of supporting CNS infrastructure together with availability and contingency procedures complete and acceptable? The following are to be satisfied:	N/A
	<ul style="list-style-type: none"> Communication: Is the evidence of communications infrastructure including RT coverage together with availability and contingency procedures complete and acceptable? Has this frequency been agreed with AAA Infrastructure? 	
	No Change.	
	<ul style="list-style-type: none"> Navigation: Is there sufficient accurate navigational guidance based on in-line VOR 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? For example, for nav aids, has coverage assessment been made, such as a DEMETER report, and if so, is it satisfactory? 	
	No Change.	
	<ul style="list-style-type: none"> Surveillance: Radar provision – have radar diagrams been provided, and do they show that the ATS route/airspace structure can be supported? 	

	No Change.	
3.2	Where appropriate, are there any indications of the resources to be applied, or a commitment to provide them, in line with current forecast traffic growth acceptable?	N/A
	N/A	
4.	Maps/charts/diagrams	Status
4.1	Is a diagram of the proposed airspace included in the proposal, clearly showing the dimensions and WGS84 co-ordinates? (We would expect sponsors to include clear maps and diagrams of the proposed airspace structure(s) – they do not have to accord with aeronautical cartographical standards (see airspace change guidance), rather they should be clear and unambiguous and reflect precisely the narrative descriptions of the proposals.)	YES
	The approved WGS84 spreadsheet has been provided by NATS and has the co-ordinates for the end points of the new section of M604. There are also copies of the EGSS DET/LYD SID plates, from the UK AIP, that depict where the route will be.	
4.2	Do the charts clearly indicate the proposed airspace change?	YES
	Yes.	
4.3	Has the change sponsor identified AIP pages affected by the change proposal and provided a draft amendment?	YES

	Yes. EGSS AD2.24 6-4	
4.4	Has the change sponsor completed the WGS84 spreadsheet and submitted to the CAA for approval?	YES
	Yes (Approved).	
5.	Operational impact	Status
5.1	Is the change sponsor's analysis of the impact of the change on all airspace users, airfields and traffic levels, and evidence of mitigation of the effects of the change on any of these, complete and satisfactory? Consideration should be given to:	YES
	a) Impact on IFR General Aviation traffic, on Operational air traffic or on VFR General Aviation traffic flow in or through the area.	YES
	No impact.	
	b) Impact on VFR Routes.	YES
	No Impact.	
	c) Consequential effects on procedures and capacity, i.e. on SIDs, STARs, holds. Details of existing or planned routes and holds.	YES

	No Impact. Operators out of EGSS that wish to route to LYD can still do so.	
	d) Impact on airfields and other specific activities within or adjacent to the proposed airspace.	YES
	No Impacts.	
	e) Any flight planning restrictions and/ or route requirements.	YES
	The new section of M604 will be RAD restricted to EGSS only departures that are routing via LYD (ie would have previously departed via the LYD 5S/6R SIDs).	
5.2	Does the change sponsor consultation material reflect the likely operational impact of the change?	YES
	Yes.	
Case study conclusions – to be completed by SARG project leader		
	Yes/No	
	Has the change sponsor met the SARG airspace change proposal requirements and airspace regulatory requirements above?	YES
<p>As of 24 Feb 21, the CAA still had some technical questions relating to the proposed changes to the SID Plate, as presented in the submission v1.1. NATS were requested to consider the details of the proposed SID plate to ensure that all the required changes were accurately captured and that any possible ambiguity around the H24 availability of the extant DET SIDs was avoided. A v1.2 of the submission, containing an updated proposed SID plate was received and uploaded to the CAA Portal 4 Mar 21. NATS split the previous note on the plate into two notes (8,9) to avoid ambiguity regarding usage:</p> <p>8) The DET 1R/1S SIDs are available H24 for aircraft routing via M604- LYD.</p> <p>9) For Departures routing via L6, Q70, the DET 1R/1S SIDs are available between 2200-0500 summer and 2300-0600 winter. During these hours the CLN 8R or CLN 4S will be issued as appropriate.</p> <p>The v1.2 of the submission made it clear what changes were made, from v1.1. The improved SID plate notes and corrections did not materially change the submission. V1.2 was used to complete the regulatory assessment and demonstrated that NATS have met the</p>		

requirements under CAP1616, allowing the CAA to approve the proposal accordingly.

RECOMMENDATIONS/CONDITIONS/PIR DATA REQUIREMENTS

Are there any Recommendations which the change sponsor should try to address either before or after implementation (if approved)? If yes, please list them below.

YES

GUIDANCE NOTE: Recommendations are something that the change sponsor **should try** to address either before or after implementation, if indeed the airspace change proposal is approved. They may relate to an area in which the change sponsor is reliant upon a third party to actually come to an agreement and consequently they do not carry the same 'weight' as a Condition.

The ATS Inspector recommends that the change sponsor informs Terminal Control (TC) and EGSS of the changes via an SI in their relevant MATS PT2.

Are there any Condition(s) which the change sponsor **must fulfil** either before or after implementation (if approved)? If yes, please list them below.

NO

GUIDANCE NOTE: Conditions are something that the change sponsor **must fulfil** either before or after implementation, if indeed the airspace change proposal is approved. If their proposal is approved, change sponsors **must observe** any condition(s) contained within the regulatory decision; failure to do so **will usually** result in the approval being revoked. Conditions should specify the consequence of failing to meet that condition, whether that be revoking the ACP or some alternative.

Are there any specific requirements in terms of the data to be collected by the change sponsor for the Post Implementation Review (if approved)? If yes, please list them below.

YES

GUIDANCE NOTE: PIR data requirements concerns any specific data which the change sponsor **must** collate post-implementation, if indeed the airspace change proposal is approved. Please use this section to list any such requirements so that they can be captured in the regulatory decision accordingly.

Recorded flight data to demonstrate that there have been no material changes to flight paths or traffic distribution and safety data, service provision/resource issues, operational stakeholder feedback and utilisation data. (See post COVID-19 guidance on the CAA Website.)

General summary

This ACP is intended to have no material impact on aircraft behaviours; it alters airspace design below 7000ft but is still a Level 2C ACP as no traffic patterns below 7000ft will be altered. It represents one of a series of enablers for the modernisation of UK airspace by removing reliance on out-dated navigation aids through the removal of 2 SIDs that have been shown to be utilised infrequently. Connectivity will be maintained by utilising the extant EGSS DET SIDs and the introduction of an ATS route segment (M604).

Comments and observations

It was clear, following the assessment meeting, that it would not have been proportionate to RNAV replicate the LYD SIDs, given the presented traffic numbers and the pictorial evidence provided showing that even the aircraft that filed and flew the LYD SIDs were given tactical ATC climbs or vectors off the SIDs before reaching LYD. The option (solution to retaining connectivity) by NATS is proportionate, appropriate and supports the DVOR rationalisation project.

The CAA was made aware that EGSS intended to use the extant DET 1D SID outside of the approved published time constraints if this ACP was approved. The CAA asked NATS to ensure that the proposed changes would not cause consequential impacts if implemented, which they did through further engagement with EGSS. This was important, because NATS asserted that they believed the ACP was a Level 2C change under CAP1616; if, as a result of this proposal being approved there was to be a consequential shift in traffic, below 7000ft, due to the incorrect usage of another published SID, then this would have called the initial scaling of the ACP into question.

Therefore, there was a requirement on NATS to ensure that the EGSS DET SIDs (1D (RNP1), 1S and 1R) would continue to be used as published, if the removal of LYD SIDs was approved. The CAA were satisfied, at the second multi-gateway (Stages 1-3) review, that NATS had met this requirement.

Operational assessment sign-off/ approvals	Name	Signature	Date
Operational assessment completed by:	AR Case Officer: [REDACTED]	[REDACTED]	12/04/21
Operational assessment approved by:	Principal Airspace Regulator: [REDACTED]	[REDACTED]	21/04/21
<p>Principal Airspace Regulator comment: This ACP removes reliance on out-dated navigation aids through the removal of 2 SIDs that have been shown to be utilised infrequently. Connectivity from DET will be maintained by utilising the new section of M604, which will be restricted in the RAD to ensure that it only used for LYD departures from EGSS.</p>			