CAA Operational Assessment

Title of airspace change proposal	Land's End Transit Corridor
Change sponsor	Land's End Airport
Project no.	ACP-2019-75
SARG project leader	
Case study commencement date	7 June 2021
Case study report as at	20 June 2021
Instructions	
In providing a response for each question, please ensure that the 'status' of	column is completed using the following options:

ves 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:

Green not resolved not compliantRed... resolved

Executive Summary

The Land's End Transit Corridor (LETC) is an established airspace construct that links the area of Land's End with the Isles of Scilly, encompassing Land's End Airport (LEA) and St Mary's Airport (StMA). The LETC is contained within Class G airspace and partially overlaps the RNAS Culdrose Area of Intense Aerial Activity (AIAA); current notifications of both the LETC and RNAS Culdrose AIAA indicate that pilots 'are strongly recommended to' or 'should' contact the appropriate ATSU. LEA, the sponsor of the ACP, contend the existence of an unknown traffic environment within the LETC due at least in part to the optional nature of the requirement for traffic to communicate with ATSUs. The sponsor also contends that unknown traffic operating within the LETC represents a hazard to the known traffic operating within the airspace, which includes commercial passenger flights (in 2019 LEA handled 64,000 passengers and StMA handled 94,000 passengers). LEA also recognised that several planned changes to operations within the LETC could potentially exacerbate the safety implications of this unknown traffic situation. These plans include the addition of commercial helicopter operations

between Penzance and Tresco Heliports (commenced in Q2 2020), the planned introduction of IAPs at StMA and plans for PinS approaches to be introduced at the heliports. As a result of this analysis LEA identified a requirement for a possible airspace change that could provide mitigation to the unknown traffic environment within the LETC. A DAP1916 - Statement of Need (SoN) was first submitted in October 2019 to initiate the airspace change process. This original SoN was subsequently updated and amended in December 2019 and has remained extant since this change.

1.	Justification for change and options analysis (operational/technical) Status		
1.1	Is the explanation of the proposed change clear and understood?		
In the Stage 4B submission document the sponsor proposed the introduction of a Radio Mandatory Zone (RMZ) in an are Land's End RMZ (LRMZ). The sponsor proposed that the size and shape of the LRMZ change in response to the introduction planned IAPs in the region. Overall, the sponsor clearly articulated the proposed change in a manner that could be easily stakeholders, airspace specialist and layperson alike. The most complicated aspect of the submission is the proposal to alter the size of the airspace construct in stages over time.			
	would be linked to the successful implementation of IAPs at StMA (ACP-2015-19) and PinS approaches at Penzance and Tresco Heliports (ACP-2021-013). The inclusion of clear diagrams that illustrate the likely implementation at each stage, and also include direct comparison with the existing LETC boundary, is particularly well presented and helps to avoid any confusion.		
1.2	Are the reasons for the change stated and acceptable?		
	In the SoN, the sponsor stated that 'the purpose of this ACP is to consider possible airspace solutions that could provide mitigation to the current unknown traffic environment within the LETC.'. This has remained the driving statement behind the ACP throughout the CAP1616 process.		
Despite repeated requests, no formal evidence was provided by the sponsor to support the claimed existence of unknown traff within the LETC. The sponsor substantiated the claims anecdotally by citing radio reports from commercial operators within the encounters with unknown traffic and discussions in airport safety forums and the like. While it is disappointing that LEA, StMA commercial operators have not initiated or maintained an evidence log of some description to capture such events, the claims considered reasonable and acceptable.			
1.3	Have all appropriate alternative options been considered, including the 'do nothing' option? Yes		

The sponsor has fully engaged with the CAP 1616 process and sought to consider a wide range of options. Early options included 'Do Nothing', controlled airspace, installing a primary surveillance radar at LEA, a range of combinations of mandatory equipment carriage by airspace users and size adjustment of the LETC itself. The list of options that progressed at each stage of the process was refined and a full explanation and justification provided. The 'Do Nothing' option was not included in the Stage 3 Consultation; LEA had justified the removal of this option earlier in the process based upon the need to 'do something' in order to mitigate the safety concern presented by the existence of unknown traffic operating in an area of commercial operations.

1.4 Is the justification for the selection of the proposed option sound and acceptable?

Yes

The proposed option presented by the sponsor is the introduction of a RMZ (to be named the Land's End RMZ (LRMZ)) and a staged increase in the size of the LRMZ to incorporate the planned IAPs at StMA and PinS approaches at the heliports, if and when they receive regulatory approval for implementation. The justification for the introduction of an RMZ is considered to be sound; indeed, as stated by the sponsor in the submission documents for Stage 4a and Stage 4b, the introduction of this measure alone is considered sufficient to remove the element of unknown traffic operating within the area. Although no evidence can be gained or provided, the sponsor indicates that it is believed this unknown traffic is equipped with radio, but the operators elect not to contact the appropriate ATSU. This is a reasonable assumption, supported by the example of a P28A which is radio equipped as standard but is operated in the area without contacting an ATSU.

The sponsor uses the terms 'negligible' and 'less than 1%' to reference the proportion of leisure GA aircraft that use the current LETC and may not be fitted with radio equipment. While this contention cannot be evidenced, it is accepted as a reasonable assumption that only a small fraction of aircraft are not fitted with radio equipment. The sponsor highlights stakeholders who currently operate hang gliders and paragliders within the LEA ATZ and are not radio equipped. This is made possible through a Letter of Agreement (LoA) that exists between LEA and these operators. In the submission the sponsor commits to continuing this arrangement and undertakes to enable other non-radio equipped traffic to operate in the LRMZ, if implemented, by prior arrangement and where other operations allow this to be undertaken safely.

The justification to increase the size of the structure to encompass IAPs is also considered to be sound. The safety argument to remove the element of unknown traffic through the introduction of a RMZ remains applicable throughout the flight operations undertaken in the vicinity, and especially to the significant number of passenger flights that are completed between LEA and StMA. Increasing the size of the structure to ensure the IAPs followed by these flights is conducted in an area of known traffic is considered proportionate, especially as the majority of the increase in size of the structure will take place over the sea.

If approved for implementation, this proposal will immediately introduce the LRMZ in a design which encompasses the existing LEA IAPs. The 2 further changes to the design of the LRMZ provided by the sponsor are intended to ensure that future IAPs introduced at StMA and

2.	Airspace description and operational arrangements Status		
2.1	Is the type of proposed airspace design clearly stated and understood?	Yes	
	The sponsor clearly articulates the proposed introduction of a Radio Mandatory Zone and provides an explanation of the expected impact on users of the airspace.		
2.2	Are the hours of operation of the airspace and any seasonal variations stated and acceptable?	Yes	
	operating hours are given; unfortunately, these are given in UTC in one submission document and stated in BST in a that the hours of operation of an airport of this size can be subject to significant, short-notice variation by NOTAM;	any such variation	
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2.3	that the hours of operation of an airport of this size can be subject to significant, short-notice variation by NOTAM; would apply to the LRMZ. For clarity, the hours as published in the UK AIP, Part 3 - Aerodromes, EGHC - AD 2.3 Oper follows: Mon-Fri 0815-1730 (0710-1730); Sat 0815-1215 (0710-1730); Sunday CLOSED.	any such variation rational Hours are a	
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	the airspace volume would result in an improved safety environment for the commercial activity that takes place.		
	The statistical evidence also provides insight to the level of GA traffic that operates in the area. This traffic is subject to significant seasonal variation with between 30 and 220 flights operated by GA into LEA per month. The granularity of the data relating to overflight traffic, which varies from 80 to 700 flights per month) is less useful to quantify leisure GA flight numbers as this data set includes GA, military and Skybus passenger flights (scheduled passenger flights from Newquay and Exeter to LEA & StMA).		
2.5	Is the analysis of the impact of the traffic mix on complexity and workload of operations complete and satisfactory? Yes		
	The purpose of the ACP is not to change the mix or complexity of the operations that take place within the current LETC structure, therefore this has not been directly assessed.		
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? Yes		
	The sponsor has provided a copy of an updated draft LoA between LEA and paraglider operators at Sennen Cove (Cloud 9), and a copy of the LoA between LEA, StMA, RNAS Culdrose, Penzance Heliport, aircraft operator Penzance Helicopters and aircraft operator Isles of Scilly Skybus. The LoAs set out procedures to enable hang gliding and paragliding activity to take place within the LEA ATZ at Sennen Cove without the use of radio equipment (Stage 4B submission document, Appendix C) and the locally agreed procedures relating to traffic flow and management of the commercial activity within the LETC (Stage 4b submission document, Appendix D).		
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?		
	The sponsor appears committed, where possible, to enabling the continued access of all airspace users to the proposed LRMZ construct. This commitment is demonstrated through the provision of the LoA at Appendix C of the Stage 4B submission document, , which will ensure access for the non-radio equipped hang glider and paraglider operators will continue as it does at present, and through the clear statement made by the sponsor in the same document at para 6.10.7:		
	"Land's End airport will commit to ensuring that where traffic and ultimately safety allows, it will enter into tactical agreements with any pilot who cannot completely comply with the requirements of the airspace." In response to this specific question the sponsor states that they 'would act appropriately and expeditiously.'		

2.8	Is the evidence that the airspace design is compliant with ICAO SARPs, airspace design & FUA regulations, and Eurocontrol guidance satisfactory?
	The sponsor states that the proposed RMZ would be implemented in accordance with (EU) 923/2012.
2.9	Is the proposed airspace classification stated and justification for that classification acceptable? Yes
	The proposal does not seek to alter the background classification of the airspace within the area, which will remain unchanged as Class G.
2.10	Within the constraints of safety and efficiency, does the airspace classification permit access to as many classes of user as practicable? Yes
	The airspace classification and the airspace change proposed by the sponsor enables access to as many classes of airspace user as possible in addition, the sponsor appears committed to enabling access as widely as possible and undertakes in its submission to enable, where possible, access to the proposed area by airspace users who may not be able to fully comply with any requirements that may be introduced as a result of this proposal.
2.11	Is there assurance, as far as practicable, against unauthorised incursions? (This is usually done through the classification and promulgation.)
	The sponsor provides assurance against unauthorised incursion that builds upon the long-standing existence of the current LETC construct A revised construct would similarly be published on charts and appropriately notified in the UK AIP. In addition, both airports use a PPR system which also provides an opportunity to directly brief airspace users. The LARS units in the area have been identified as key stakeholders and included in the ACP process throughout and fully support the proposal. In addition, the sponsor commits to provide specific written notification and briefing to other local airfields and airports prior to the implementation of any alteration to, or replacement of, the current LETC. Finally, formal notification of a revised construct would be achieved through the AIRAC cycle process.
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?

	The sponsor states an intent to enable access to all airspace users including, where possible, those who may not be able to fully comply with any requirements that may be introduced as a result of this ACP. For the remaining few who may be denied access the sponsor states that there will be no change to the provision of ATSOCAS from that which exists today.
2.13	Are appropriate arrangements for transiting aircraft in place in accordance with stated commitments? Yes
	The sponsor states that the provision of services will remain in accordance with that provided today.
2.14	Are any airspace user group's requirements not met?
	The introduction of a RMZ in this area will only potentially impact those airspace users that operate without radio equipment fitted. The sponsor has identified the key local users that fit into this category and have a working LoA in place which enables them to carry out their activity. In addition, the sponsor commits quite clearly to enable, where possible, the operation of other non-radio equipped airspace users within the LRMZ. It is therefore expected that the introduction of the LRMZ will have minimal negative impact and the sponsor has committed to meet the requirements of all airspace users.
2.15	Is any delegation of ATS justified and acceptable? (If yes, refer to Delegated ATS Procedure).
	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?
	The proposed dimensions of the LRMZ seek to introduce a construct of sufficient size to appropriately encompass the existing IAPs in use at LEA and to enable the future adjustment to the size and shape of the LRMZ to incorporate the planned IAPs and holds associated with StMA, and the planned Penzance Heliport and Tresco Heliport PinS procedures. The proposed design for Stage 1 implementation is of sufficient dimensions to encompass the existing procedures. The proposed designs for possible Stage 2 & Stage 3 implementation are indicative of the expected dimensions that would encompass the IAPs proposed for StMA and the PinS approaches proposed for the heliports; however, the sponsor does allow for these proposed designs to be updated prior to implementation in line with the actual procedure designs introduced by the relevant ACPs.
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
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?
	Appendix D of the Stage 4B Submission document provides a copy of the existing LoA operated by the ATSUs within the LETC and RNAS Culdrose.
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?
	Appendix D of the Stage 4B Submission document provides a copy of the existing LoA operated by the ATSUs within the LETC and RNAS Culdrose.
2.20	If the new structure lies close to another airspace structure or overlaps an associated airspace structure, have appropriate operating arrangements been agreed?
	Appendix D of the Stage 4B Submission document provides a copy of the existing LoA operated by the ATSUs within the LETC and RNAS Culdrose.
2.21	Where terminal and en-route structures adjoin, is the effective integration of departure and arrival routes achieved? N/A
	N/A
3.	Supporting resources and communications, navigation and surveillance Status (CNS) infrastructure
3.1	Is the evidence of supporting CNS infrastructure together with availability and contingency procedures complete and acceptable? The following are to be satisfied:
	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?

 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 navaids, has coverage assessment been made, such as a DEMETER report, and if so, is it satisfactory? 	Yes
No change to existing navigational infrastructure.	
Surveillance: Radar provision – have radar diagrams been provided, and do they show that the ATS route/airspace structure can be supported?	Yes
No change to existing surveillance infrastructure.	
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	
Maps/charts/diagrams Status	
Is a diagram of the proposed airspace included in the proposal, clearly showing the dimensions and WGS84 co-ordinates?	Yes
(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.)	
The sponsor provides a chart extract that clearly shows the existing LETC (Stage 4B submission document, Appendix A). further set of 3 diagrams (Stage 4B Submission document, paras 5.5, 5.6 & 5.7) is provided which illustrates the 3 proposimplementation of the LRMZ. Separate work is on-going between the sponsor and the Airspace Regulation team to define the Stage 1 construct to ADQ standards.	osed stages of
	Yes

	Yes.	
4.3	Has the change sponsor identified AIP pages affected by the change proposal and provided a draft amendment?	Partially
	The sponsor has provided a proposed draft AIP entry which will require updating once the ADQ requirements are met a the proposed LRMZ has been completed. However, the amendment provided only indicates provisional changes requir 3 Aerodromes (AD), EGHC - Lands End and the sponsor will be required to ensure that all required AIP amendments are approval.	ed to the UK AIP Pa
4.4	Has the change sponsor completed the WGS84 spreadsheet and submitted to the CAA for approval?	Partially
	This is in progress with the relevant Airspace Regulators.	
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
	The sponsor contends that the only airspace users who may be negatively impacted by the implementation of the proposed change are those GA users that operate aircraft that are not appropriately equipped. An estimate is provided that less than 1 users fall into this category and therefore the impact will be negligible.	
	b) Impact on VFR Routes.	Yes
	No impact as the proposal does not seek to alter routing from that operated and used today.	
	c) Consequential effects on procedures and capacity, i.e. on SIDs, STARs, holds. Details of existing or planned routes and holds.	Yes

	No consequential impact is expected as the proposal does not seek to alter operating procedures or traffic volumes fro	m today.
	d) Impact on airfields and other specific activities within or adjacent to the proposed airspace.	Yes
	No impact expected as the sponsor has undertaken to establish LoAs with those that conduct other airspace activities. sponsor suggests that there will be no change to the procedures to be followed by airspace users operating outside the	•
	e) Any flight planning restrictions and/ or route requirements.	Yes
	No change from today.	
5.2	Does the change sponsor consultation material reflect the likely operational impact of the change?	Yes
	The sponsor provided clear explanation of those who may be affected by the proposed changes.	
Case s	tudy conclusions – to be completed by SARG project leader Yes /No	
Has th	e change sponsor met the SARG airspace change proposal requirements and airspace regulatory requirements	Yes
:he spo The intr	nge sponsor has met with the SARG airspace change proposal requirements and airspace regulatory requirements as details as not has met with the process and requirements established in the CAA's CAP 1616 Airspace Change publication. Oduction of a RMZ is considered a proportionate response to the issue raised by the sponsor in the SoN. In addition, the proting IAPs within the LRMZ is considered appropriate and ensures a consistent degree of additional safety to the operations to the sponsor in the SoN.	oposal to encompa
through	out the area. While the proposal to alter the size and shape of the LRMZ, if the ACPs in progress for StMA and the Penzance be approved, may be well-intentioned, it is noted that this may fall outside the scope of approval within this ACP.	•
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GUIDANCE NOTE: Recommendations are something that the change sponsor <u>should try</u> 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.

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

Yes

GUIDANCE NOTE: Conditions are something that the change sponsor <u>must fulfil</u> either before or after implementation, if indeed the airspace change proposal is approved. If their proposal is approved, change sponsors <u>must observe</u> any condition(s) contained within the regulatory decision; failure to do so <u>will usually</u> 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.

If approved, the following conditions are to be met prior to implementation of the proposed LRMZ:

- 1. The sponsor will be required to achieve ADQ compliance in the definition of the proposed LRMZ prior to final approval for submission of the AIP Change Request.
- 2. The sponsor will be required to provide a comprehensive UK AIP amendment, including ADQ compliant definition of the proposed LRMZ and all required elements for notification of the RMZ, for final approval prior to submission of the AIP Change Request.

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

<u>GUIDANCE NOTE:</u> PIR data requirements concerns any specific data which the change sponsor <u>must</u> 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.

- 1. The sponsor will be required to capture information related to requests made by airspace users not equipped with radio to operate within the LRM7:
 - a. Details of those requests that are approved and enabled to operate within the LRMZ.
 - b. Details of those requests that are not approved to operate within the LRMZ.
- 2. The sponsor will be required to capture as much information as possible related to any known incursions into the LRMZ by non-equipped or non-compliant airspace users.

General summary

The proposed introduction of the LRMZ is expected to provide effective mitigation of the unknown traffic situation that exists within the current LETC area. The use of a RMZ is considered proportionate and is expected to have negligible negative impact on current users of the airspace; indeed it is reasonable to assume that virtually all, if not all, unknown traffic that operates in the area is appropriately equipped to operate in a RMZ but that the operators are choosing not to make contact with an ATSU.

Notification of the area of the RMZ to encompass the existing LEA IAPs is reasonable and proportionate in order to improve the safety of operations of the traffic using the procedures.

While the proposal to alter the size and shape of the LRMZ, if the ACPs in progress for StMA and the Penzance and Tresco Heliports were to be approved, may be well-intentioned, it is noted that this may fall outside the scope of approval within this ACP.

Comments and observations

Operational assessment sign- off/ approvals	Name	Signature	Date
Operational assessment completed by:	AR Case Officer		20 June 2021
Operational assessment approved by:	Principal Airspace Regulator		8 July 2021

Principal Airspace Regulator comments:

The Sponsor operates within a Class G environment alongside nearby commercial, recreational and military users. In part due to the historic mixed levels of traffic a navigational warning was established to highlight the routing of traffic from Cornwall to the Isle of Scilly, the Land's End Transit Corridor (LETC). The Sponsor has identified through this process that the level of traffic operating within the LETC is increasing where there is a reasonable expectation of a return to growth post COVID and it would now be appropriate to create a 'more informed' environment. The proposal for a Radio Mandatory Zone (RMZ) proportionally addresses this requirement. Noting the claim within the ACP that less than 1% of General Aviation Users are not fitted with radios is not corroborated, the proposed impact of this change must be balanced against the volume of current and likely predicted operations within this area.

Considering this impact, the Sponsor has presented a well-reasoned argument as to the requirement to establish an RMZ to improve overall safety. This is further supported by the proposal to establish procedures to ensure access to non-radio equipped users, thereby mitigating to a degree this impact; this aligns with the extant policy requirements of a RMZ. The phased approach proposed within the ACP does not however reflect the current state and requirement but instead pre-determines the outcome of other airspace change requests, creating dependencies with non-associated changes. This does not align with regulatory process where the requirement for a change is required to be evidenced. In this instance the dimensions of any change proposed in Phase 2 and or 3 is not determinable or necessarily required. In line with CAA responsibility under Section 70 of the Transport Act, the implementation of Phase 1 would support the safe and efficient use of airspace. Phase 1 of the ACP is therefore approved, where this approval is consistent with the engagement undertaken during the ACP and is proportionate. Phases 2 and 3 of this change however are not approved. Any perceived requirement due to a non-associated change should form part of that change request to enable appropriate consideration or should be the subject of a further change request once the requirement can be evidenced.

Head AAA comment/ approvals	Name	Signature	Date
Operational assessment conclusions approved by:	Head AAA		

Head AAA Comments:

Not applicable

Group Director Safety and Airspace Regulation Group (GD SARG) decision/approval	Name	Signature	Date
GD SARG decision:	GD SARG		
GD SARG comments:			
Not applicable			