Title of Airspace Change Proposal	**Exeter Airport Airspace Change Proposal (ACP)**
Change Sponsor	**Exeter and Devon Airport Ltd (EDAL)**
SARG Project Leader	[redacted]
Case Study commencement date	**22 December 2017**
Case Study report as at	**23 March 2018**
File Reference	**20171222 – Operational Assessment Exeter ACP**

Instructions

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 as part of the AR Project Leader's efficient project management.

1.	Justification for change and "Option Analysis"	Status
1.1	**Is the explanation of the proposed change clear and understood?**	**YES**
	The proposal is clear in its intention to develop a Class D controlled airspace (CAS) structure in the airspace surrounding Exeter Airport.	
1.2	**Are the reasons for the change stated and acceptable?**	**YES**
	The reasons for the change are stated, and in respect of providing protection to Commercial Air Transport (CAT) in the critical stages of flight are acceptable.	
1.3	**Have all appropriate alternative options been considered, including the 'do nothing' option?**	**PARTIALLY**
	Three options were considered, Do Nothing, Do Minimal and Change the Nature of the Airspace. The latter option had five sub-options which were considered. These were to introduce: (1) a Transponder Mandatory Zone (TMZ) which EDAL considered would not resolve their airspace issues; (2) a combined Radio Mandatory Zone (RMZ) and TMZ which again was discounted by EDAL as they believe this option fails to address the full issues experienced at the airport, and they believe would be viewed unfavourably by some GA operators, especially the gliding community; (3) a combined Class D and Class E with a TMZ CAS, which was discounted as EDAL believe that in Class E airspace the lack of traffic avoidance advice may be unacceptable to IFR CAT aircraft; that VFR flights in Class E are unpredictable, especially if not talking to ATC; that only Class D reduces or eliminates the points of conflict with other flights, and that many local airspace users do not carry transponders and this option could add a financial burden on the GA community; (4) a Flexible Class of Airspace Arrangement, which is the switching on/off of the airspace as required. EDAL considered this option to be too complex, lacks a suitable means of disseminating the information and would lead to a high probability of CAS infringements; and (5) Class D CAS which EDAL believe would offer protection to aircraft arriving/departing the airport, however EDAL believe the CAS structure should contain the current RNAV(GNSS) Approaches allowing continuous descent approaches and create an airspace volume ATC would utilise for vectoring multiple aircraft onto each ILS. This is the chosen option by EDAL. EDAL recognises that the implementation of Class D CAS could produce an adverse effect on GA and other aviation stakeholders but believe continued access to the airspace could be facilitated through the development of Letters of Agreement (LoA) or Memoranda of Understanding (MoU) to mitigate negative operational impacts. The ACP Proposal states at paragraph 3.4.5 that the proposed Class D principle objectives for the design of the CAS surrounding the airport are:	

	• To maintain the current level of safety. • To make the airspace more efficient for all users. • To provide protection to public transport passenger aircraft in the critical stages of flight, prior to landing and after departure. • Minimized airspace dimensions, commensurate with the regulatory requirements, to a volume necessary to provide protection to aircraft arriving or departing the Airport on the predominantly utilised procedures. • To provide the maximum levels of access for all classes of suitably equipped aircraft. Therefore, the chosen option to implement Class D was designed on the assumption that it should contain the current RNAV(GNSS) approaches. This places a significant constraint on the design, as the sponsor has made an assumption that containing the current RNAV approaches is a design feature and that the CAA Containment Policy must now apply to the airspace design. By assuming that the proposed airspace design option must contain current RNAV approaches the sponsor has not fully considered other available options which do not meet the IFP containment requirements; however, as described in paragraph 1.4 below, the containment policy is not applicable to this proposal.
1.4	**Is the justification for the selection of the proposed option sound and acceptable?** **NO** Whilst the objective of implementing Class D CAS to protect CAT in the critical stages of flight is a sound principle, the proposed option is predicated on an assertion that '*EDAL considers the CAS structure should contain the [current] RNAV (GNSS) Approaches'*. As set out at paragraph 3.4.5 of the Proposal this refers only to the current GNSS approaches that already exist at Exeter Airport; there are no new RNAV procedures proposed within the ACP. Whilst the introduction of LPV-200 and RNAV Holds and Missed Approaches were originally intended as per the Exeter Airport DAP 1916 submission, these were removed from the design proposal at an early stage and an application made purely for controlled airspace. The ACP submission relies on the document 'Exeter Proposed Airspace – Containment of instrument flight procedures against airspace design'. This document takes the proposed design and checks it against the extant Instrument Flight Procedures for the airport applying the criteria from the CAA's Controlled Airspace Containment Policy, 17 January 2014. However, as stated at paragraph 2.2 of the Policy Statement, the Containment Policy is only applicable for 'new procedures' and clearly states that '*it is not intended to apply these requirements retrospectively to existing procedures'.* Therefore, the size of the proposed option is not acceptable as it has been designed based on the requirements of the Containment Policy which is not relevant in this instance. Other options could have been explored outside the constraints of the containment policy which have not been considered.

2.	Airspace Description and Operational Arrangements	Status
2.1	**Is the type of proposed airspace clearly stated and understood?**	YES
	Yes.	
2.2	**Are the hours of operation of the airspace and any seasonal variations stated and acceptable?**	YES
	The Class D CAS is proposed as permanent H24.	
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?**	NO
	The proposed airspace adjoins to and interacts with N864. Control within part of this airspace is delegated from LACC to Cardiff ATC. No evidence is provided in the form of a draft LoA or correspondence of an agreement in principle as to how the airspace sharing arrangements will operate. Whilst a potential agreement in principle with the MoD has apparently been sought regarding a Flexible Use of Airspace (FUA) approach to Lyme Bay North (D012), no consideration has been made in the proposal to applying the Buffer Zone Policy to Lyme Bay (D013). The MoD have apparently stipulated that the airspace should not impinge D013, therefore with no FUA arrangement in place the Buffer Policy does apply. The CAA Policy Statement, Special Use Airspace – Safety Buffer Policy for Airspace Design Purposes, 22 August 2014 states that for the activity descriptors that take place in D013 a lateral safety buffer of 5nm is required between the danger area and the edge of a CTA/CTR. The stipulated criteria may be achieved through airspace design or ATM procedures, however they shall be incorporated into all new ACPs. Paragraph 7.5.1 of the Proposal acknowledges the Buffer Policy requirements but it does not incorporate these into the design. EDAL believe '*if the implementation of a Buffer Zone is required (specifically for D012) then this would effectively close the approach lane for Runway 26 at certain times. In these instances, there would be a highly significant and unacceptable impact on EDAL flight operations*'. The proposal states that '*EDAL and MoD will continue discussion to develop an LoA to effectively coordinate activities that negate the requirement for implementation of a Buffer Zone*'. No evidence was provided in the proposal for these discussions regarding D013, nor a proposed solution.	
2.4	**Is the supporting statistical evidence relevant and acceptable?**	YES
	Yes	

2.5	**Is the analysis of the impact of the traffic mix on complexity and workload of operations complete and satisfactory?**	**YES**
	Yes	
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?**	**NO**
	Whilst it is believed discussions have taken place or are ongoing, no draft LoAs or evidence of an agreement in principle have been received detailing the handling of traffic through Cardiff delegated airspace or with Western Radar reflecting adaptations required to procedures for aircraft inbound to Exeter. No draft LoA or response is known on the suggestion by the sponsor to delegate the proposed CTAs above FL65 to Cardiff ATC and LACC. No draft LoA is provided between Exeter and the Military regarding proposed FUA with D012. No draft LoA is provided between Exeter and Devon and Somerset Gliding Club (DSGC) which allows DSGC flight operations within designated areas of the proposed Exeter CAS. No draft LoA is provided between Exeter and Dunkeswell Aerodrome to resolve notification, clearance or communication procedures for aircraft operating from Dunkeswell that choose to enter CAS; likewise between Exeter and Skydive Buzz Ltd who operate out of Dunkeswell. CAP 725 A.5 requires that drafts of required LoAs/MoUs are provided at the time of the submission.	
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 sponsor carried out to resolve any conflicting interests?**	**PARTIALLY**
	The British Gliding Association (BGA) raised concerns relating to the size of proposed CAS, in particular the airspace to the North of the airport. Exeter have looked to mitigate this by raising the base levels of some of the CTAs. Further engagement is proposed between Exeter and Dunkeswell to resolve interaction issues. An LoA is proposed with Skydive Buzz Ltd who operate out of Dunkeswell and are currently afforded unrestricted airspace and coordinated flight operations with Cardiff ATC and LACC into Airway N90 when required, although no draft LoA is included in the proposal, contrary to the requirements of CAP 725 A.5. All airspace below this will be Class D down to the base of the CTAs in the proposal. No final solution has been agreed between Exeter and DSGC. Initial attempts to devise glider boxes have not materialised to date. DSGC maintains its strongest possible objection to the proposal and state that several points have not reached acceptable conclusions. [Letter DSGC to CAA Airspace Regulation dated 11 February 2018.] Action taken by the sponsor to resolve these conflicting interests has not been provided, which is unacceptable for the final submission of the ACP.	
2.8	**Is the evidence that the Airspace Design is compliant with ICAO SARPs, Airspace Design & FUA regulations, and Eurocontrol Guidance satisfactory?**	**YES**
	The airspace is designed to be largely compliant with PAN-OPS and containment of IFPs.	

2.9	**Is the proposed airspace classification stated and justification for that classification acceptable?**	**PARTIALLY**
	The proposed airspace classification is stated, and acceptable justification is provided in part for the protection of CAT in critical stages of flight. However, the justification for the classification of airspace in the entire proposed area is not acceptable. Designed using the requirements of the containment policy which does not apply in this instance, the area is substantially larger than it could be. Other airspace classifications have not necessarily been fully explored without this constraint, and different airspace classifications potentially with some form of conspicuity requirement have been dismissed without fully taking the needs, opinions and considerations of other airspace users into account, which for a volume of airspace of this size is not deemed justified.	
2.10	**Within the constraints of safety and efficiency, does the airspace classification permit access to as many classes of user as practicable?**	**PARTIALLY**
	Within the constraints of safety and efficiency the proposal falls short on permitting access to as many classes of users as practicable owing primarily to the disproportionate size of the proposed CAS. The sponsor has looked to mitigate this by, where possible, facilitating CAS crossings on request, and is investigating LoAs to ease access for some airspace users. However, the extent of the proposed option will restrict access to others. For such a large expanse of airspace such as that proposed, a more proportionate level of access could have been investigated further. For example, looking more closely at options which facilitate equipped VFR traffic access to the larger CTAs without the need to call on the R/T.	
2.11	**Is there assurance, as far as practicable, against unauthorised incursions? (This is usually done through the classification and promulgation)**	**YES**
	Yes	
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?**	**YES**
	Yes through crossings or LoAs or MoUs.	
2.13	**Are appropriate arrangements for transiting aircraft in place in accordance with stated commitments?**	**NO**
	No LoAs/MoUs were submitted.	
2.14	**Are any airspace user group's requirements not met?**	**YES**
	The BGA believe the gliding communities needs are not met by the implementation of this extent of Class D airspace. The DSGC state that North Hill Airfield (unlicensed) glider operations will be affected by the implementation of the proposal. However, whilst this is accepted	

	by Exeter who are exploring avenues to minimise the effects, no mutually agreeable solutions have yet been agreed which is unacceptable for the submission. Whilst Swanwick supports the establishment of CAS in principle, as highlighted in their consultation response, NATS cannot fully support the design as proposed. NATS have fundamental concerns with the airspace design which they assessed as potentially complicating ATM arrangements in the area, and as having a consequent negative impact on safety and airspace efficiency. EDAL have indicated that amended LoAs and new procedures will mitigate these concerns; however, these are not yet in place and have not been submitted with the proposal, therefore NATS' requirements are not met.	
2.15	**Is any delegation of ATS justified and acceptable? (If yes, refer to Delegated ATS Procedure).**	**NO**
	The proposed delegation of airspace above FL065 to Cardiff/LACC could be justified; however, it has not yet been deemed acceptable by NATS. This is yet to be clarified, as stated at paragraph 7.6.2 of the ACP submission '*to date no formal response to this suggestion has been received by EDAL',* and no LoA has been submitted detailing the delegation arrangements.	
2.16	**Is the airspace structure 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?**	**YES**
	Yes. However, see earlier comments regarding size and the design being based on the containment policy which does not apply in this instance.	
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).**	**NO**
	The buffer policy has not been applied to D013, and no mitigation or arrangement with MoD has been provided.	
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?**	**YES**
	Yes, although these need to be finalised and formalised between the sponsor, LACC and Cardiff ATC. In addition, whilst ATC procedures can maintain separation, North of EGTE NATS Cardiff are able to use 3nm separation whilst Exeter would be using 5nm. The impact of this would be to reduce capacity on N864 for NATS Cardiff or increase their levels of co-ordination.	
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?**	**YES**
	Yes	

2.20	**If the new structure lies close to another airspace structure or overlaps an associated airspace structure, have appropriate operating arrangements been agreed?**	**NO**
	Arrangements between NATS, Cardiff ATC and Exeter regarding delegation of airspace and operations are yet to be finalised.	
2.21	**Where terminal and en-route structures adjoin, is the effective integration of departure and arrival routes achieved?**	**NO**
	Final arrangements with Cardiff ATC and LACC regarding departure/arrival operations are yet to be finalised.	

3.	**Supporting Resources and CNS Infrastructure**	**Status**
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?	**YES**
	Yes. This is already in place and there is no change as a result of this proposal.	
	▪ **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? Eg. Navaids – has coverage assessment been made eg. a DEMETER report, and if so, is it satisfactory?	**YES**
	Yes. There is no requirement to change the current provision.	
	▪ **Surveillance:** Radar Provision – have radar diagrams been provided, and do they show that the ATS route / airspace structure can be supported?	**YES**
	Yes. There is no requirement to change the current provision.	
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 growths acceptable?**	**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 AC&D aeronautical cartographical standards (see CAP725), rather they should be clear and unambiguous and reflect precisely the narrative descriptions of the proposals. AC&D work would relate to regulatory consultation charts only).**	YES
	Yes.	
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?**	NO
	These have not yet been provided.	

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:** **a) Impact on IFR GAT, on OAT or on VFR general aviation traffic flow in or through the area.**	**NO**
	As stated at paragraph 3.4.5 of the ACP submission, '*EDAL recognises that the implementation of Class D CAS could produce an adverse effect on GA and other aviation stakeholders…EDAL believes it is possible to facilitate continued access to the airspace for non-Exeter GA traffic through the development of LoAs and MoUs.*' These LoAs/MoUs have not been provided. In addition, VFR GA who are not able to facilitate a crossing (for example non-radio equipped) could be forced to route around the airspace which may result in funnelling and additional track mileage. IFR GAT and OAT should be afforded CAS crossings to mitigate the impact.	
	b) Impact on VFR Routes.	**N/A**
	There are currently no stipulated VFR routes at Exeter.	
	c) Consequential effects on procedures and capacity, ie on SIDS, STARS, holds. Details of existing or planned routes and holds.	**YES**
	No changes to capacity are contained in the proposal.	
	d) Impact on Airfields and other specific activities within or adjacent to the proposed airspace.	**NO**
	The impact on DGSC and North Hill Airfield are not mitigated satisfactorily. Whilst RMZ and Glider Box concepts were seen by both parties to have potential to facilitate flight operations from the club into the proposed CAS, as stated at paragraph 7.4 of the ACP submission '*EDAL are extremely keen to continue these discussions toward a consensual* agreement' as these have not yet reached an acceptable conclusion. This opinion is supported in a letter from the DGSC to CAA Airspace Regulation dated 11 February 2018. The mitigation for the impact on Skydive Buzz Ltd is in the form of an amended LoA which has not been submitted.	
	e) Any flight planning restrictions and/ or route requirements.	**N/A**
5.2	**Does the Change Sponsor Consultation letter reflect the likely operational impact of the change?**	**YES**
	Yes.	

6.	Economic Impact	Status
6.1	**Is a provisional economic impact assessment to all categories of operations and users likely to be affected by the change included and acceptable? (This may include any forecast capacity gains and the cost of any resultant additional track mileage).**	**NO**
	There is no provisional economic assessment provided. Gains to CAT are articulated including probable environmental benefits from continuous descent approach profiles and less radar vectoring to avoid traffic when on approach/climb out; however, the economic impacts on surrounding operations and users outside of Exeter Airport are not provided.	

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?	**NO**
No.	

Outstanding Issues		
Serial	**Issue**	**Action Required**

Additional Compliance Requirements (to be satisfied by Change Sponsor)	
Serial	**Requirement**

Recommendations	Yes/No
Is the approval of the SoS for Transport required in respect of the Environmental Impact of the airspace change?	**NO**
Is the approval of the MoD required in respect of National Security issues surrounding the airspace change?	**NO**

General Summary

EDAL has identified a requirement to provide additional protection to that already afforded to CAT operating to/from Exeter Airport. The requirement is based on current traffic levels and predicted growth at the airport, against the provision of an ATZ, which is the only airspace presently established to afford protection to aircraft operating at the airport. Several options were considered with the sponsor preferring the introduction of Class D CAS in the airspace surrounding the airport.

The proposed option consisted of a CTR and CTAs covering a large expanse of the local area, as the design looked to also contain the current GNSS approaches at the airport.

94% of respondents objected to the proposal at the consultation phase. EDAL looked to mitigate some of the impact on local operators at Dunkeswell and North Hill airfield as well as transiting GA in general by raising the base levels of some CTAs, especially to the North, and create LoAs with neighboring operators to try to facilitate access to the Class D or minimise the impact on their operations.

Comments & Observations

The ACP 'justification for the change' states that the principal area of concern is the limited protection currently afforded to CAT, in particular during the critical stages of flight, namely aircraft arrival and departure.

In the ACP 'options assessment' when discounting alternative considerations and describing the preferred option of implementing Class D controlled airspace, it was stated that '*EDAL considers the CAS structure should contain RNAV (GNSS) Approaches, allowing Continuous Descent Approaches to the runway and equally allow an airspace volume that ATC would utilise for the vectoring of multiple aircraft onto each ILS'*. By adopting this statement as a requirement, it meant that the CAS was designed in accordance with PAN-OPS and the Containment Policy which drove the final design shape and size, as demonstrated in the submitted airspace design document.

However, there is no requirement for this proposal to adhere to the Containment Policy. The Policy was established to provide guidance for new procedures and airspace designs submitted to the CAA for approval, and as clearly stated the policy is not to be retrospectively applied to existing RNAV approaches.

Therefore, the final design proposed by the sponsor is significantly larger than necessary owing to adhering to design constraints that are not applicable. This meant that other options of utilising CAS or affording protection to CAT in the critical stages of flight were prematurely dismissed or not considered during the ACP process.

The sponsor is looking to use LoAs and MoUs to mitigate the impacts on other airspace users, safety concerns raised by NATS, and the arrangements for the delegation of ATS services. None of these were submitted with the ACP proposal.

The ACP submission recognises the requirements of the Buffer Policy and is looking to mitigate these against D012 by establishing an LoA with the MoD; however, this has not been submitted with the proposal. Also, whilst a flexible use of airspace arrangement by potentially sharing a portion of the danger area is suggested, no detail is provided on how the buffer policy will be adhered to. In addition, whilst taking the request of the MoD into consideration for the design of the CAS by not utilising any airspace associated with D013, the Buffer Policy has not been considered for this Danger Area.

The CAA has a statutory obligation to exercise its functions in a manner best calculated to 'satisfy the requirements of operators and owners of all classes of aircraft', and to 'secure the most efficient use of airspace consistent with the safe operation of aircraft and expeditious flow of air traffic'. It is the opinion of the Case Officer, for the reasons detailed above, that the EDAL airspace change proposal fails to meet the requirements of those obligations, fails to adhere to the Buffer Policy, and that the ACP submission has not fulfilled the requirements of CAP 725. Therefore, it is the Case Officer's recommendation that the Exeter Airspace Change Proposal is refused.

Operational Assessment Sign-off/ Approvals	Name	Signature	Date
Operational Assessment completed by:	[redacted] **AR Case Officer**	[redacted]	01 March 2018
Operational Assessment approved:	[redacted] **Mgr AR**	[redacted]	23 March 2018
Mgr AR Comments: I agree with the assessment of the case officer that this proposal does not give enough assurance that the requirements of other airspace stakeholders have been appropriately considered and the impacts of the proposal mitigated as far as practicable. Notwithstanding the erroneous size of the airspace (CTAs in particular), driven by the unnecessary application of the containment policy, the sponsor has failed to adhere to the Buffer Policy, failed to obtain LOU/MOUs from relevant stakeholders and submitted a proposal that does not accord with the CAA's statutory duties under s70 of the Transport Act 2000. Given that this proposal does not satisfy the CAA's operational assessment I have not asked for the environmental and consultation assessments to be completed as this would not change my recommendation to **not** approve this proposal.			

Hd AAA Comment/ Approvals	Name	Signature	Date
Operational Assessment Conclusions approved:	[redacted] **Hd AAA**	[redacted]	28 March 2018
AAA Comments: I endorse the decision of the case officer and Manager Airspace to **not** approve this proposal. This application has not evidenced an open intent to engage with all affected parties. Airspace is a precious and limited commodity, therefore all proposals to create controlled airspace must be proportionate and take into account or satisfy the requirements of all stakeholders, which this proposal fails to do.			

GD SARG Decision/ Approval	Name	Signature	Date
GD SARG Decision: Proposal rejected.	[redacted] **GD SARG**	[redacted]	28 Mar 2018
GD SARG Comments: **I agree with the analysis above; this proposal is both disproportionate in content and fails to take into account the requirements of all classes of aircraft operators and owners, in that many of the required mitigations, had the proposal been acceptable, have not been explored or indeed pursued to an adequate conclusion.**			