Exeter Airport Airspace Change Proposal

Design Principles Questionnaire

Document Details

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	Design Principles Questionnaire
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Glossary

Acronym	Meaning
aal	above aerodrome level
ACP	Airspace Change Proposal
ACAS	Airborne Collision Avoidance System
ANSP	Air Navigation Service Provider
AONB	Area of Outstanding National Beauty
ARP	Aerodrome Reference Point
ATC	Air Traffic Control
ATM	Air Transport Movement
ATS	Air Traffic Service
ATZ	Aerodrome Traffic Zone
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
CAS	Controlled Airspace
CAT	Commercial Air Transport
CTZ	Control Zone
CTR	Control Area
EDAL	Exeter & Devon Airport Ltd
FAS	Future Airspace Strategy
ft	feet
GA	General Aviation
GNSS	Global Navigation Satellite System
IAP	Instrument Approach Procedure

Acronym	Meaning
IFP	Instrument Flight Procedure
IFR	Instrument Flight Rules
nm	nautical mile
RA	Resolution Advisories
SID	Standard Instrument Departure
SSSI	Site of Special Scientific Interest
STAR	Standard Instrument Arrival
VFR	Visual Flight Rules

1 Introduction & Background

1.1 Context

The current UK current airspace system was designed many years ago; since then ever-increasing air traffic congestion has led to reduced airspace efficiency. Improvements in aircraft technology and performance now present an opportunity to modernise UK airspace and flight procedures. Such modernisation also allows the UK aviation community to exploit opportunities to enhance the overall environmental performance of the airspace system, where these exist.

Over the last few years, the majority of UK airports, including Exeter Airport, have been modernising their Instrument Flight Procedures (IFPs). IFPs is a term used to describe the published profiles aircraft fly over the ground, both in plan and elevation view when arriving at and departing from an airport. Modernisation will ensure that operations at UK airports can be conducted more efficiently for the benefit of both operators, fare-paying passengers and local communities.

Exeter & Devon Airport Ltd (EDAL) has identified a requirement to adapt the existing airspace structure surrounding the Airport to assist Air Traffic Control (ATC) in providing enhanced levels of information to aircraft operating in and out of Exeter Airport and to aircraft operating in the local area.

1.2 Background

This project concerns an entirely new submission of an Airspace Change Proposal (ACP) to the Civil Aviation Authority (CAA) to adapt the existing airspace structure at Exeter Airport.

EDAL plays a key part in the regional economy; therefore, it is essential that it continues to develop Exeter Airport to its full potential, while also respecting and supporting the needs of the local and transitory flight operations and aviation communities.

Despite continued economic pressures in Europe, passenger numbers at Exeter Airport have increased by 37% between 2012/13 and 2018/19 and with the introduction of new routes, EDAL anticipates that this will continue to increase in the coming years. EDAL considers that the increased volume of traffic warrants a greater level of protection for flight procedures for now and into the future. The improved protection will facilitate an additional layer of safety and improve the effective and efficient management of local air traffic.

Increased air traffic levels, changes in regulatory guidance, improved aircraft performance and enhanced navigational system accuracy and reliability have all contributed to the emerging need for a re-design of the airspace surrounding Exeter Airport. Although Exeter ATC handles the current operational issues safely and effectively on a tactical basis, the anticipated increase in traffic may result in overload situations as controllers try to accommodate more aircraft in a limited volume of airspace, particularly to the east of the Airport.

The principal area of concern regarding current operations at Exeter is one of limited protection currently afforded to commercial aircraft, including passenger-carrying airliners, operating near the airport.

In order to maintain levels of safety and enhance airspace efficiency, whilst causing minimal disruption to all aviation stakeholders, Exeter propose to establish new airspace around the existing Exeter Airport Aerodrome Traffic Zone (ATZ) that will:

- Safeguard routinely utilised flights operating under Instrument Flight Rules (IFR) at Exeter Airport.
- Ensure safe separation between the IFR traffic and promote proactive coordination of traffic operating under Visual Flight Rules (VFR) near the Airport.
- Protect aircraft operating within the Visual Circuit at Exeter Airport that routinely need to extend beyond the boundary of the ATZ.
- Enhance efficiency by providing airspace that will reduce the instances of avoiding action.
- Reduce traffic delays on the ground and in the air.

The rules regarding the provision of an Air Traffic Service (ATS) to aircraft in Class G airspace are designed to minimise the risks to all aircraft. The ability of air traffic controllers to intervene with traffic avoidance instructions, given the rates of closure and climb/descent profiles, is limited. On initial departure and final approach commercial aircraft also have limited manoeuvrability and therefore a limited manoeuvrability response to warnings. The busy Class G airspace environment at Exeter Airport has led to a number of reportable safety events between unknown aircraft and aircraft arriving at and departing from Exeter Airport in recent years:

Three Air Proximity (AIRPROX)[1] events were recorded in 2016 and three in 2018, and the airport has logged 139 observations of unknown aircraft in 11 months since May 2018. Exeter ATC continue to intervene in potential safety events every week, delaying or halting departures, providing avoidance instructions and extending departure and arrival routes. The events have included:

- 12 aircraft broken off final approach;
- 7 aircraft given avoiding action;
- 2 aircraft electing to continue approach at own risk;
- 82 aircraft were given extended routing or delayed due to unknown aircraft.

These incidents create a significant increase in workload for pilots and distract ATC from the task of ATS provision. Additionally, the arrival and departure phase of flight is a particularly busy time on the flight deck, when unexpected ATC interventions (often at very short notice) add significantly to pilot workload. While current operations are tolerably safe, a disproportionate amount of controller capacity is consumed ensuring this is the case. There have also been occasions where the prevalence of unknown traffic operating within the vicinity of the Airport could easily lead to a degradation of safety margins.

Exeter Airport continues to monitor, record and analyse the frequency of ATC intervention, and is devising a campaign to raise awareness of the importance of reporting with all commercial and private operators based at the aerodrome.

Exeter Airport understands that some people may have concerns about any airspace change. We will therefore need to ensure that this planned change balances the requirement to provide enhanced levels of information to aircraft operating in and out of Exeter Airport and to aircraft operating in the local area with the requirements of local communities, whilst at the same time minimising the environmental impacts. Transparency and engagement with local communities is at the heart of the new Civil Aviation Publication (CAP) 1616 process, and the questionnaire later in this document (Section 5) will help us to gather your views to assist in the development of Design Principles; these will serve as the framework against which the new airspace design options can be prepared. This will also help us to ensure that the new airspace is designed, wherever practicable, in accordance with the priorities of those people most likely to be affected by its introduction.

1.3 Governmental Guidance and the CAP 1616 Process

Under section 66 of the Transport Act 2000, the Secretary of State gave the CAA (the UK aviation independent regulator) a number of airspace-related functions, including: the duty to develop policy and strategy on the classification and use of airspace; to publish the UK airspace design; and to approve changes to it. Under section 70 of the Transport Act 2000, the CAA has a duty to take several factors into account when considering whether to agree to an airspace change proposal; this includes taking account of specific guidance on the environmental objectives contained within the current Air Navigation Guidance.

At the beginning of 2018 the CAA introduced a new process that the regulator and sponsors of airspace change proposals should follow when proposing any airspace change. This new process was developed to ensure a greater level of transparency and two-way engagement with local communities. The new process is described in the CAA publication (CAP) 1616, at the link below:

https://publicapps.caa.co.uk/docs/33/CAP1616E2interactive.pdf

The CAP 1616 Airspace Design process sets out the CAA's role to approve changes to airspace design[2], and to the law and policy which govern the CAA role. The guidance in CAP 1616 sets out the framework for the stages of the process and the activities that must be undertaken from the conception of the need for a change. It details what must be undertaken during the airspace re-design; the consulting and engagement requirements with those potentially impacted; how to assess the impacts of different design options from a safety, operational and environmental perspective; and ultimately how the regulatory decision will be made. If an airspace design change is approved by the CAA, the guidance also covers implementation and the subsequent Post-implementation Review[3] that assesses how the airspace change has performed since introduction and whether the anticipated impacts and benefits defined in the original proposal and decision have been delivered.

[2] Defined by CAP 1616 as: "Together, the airspace structure and flight procedures."
[3] Post Implementation Review (PIR), ideally conducted one year after implementation of the changes.

2 Exeter Airport Operations

2.1 Introduction

Exeter Airport is located within uncontrolled Class G airspace, where aircraft are not subject to mandatory compliance with ATC instructions and are only required to adhere to a small set of compulsory flight rules. Consequently, aircraft can enter, leave and transit the airspace without ATC permission. Exeter has an established Aerodrome Traffic Zone (ATZ), which is also classified as Class G airspace, of radius 2.5 nautical miles (nm) centred on the Exeter Airport Aerodrome Reference Point (ARP), expanding from ground level to 2,000 ft above aerodrome level (aal). The ATZ is the only airspace established to provide aircraft operating at Exeter Airport with any degree of protection. Pilots of aircraft within the ATZ, or requesting entry into the ATZ are required to make their presence known to Exeter ATC and comply with ATC instructions. Figure 1 provides an indication of the current airspace profile that surrounds Exeter Airport.

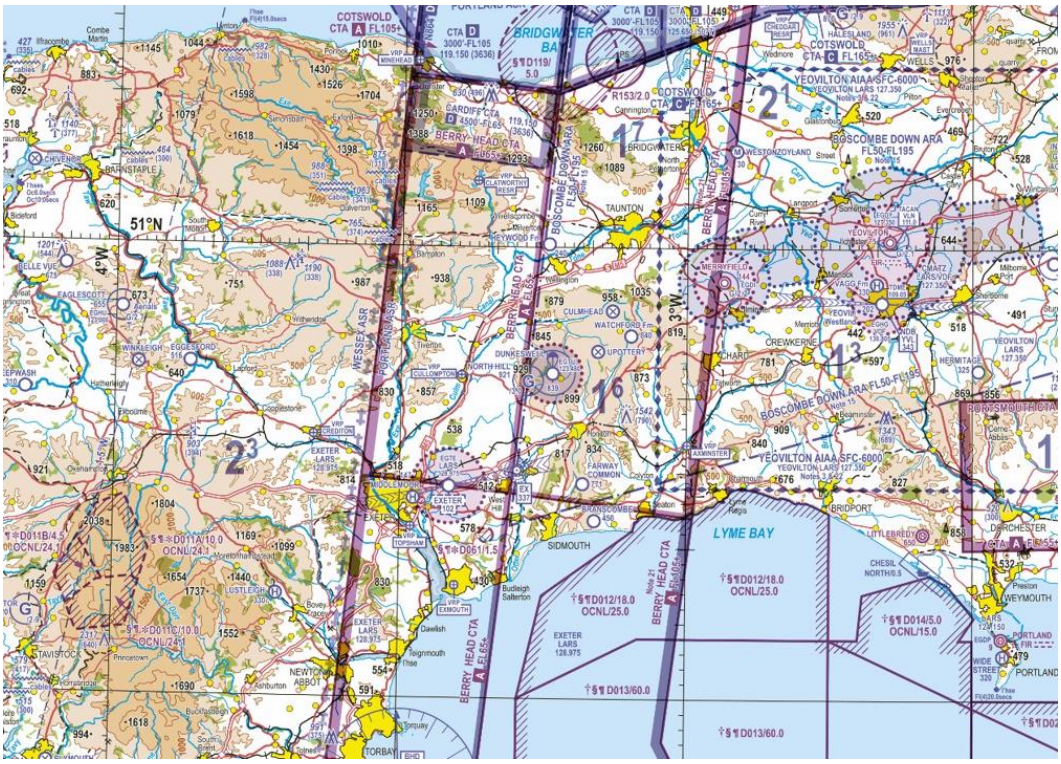

Figure 1 – Exeter Airport and the Current Surrounding Airspace

2.2 Current Operations

The majority of Commercial Air Transport (CAT) aircraft arrive via the N864 airway, which is Class A Controlled Airspace (CAS) (between the red parallel shaded lines that radiate from the bottom of the diagram, oriented, north-northeast over Exeter Airport in Figure 1 above)

which offers protection to CAT flying under Instrument Flight Rules (IFR)[4]. CAT is then vectored off, and below, this route into the Class G (uncontrolled airspace), to subsequently descend and make an approach to the Airport.

2.3 Airport Capacity

With the 37% increase in passenger numbers since 2012/13, , there is an associated growth in the number of CAT movements, projected to be 3% year on year growth for the next 5 years. Exeter Airport anticipates a projected increase in Air Transport Movements (ATM) of all types of aircraft (commercial, leisure, training, military etc.) in the near future. This detail is replicated from the Exeter Airport Management Business Plan is contained in Figure 2.

	FY17	FY18	FY19	FY20	FY21	FY22	FY23
Scheduled	11,509	11,675	11,889	13,612	15,766	17,302	18,692
IT Charter	1,280	1,279	1,287	1,358	1,296	1,388	1,382
Mail	499	500	495	508	506	506	508
General Aviation	9060	7874	8139	8,139	8,139	8,139	8,139
Corporate Aviation	2,050	1,948	1,793	2,110	2,215	2,326	2,442
Test & Training	11,949	11,429	12,628	11,952	11,952	11,952	11,952
Military & Official	400	716	650	661	661	661	661
Compass Swing	59	35	25	33	33	33	33
Engine Testing	180	184	212	192	192	192	192
Maintenance	401	463	504	519	519	519	519
Medical	11	8	4	3	3	3	3
Overshoots	1,128	1,258	1,303	1,298	1,298	1,298	1,298
Others	3,554	3,705	3,884	3,897	3,897	3,897	3,897
Total	42,080	41,074	42,748	44,282	46,477	48,216	49,718

Figure 2 – Projected Exeter Airport ATM

2.4 Why is a Change Required?

The current operations of commercial and passenger carrying aircraft operating in and out of Exeter Airport in Class G uncontrolled airspace requires recurrent ATC tactical

[4] The most important concept of IFR flying is that separation is maintained regardless of weather conditions.

intervention. This may include the re-routing of arriving aircraft or delaying the departure of commercial passenger traffic in order to ensure the safety of all airspace users. This practice inevitably brings CAT into potential conflict with local General Aviation (GA) and transitory air traffic operating in Class G airspace, often during the most critical stages of flight.

Given the speeds, rates of climb/descent, and manoeuvrability of the CAT, the ability of air traffic controllers to intervene with traffic avoidance instructions, or for airline pilots to respond to Airborne Collision Avoidance System (ACAS) warnings, or, as they are known, 'Resolution Advisories' (RA), is limited. This difficult environment has led to reportable safety events, between unknown aircraft and aircraft arriving and departing to/from Exeter Airport, resulting in 3 Air Proximity (AIRPROX)[5] in 2016 and over 600 recorded instances of controller intervention due to unknown aircraft over an 8-year period (2009 – 2016). These incidents create a significant increase in workload and distract ATC from the task of providing a service in Class G uncontrolled airspace. Additionally, the arrival and departure phase of flight is a busy time on the flight deck, unexpected ATC interventions (often at very short notice) add significantly to pilot workload too and adds uncertainty into CAT operations. While current operations are safe, there have been occasions where the prevalence of unknown traffic operating within the vicinity of the Airport could have potentially led to a degradation of safety margins.

The introduction of an alternative airspace arrangement would mean that the routing of CAT and transitory aircraft would be more predictable and regularised. This in turn would reduce airspace traffic interactions and flight deck workload as well as reducing ATC workload. Additional benefits would be the provision of a greater level of integrity and efficiency to all local airspace users and the implementation of a known air traffic environment. Altogether, Exeter ATC would be able to provide a greater level of protection to local and transiting aircraft.

[5] An AIRPROX is a situation in which, in the opinion of a pilot or air traffic services personnel, the distance between aircraft as well as their relative positions and speed have been such that the safety of the aircraft involved may have been compromised.

3 Points for Consideration

3.1 Introduction

This section provides some information and further explanation that you may wish to read before considering your responses to the questions at Section 5.

3.2 Airspace Structure

The airspace in the UK is a complex 'invisible infrastructure' that helps a diverse variety of airspace users, including commercial, cargo, military and leisure users, to operate safely in the sky. The airspace is divided into three-dimensional segments, each of which is assigned a specific class, as depicted in the example picture at Figure 3 below. The classification of the airspace determines the flight rules which apply to the aircraft flying within each particular area and also the minimum air traffic services which are to be provided. In the UK, there are currently five classes of airspace; A, C, D, E and G. Classes A, C, D and E are areas of CAS and Class G is uncontrolled airspace.

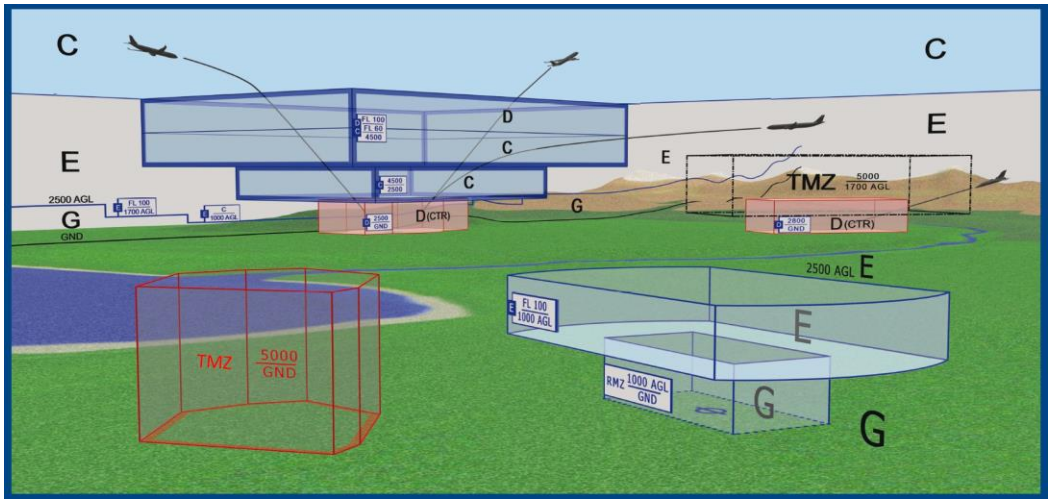

Figure 3 – Example Airspace Structure

CAS is provided primarily to protect its users, and as such, aircraft which fly within CAS must be equipped to a certain standard and their pilots must obtain clearance from ATC to enter such airspace and follow ATC instructions implicitly.

In addition to being given a class, CAS may be further defined by its type, depending on where it is and the function it describes.

- Control Zones (CTZ) – provides protection to aircraft in the immediate vicinity of an aerodrome, extending from the surface to a specified upper limit.
- Control Areas (CTR) – situated above the ATZ or CTZ and provides protection over a larger area from a specified lower limit (not necessarily the surface) to a specified upper limit.

3.3 Instrument Flight Procedures

Instrument Flight Procedures (IFPs) is a term used to describe the published profiles aircraft fly over the ground, both in plan and elevation view when arriving at and departing from an airport. There are 3 main types of IFPs; a Standard Instrument Departure (SID) for aircraft departing an airport, a Standard Instrument Arrival (STAR) for airport arriving at an airport and an Instrument Approach Procedure (IAP) for aircraft making an approach to land.

Exeter Airport does not have, and is not intending to introduce SID or STAR procedures for aircraft operating at the airport. Routing to and from the en-route airways structure will be facilitated by tactical instructions from ATC, which currently leads to the natural dispersion of aircraft around the local area, depending on the routing the aircraft needs to take. When answering the questions below, please consider that the routes aircraft take may become more concentrated to remain within the new airspace structure.

An IAP is a series of pre-determined manoeuvres by reference to flight instruments which guide the aircraft, with specific protection from ground obstacles, to a point from where a successful landing can be completed or, if the landing is not completed, to an appropriate holding point. These procedures may be flown with reference to either conventional ground-based navigation aids or with reference to Global Navigation Satellite Systems (GNSS). GNSS is the standard generic term for satellite navigation systems that provide autonomous geo-spatial positioning with global coverage. This term includes, for example, the GPS (US), GLONASS (Russia), Galileo (European), BeiDou (China) and other regional systems.

IAPs will generally only affect the flight path of an aircraft when within approximately 15 miles of the airport. In order to execute a successful landing, aircraft will need to be aligned with the runway heading for approximately the final 8 miles of the approach, so regardless of the type of procedure flown, the heights and locations overflown at this stage of flight will be very similar for all types of approaches. Exeter Airport currently has IAPs that use both ground-based beacons and GNSS technology; Exeter Airport is not intending to change these procedures with this ACP and as a result, the tracks over the ground that aircraft fly are unlikely to change.

3.4 Urban and Rural Areas

You may wish to consider the advantages and disadvantages of designing airspace that may concentrate aircraft over either urban or rural areas. Flights over more sparsely populated areas may seem to be the best alternative. However, you may also wish to consider the levels of background noise when balancing the urban and rural alternatives. Aircraft flying over urban areas will pass over a larger number of people and residences. However, in urban areas the levels of background noise are likely to be much higher than in rural areas. Consequently, aircraft noise may be masked because of higher noise levels associated with traffic and many other background activities, common in urban locations.

3.5 Open Areas

In many urban locations you may feel it is important to protect quiet or open areas (e.g. parks) by designing airspace that avoids these areas. However, in large urban areas it may

not be possible to avoid overflight of quiet areas and, at the same time, also avoid overflight of more densely populated areas. This may be because of the proximity of runways to urban areas or to the orientation of the runway itself.

3.6 Noise and Emissions

An aircraft flying a straight line directly from one location to another is the most efficient routing option because it represents the shortest distance and time between locations. When flying a longer route between the same locations (perhaps to minimise noise impacts in a sensitive area) the distance and time of the flight will increase, as will the fuel burn and associated emissions into the atmosphere. When answering the questions, please consider this balance between noise and emissions in general terms.

3.7 Time of Day or Different Operations on Different Days.

When responding to the questions, you may also wish to consider whether your comments are applicable by day or by night, or whether you feel that priorities should change over the 24-hr period, or day to day.

4 Engagement & How to Respond

4.1 Engagement

Exeter Airport has a relationship with its local communities and remains committed to involving local stakeholders who may wish to offer their views on any operational changes. It is important to Exeter Airport to conduct effective engagement in a transparent way, and in accordance with the guidance contained within Stage 1 (Define) of the CAA CAP 1616 process. We recognise the importance of capturing the views of both local aviation and non-aviation stakeholders who may wish to express their views concerning any future changes.

It is important to understand that at this stage of the process our initial engagement is limited to a selection of representative bodies and individuals who can offer views on behalf of their local organisations and communities. These views will help us to formulate some Design Principles, which you will have an opportunity to review. The Design Principles will themselves provide the framework against which Design Options for the new airspace can be evaluated. After the Design Options are drawn up, Exeter Airport will share these with the same representative bodies involved in developing the Design Principles. It is worth noting that the more detailed Design Options will be subject to a formal consultation exercise, currently planned to take place between March and July 2020.

4.2 How to Respond

As stated before, this document has been produced to help us ascertain the views of our local non-aviation and aviation stakeholders. We have developed the questions below in Section 5 and would encourage you to insert your responses in the enclosed table and return this to us as described below.

Please do not feel constrained in your response to any question. If you wish to highlight any other relevant local constraints or issues, then Exeter Airport would welcome any feedback you choose to contribute that will support the development of our Design Principles. Your responses may be operational or environmental in nature but should be those you feel are most important to you or your represented community.

Please save the file that includes your responses and attach to an email to the following address:

acpexeterenquries@exeter-airport.co.uk

In addition to the word file, we will accept scanned, hand-written responses or email responses as long as they are legible and clearly identify the question to which your response relates.

It is important that individual email responses clearly show your name and contact details; this will allow us to cross-refer to the emails we send out.

We will also accept legible postal responses to the following address within the timescales specified below:

Airspace Change Proposal
Exeter & Devon Airport Ltd
Clyst Honiton
Exeter
EX5 2BD

4.3 Focus Groups

In addition to the questionnaire attached, Exeter Airport is organising 2 Focus Groups with stakeholders, where any additional views from the discussions will be recorded. Following analysis of all the views articulated by the groups and in the individual responses to questionnaires, Exeter Airport will draft the Design Principles document, for further review and subsequent submission to the CAA.

Invitations for these Focus Groups will be sent out separately by EDAL.

4.4 Timescale for responses

As briefly mentioned in paragraph 4.1 it is anticipated that the formal consultation will be conducted between March and July 2020. Exeter Airport will ensure any views expressed through this earlier engagement activity will also be recorded to inform the full consultation report.

In order that we can use your response to support our Design Principles activities, and in particular to help the Focus Group discussions, please send us your completed questionnaire by **Friday 31st May 2019.**

5 Stakeholder Questionnaire

5.1 Your Responses

The questions below are designed to help us understand the constraints that should be considered during the CAA CAP 1616 Design Principles step of the Define Stage (1). Please insert your responses below to each of the following questions; the size of the response box will expand as you type your response. Use as much space as you need, or alternatively attach additional sheets or documents making it clear which questions you are responding to. Save this and any other documents and return as described at paragraph 4.2 above. If any of the questions are not applicable or relevant, please say so against the appropriate question.

It should be noted that wherever possible, within the constraints that procedure designers are obliged to work to, designs will be developed to avoid built-up areas.

Please complete the following:

Representative Organisation:
for example: Airport Consultative Committee; Exeter City Council; Flybe etc.
Senior Pilot, National Police Air Service, Exeter

Question
Q1 - Please list any altitude constraints, together with your reasons, that you feel Exeter Airport could consider when designing its new airspace structure?
Your Response: Nil applicable. Our usual operating height is 1000' to 2000' agl. Thus any new airspace must permit local operations, eg Exeter city, within these parameters. I would expect that with any new CTZ and CTR, we would be operating within and thus under ATC control as we do around other regional airports, eg Bristol, Cardiff. I don't see any new airspace causing an issue.
Q2 - Please inform us of the latest proposed timescales for any neighbouring airspace/procedure re-design projects?
Your Response: Nil applicable.
Q3 - Please advise us of any future requirements for improved coordination (particularly adjacent/contiguous routes) between Exeter Airport and adjacent ATC units that should be considered during the development of the new Exeter Airport airspace structure?

Your Response:
Q4 - Are there any current Air Transport Movement coordination arrangements with Exeter Airport that you would like to see remain or change as a result of Exeter Airport's new airspace design? Please provide a brief description.
Your Response:
Q5 - Are there any aspects of the Future Airspace Strategy (FAS) (e.g. airway entry/exit points, existing planned or new handover points) that Exeter Airport should take into account in the design of the new airspace? Please provide details.
Your Response: Not applicable for police operations.
Q6 - Are you aware of anything in the CAA Airspace Modernisation Strategy that presents a risk or opportunity to Exeter Airport airspace development? Please provide details.
Your Response: No.
Q7 - Do you have an existing Letter of Agreement or Memorandum of Understanding or other agreement with Exeter Airport? If so, do you see this as: (a) An agreement you would like to see remain, preferably in its current form. (b) An opportunity to alter or extend this agreement – and how? (c) An agreement that is unfit for purpose (or may come to be as a result of the change).
Your Response: a
Q8 - Please let us know if there are any day time or night time constraints that you consider Exeter Airport could take into account when updating its airspace structure? Please provide details and reasons.

Your Response: We are a 24hr operation, thus any regulatory change or airspace amendment must continue to facilitate these operations, ie within the CTZ / CTR but outside airfield opening times.
Q9 - Please tell us if there are there any other operational constraints that Exeter Airport will need to consider when planning its new airspace?
Your Response: Nil.
Q10 - Please inform us of who you consider to be the other key local aviation stakeholders that you believe Exeter Airport should engage with during the process of designing its new airspace? Please provide details and reasons.
Your Response: I'm assuming that this has also been forwarded to the Devon Air Ambulance Trust, who are co-located in our building.
Q11 - Please provide details of any constraints imposed by restricted operations in the area encompassed by Exeter Airport flight operations (e.g. military operations, danger areas, restricted areas, route crossings, transit corridors, training areas etc.)?
Your Response: Nil.
Q12 - Please indicate if you feel there is a requirement for improved coordination between Exeter Airport and adjacent Air Navigation Service Providers (ATC) units that should be considered during the development of the Design Principles, Design Options and when implementing the new Exeter Airport airspace structure?
Your Response: No requirement.
Q13 - Please provide details of any issues or constraints due to local helicopter operations that you believe may have an impact on Exeter Airport's new airspace design project?

Your Response: As an emergency service helicopter operator, we would wish to ensure than any new airspace does not constrain us to any corridors but maintains our ability to depart direct to the area of operation as we currently do, within any actual traffic constraints and ATC permission to minimise response time.
Q14 - Please provide details of any issues or constraints due to local General Aviation operations, that you believe may have an impact on Exeter Airport's new airspace structure.
Your Response: Nil applicable.
Q15 - Please provide details of any constraints that may be occasioned by local gliding activities on the Exeter Airport's new airspace structure?
Your Response: Nil applicable.
Q16 - Please provide details of any impacts on General Aviation flying that you feel may be occasioned by any new airspace proposed by Exeter Airport.
Your Response: Nil applicable.
Q17 - When Exeter Airport designs new airspace, please list the facilities in your local area that you believe could be prioritised when considering aircraft noise (eg hospitals, schools, parks, hospices etc)?
Your Response: Not applicable for our operations.
Q18 - Please tell us if multiple routes that disperse noise across a greater number of households are more of a priority for you than a single route that concentrates noise along a track above a smaller number of households.

Your Response: Not applicable as we tend to depart by the most direct or expeditious route. On recovery, we will join as per the standard circuit traffic.
Q19 - Please identify any other areas, in adjacent council/borough areas, that in your opinion may be sensitive to either direct overflight or exposure to aircraft noise, including during the night-time period?
Your Response: Not applicable for our operations.
Q20 - Do you believe aircraft conducting continuous climbs or descents to/from altitude (where this is safe to do so) may improve (lessen) exposure to noise in your local area?
Your Response:
Q21 - Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to Areas of Outstanding Natural Beauty (AONB), Sites of Special Scientific Interest (SSSI) etc), that you feel aircraft could avoid?
Your Response:
Q22 - Please state what principles you believe Exeter Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner exhaust fumes or pollution?
Your Response:
Q23 - Please bring to our attention any recent or ongoing local environmental studies, you feel should be considered by Exeter Airport when designing the new airspace structure?

Your Response:
Q24 - Are there any other local development projects, perhaps currently at the planning stage, that Exeter Airport should be aware of and consider when planning its new airspace structure?
Your Response:
Q25 - Please list any other relevant local or national organisations that you believe Exeter Airport should ensure are involved in its formal consultation.
Your Response:
Q26 - Please provide the location of any future planned facilities you are aware of in your local area that could be considered sensitive to the impact of aircraft noise; please state why you feel this is necessary?
Your Response:
Q27 - Are there any areas that you feel will suffer more due to the impact of aircraft noise if the displacement of other aviation traffic were to occur due to the Exeter Airport airspace design project?
Your Response:
Q28 - If you were flying as a passenger from Exeter Airport, we would be grateful for any views you may wish to express about how Exeter Airport should consider the needs of the local community?

Your Response:
Q29 - Please advise us of any other issues or constraints you feel Exeter Airport could consider when designing its new airspace structure? Please provide details.
Your Response:

Table 1 – Stakeholder Questionnaire

Thank you for your cooperation in completing this questionnaire. Your comments will provide a valuable input to aid development of the Design Principles against which the options for the Exeter Airport airspace design can be developed.

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GA	General Aviation
GNSS	Global Navigation Satellite System
IAP	Instrument Approach Procedure

Acronym	Meaning
IFP	Instrument Flight Procedure
IFR	Instrument Flight Rules
nm	nautical mile
RA	Resolution Advisories
SID	Standard Instrument Departure
SSSI	Site of Special Scientific Interest
STAR	Standard Instrument Arrival
VFR	Visual Flight Rules

1 Introduction & Background

1.1 Context

The current UK current airspace system was designed many years ago; since then ever-increasing air traffic congestion has led to reduced airspace efficiency. Improvements in aircraft technology and performance now present an opportunity to modernise UK airspace and flight procedures. Such modernisation also allows the UK aviation community to exploit opportunities to enhance the overall environmental performance of the airspace system, where these exist.

Over the last few years, the majority of UK airports, including Exeter Airport, have been modernising their Instrument Flight Procedures (IFPs). IFPs is a term used to describe the published profiles aircraft fly over the ground, both in plan and elevation view when arriving at and departing from an airport. Modernisation will ensure that operations at UK airports can be conducted more efficiently for the benefit of both operators, fare-paying passengers and local communities.

Exeter & Devon Airport Ltd (EDAL) has identified a requirement to adapt the existing airspace structure surrounding the Airport to assist Air Traffic Control (ATC) in providing enhanced levels of information to aircraft operating in and out of Exeter Airport and to aircraft operating in the local area.

1.2 Background

This project concerns an entirely new submission of an Airspace Change Proposal (ACP) to the Civil Aviation Authority (CAA) to adapt the existing airspace structure at Exeter Airport.

EDAL plays a key part in the regional economy; therefore, it is essential that it continues to develop Exeter Airport to its full potential, while also respecting and supporting the needs of the local and transitory flight operations and aviation communities.

Despite continued economic pressures in Europe, passenger numbers at Exeter Airport have increased by 37% between 2012/13 and 2018/19 and with the introduction of new routes, EDAL anticipates that this will continue to increase in the coming years. EDAL considers that the increased volume of traffic warrants a greater level of protection for flight procedures for now and into the future. The improved protection will facilitate an additional layer of safety and improve the effective and efficient management of local air traffic.

Increased air traffic levels, changes in regulatory guidance, improved aircraft performance and enhanced navigational system accuracy and reliability have all contributed to the emerging need for a re-design of the airspace surrounding Exeter Airport. Although Exeter ATC handles the current operational issues safely and effectively on a tactical basis, the anticipated increase in traffic may result in overload situations as controllers try to accommodate more aircraft in a limited volume of airspace, particularly to the east of the Airport.

The principal area of concern regarding current operations at Exeter is one of limited protection currently afforded to commercial aircraft, including passenger-carrying airliners, operating near the airport.

In order to maintain levels of safety and enhance airspace efficiency, whilst causing minimal disruption to all aviation stakeholders, Exeter propose to establish new airspace around the existing Exeter Airport Aerodrome Traffic Zone (ATZ) that will:

- Safeguard routinely utilised flights operating under Instrument Flight Rules (IFR) at Exeter Airport.
- Ensure safe separation between the IFR traffic and promote proactive coordination of traffic operating under Visual Flight Rules (VFR) near the Airport.
- Protect aircraft operating within the Visual Circuit at Exeter Airport that routinely need to extend beyond the boundary of the ATZ.
- Enhance efficiency by providing airspace that will reduce the instances of avoiding action.
- Reduce traffic delays on the ground and in the air.

The rules regarding the provision of an Air Traffic Service (ATS) to aircraft in Class G airspace are designed to minimise the risks to all aircraft. The ability of air traffic controllers to intervene with traffic avoidance instructions, given the rates of closure and climb/descent profiles, is limited. On initial departure and final approach commercial aircraft also have limited manoeuvrability and therefore a limited manoeuvrability response to warnings. The busy Class G airspace environment at Exeter Airport has led to a number of reportable safety events between unknown aircraft and aircraft arriving at and departing from Exeter Airport in recent years:

Three Air Proximity (AIRPROX)[1] events were recorded in 2016 and three in 2018, and the airport has logged 139 observations of unknown aircraft in 11 months since May 2018. Exeter ATC continue to intervene in potential safety events every week, delaying or halting departures, providing avoidance instructions and extending departure and arrival routes. The events have included:

- 12 aircraft broken off final approach;
- 7 aircraft given avoiding action;
- 2 aircraft electing to continue approach at own risk;
- 82 aircraft were given extended routing or delayed due to unknown aircraft.

These incidents create a significant increase in workload for pilots and distract ATC from the task of ATS provision. Additionally, the arrival and departure phase of flight is a particularly busy time on the flight deck, when unexpected ATC interventions (often at very short notice) add significantly to pilot workload. While current operations are tolerably safe, a disproportionate amount of controller capacity is consumed ensuring this is the case. There have also been occasions where the prevalence of unknown traffic operating within the vicinity of the Airport could easily lead to a degradation of safety margins.

Exeter Airport continues to monitor, record and analyse the frequency of ATC intervention, and is devising a campaign to raise awareness of the importance of reporting with all commercial and private operators based at the aerodrome.

Exeter Airport understands that some people may have concerns about any airspace change. We will therefore need to ensure that this planned change balances the requirement to provide enhanced levels of information to aircraft operating in and out of Exeter Airport and to aircraft operating in the local area with the requirements of local communities, whilst at the same time minimising the environmental impacts. Transparency and engagement with local communities is at the heart of the new Civil Aviation Publication (CAP) 1616 process, and the questionnaire later in this document (Section 5) will help us to gather your views to assist in the development of Design Principles; these will serve as the framework against which the new airspace design options can be prepared. This will also help us to ensure that the new airspace is designed, wherever practicable, in accordance with the priorities of those people most likely to be affected by its introduction.

1.3 Governmental Guidance and the CAP 1616 Process

Under section 66 of the Transport Act 2000, the Secretary of State gave the CAA (the UK aviation independent regulator) a number of airspace-related functions, including: the duty to develop policy and strategy on the classification and use of airspace; to publish the UK airspace design; and to approve changes to it. Under section 70 of the Transport Act 2000, the CAA has a duty to take several factors into account when considering whether to agree to an airspace change proposal; this includes taking account of specific guidance on the environmental objectives contained within the current Air Navigation Guidance.

At the beginning of 2018 the CAA introduced a new process that the regulator and sponsors of airspace change proposals should follow when proposing any airspace change. This new process was developed to ensure a greater level of transparency and two-way engagement with local communities. The new process is described in the CAA publication (CAP) 1616, at the link below:

https://publicapps.caa.co.uk/docs/33/CAP1616E2interactive.pdf

The CAP 1616 Airspace Design process sets out the CAA's role to approve changes to airspace design[2], and to the law and policy which govern the CAA role. The guidance in CAP 1616 sets out the framework for the stages of the process and the activities that must be undertaken from the conception of the need for a change. It details what must be undertaken during the airspace re-design; the consulting and engagement requirements with those potentially impacted; how to assess the impacts of different design options from a safety, operational and environmental perspective; and ultimately how the regulatory decision will be made. If an airspace design change is approved by the CAA, the guidance also covers implementation and the subsequent Post-implementation Review[3] that assesses how the airspace change has performed since introduction and whether the anticipated impacts and benefits defined in the original proposal and decision have been delivered.

[2] Defined by CAP 1616 as: "Together, the airspace structure and flight procedures."
[3] Post Implementation Review (PIR), ideally conducted one year after implementation of the changes.

2 Exeter Airport Operations

2.1 Introduction

Exeter Airport is located within uncontrolled Class G airspace, where aircraft are not subject to mandatory compliance with ATC instructions and are only required to adhere to a small set of compulsory flight rules. Consequently, aircraft can enter, leave and transit the airspace without ATC permission. Exeter has an established Aerodrome Traffic Zone (ATZ), which is also classified as Class G airspace, of radius 2.5 nautical miles (nm) centred on the Exeter Airport Aerodrome Reference Point (ARP), expanding from ground level to 2,000 ft above aerodrome level (aal). The ATZ is the only airspace established to provide aircraft operating at Exeter Airport with any degree of protection. Pilots of aircraft within the ATZ, or requesting entry into the ATZ are required to make their presence known to Exeter ATC and comply with ATC instructions. Figure 1 provides an indication of the current airspace profile that surrounds Exeter Airport.

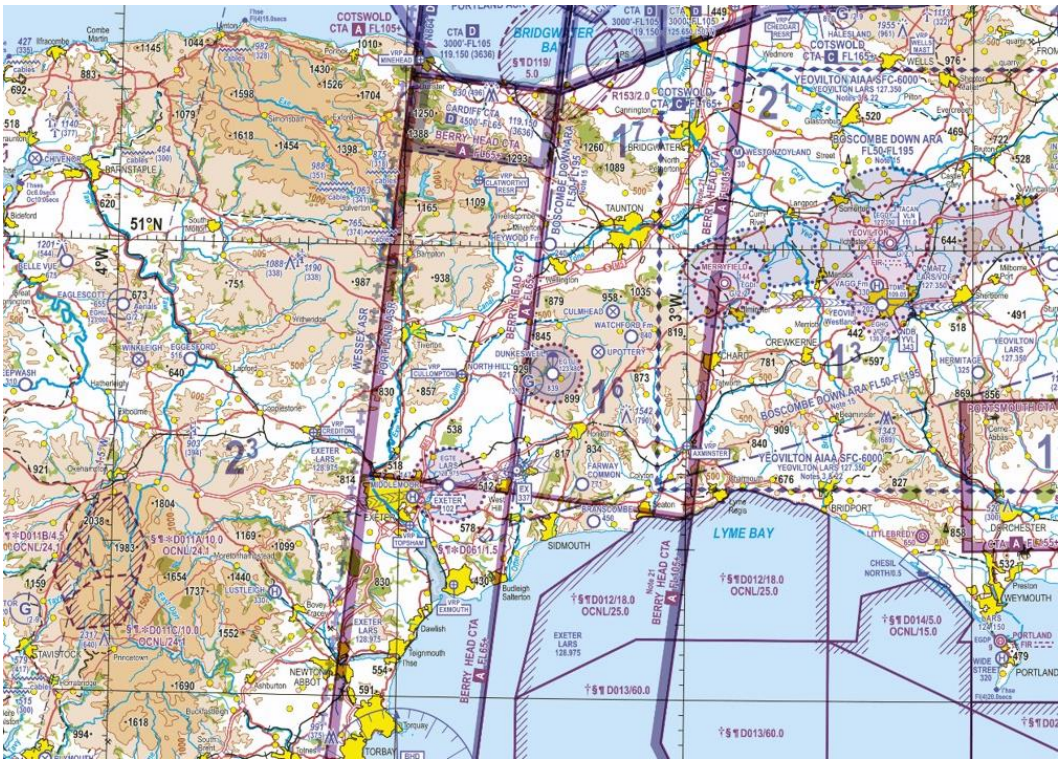


Figure 1 – Exeter Airport and the Current Surrounding Airspace

2.2 Current Operations

The majority of Commercial Air Transport (CAT) aircraft arrive via the N864 airway, which is Class A Controlled Airspace (CAS) (between the red parallel shaded lines that radiate from the bottom of the diagram, oriented, north-northeast over Exeter Airport in Figure 1 above)

which offers protection to CAT flying under Instrument Flight Rules (IFR)[4]. CAT is then vectored off, and below, this route into the Class G (uncontrolled airspace), to subsequently descend and make an approach to the Airport.

2.3 Airport Capacity

With the 37% increase in passenger numbers since 2012/13, , there is an associated growth in the number of CAT movements, projected to be 3% year on year growth for the next 5 years. Exeter Airport anticipates a projected increase in Air Transport Movements (ATM) of all types of aircraft (commercial, leisure, training, military etc.) in the near future. This detail is replicated from the Exeter Airport Management Business Plan is contained in Figure 2.

	FY17	FY18	FY19	FY20	FY21	FY22	FY23
Scheduled	11,509	11,675	11,889	13,612	15,766	17,302	18,692
IT Charter	1,280	1,279	1,287	1,358	1,296	1,388	1,382
Mail	499	500	495	508	506	506	508
General Aviation	9060	7874	8139	8,139	8,139	8,139	8,139
Corporate Aviation	2,050	1,948	1,793	2,110	2,215	2,326	2,442
Test & Training	11,949	11,429	12,628	11,952	11,952	11,952	11,952
Military & Official	400	716	650	661	661	661	661
Compass Swing	59	35	25	33	33	33	33
Engine Testing	180	184	212	192	192	192	192
Maintenance	401	463	504	519	519	519	519
Medical	11	8	4	3	3	3	3
Overshoots	1,128	1,258	1,303	1,298	1,298	1,298	1,298
Others	3,554	3,705	3,884	3,897	3,897	3,897	3,897
Total	42,080	41,074	42,748	44,282	46,477	48,216	49,718

Figure 2 – Projected Exeter Airport ATM

2.4 Why is a Change Required?

The current operations of commercial and passenger carrying aircraft operating in and out of Exeter Airport in Class G uncontrolled airspace requires recurrent ATC tactical

[4] The most important concept of IFR flying is that separation is maintained regardless of weather conditions.

intervention. This may include the re-routing of arriving aircraft or delaying the departure of commercial passenger traffic in order to ensure the safety of all airspace users. This practice inevitably brings CAT into potential conflict with local General Aviation (GA) and transitory air traffic operating in Class G airspace, often during the most critical stages of flight.

Given the speeds, rates of climb/descent, and manoeuvrability of the CAT, the ability of air traffic controllers to intervene with traffic avoidance instructions, or for airline pilots to respond to Airborne Collision Avoidance System (ACAS) warnings, or, as they are known, 'Resolution Advisories' (RA), is limited. This difficult environment has led to reportable safety events, between unknown aircraft and aircraft arriving and departing to/from Exeter Airport, resulting in 3 Air Proximity (AIRPROX)[5] in 2016 and over 600 recorded instances of controller intervention due to unknown aircraft over an 8-year period (2009 – 2016). These incidents create a significant increase in workload and distract ATC from the task of providing a service in Class G uncontrolled airspace. Additionally, the arrival and departure phase of flight is a busy time on the flight deck, unexpected ATC interventions (often at very short notice) add significantly to pilot workload too and adds uncertainty into CAT operations. While current operations are safe, there have been occasions where the prevalence of unknown traffic operating within the vicinity of the Airport could have potentially led to a degradation of safety margins.

The introduction of an alternative airspace arrangement would mean that the routing of CAT and transitory aircraft would be more predictable and regularised. This in turn would reduce airspace traffic interactions and flight deck workload as well as reducing ATC workload. Additional benefits would be the provision of a greater level of integrity and efficiency to all local airspace users and the implementation of a known air traffic environment. Altogether, Exeter ATC would be able to provide a greater level of protection to local and transiting aircraft.

[5] An AIRPROX is a situation in which, in the opinion of a pilot or air traffic services personnel, the distance between aircraft as well as their relative positions and speed have been such that the safety of the aircraft involved may have been compromised.

3 Points for Consideration

3.1 Introduction

This section provides some information and further explanation that you may wish to read before considering your responses to the questions at Section 5.

3.2 Airspace Structure

The airspace in the UK is a complex 'invisible infrastructure' that helps a diverse variety of airspace users, including commercial, cargo, military and leisure users, to operate safely in the sky. The airspace is divided into three-dimensional segments, each of which is assigned a specific class, as depicted in the example picture at Figure 3 below. The classification of the airspace determines the flight rules which apply to the aircraft flying within each particular area and also the minimum air traffic services which are to be provided. In the UK, there are currently five classes of airspace; A, C, D, E and G. Classes A, C, D and E are areas of CAS and Class G is uncontrolled airspace.

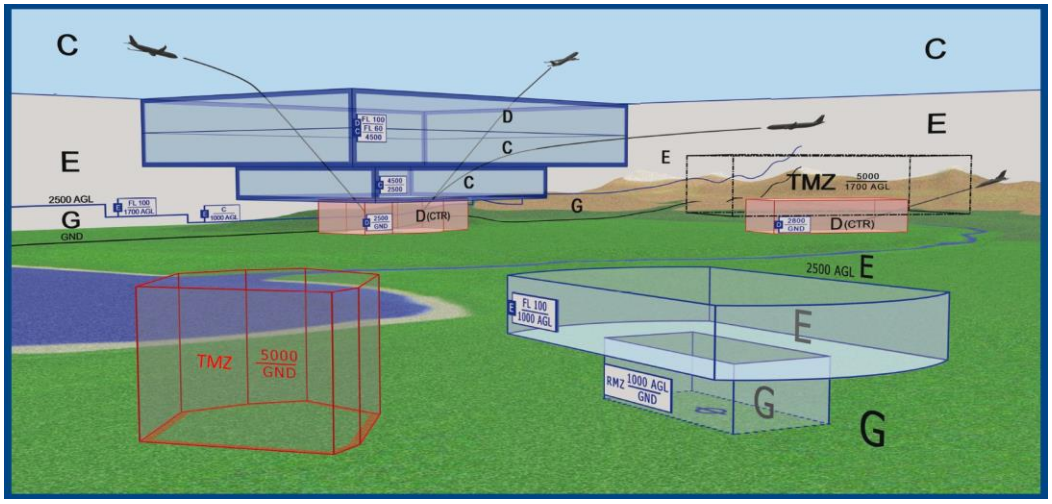


Figure 3 – Example Airspace Structure

CAS is provided primarily to protect its users, and as such, aircraft which fly within CAS must be equipped to a certain standard and their pilots must obtain clearance from ATC to enter such airspace and follow ATC instructions implicitly.

In addition to being given a class, CAS may be further defined by its type, depending on where it is and the function it describes.

- Control Zones (CTZ) – provides protection to aircraft in the immediate vicinity of an aerodrome, extending from the surface to a specified upper limit.
- Control Areas (CTR) – situated above the ATZ or CTZ and provides protection over a larger area from a specified lower limit (not necessarily the surface) to a specified upper limit.

3.3 Instrument Flight Procedures

Instrument Flight Procedures (IFPs) is a term used to describe the published profiles aircraft fly over the ground, both in plan and elevation view when arriving at and departing from an airport. There are 3 main types of IFPs; a Standard Instrument Departure (SID) for aircraft departing an airport, a Standard Instrument Arrival (STAR) for airport arriving at an airport and an Instrument Approach Procedure (IAP) for aircraft making an approach to land.

Exeter Airport does not have, and is not intending to introduce SID or STAR procedures for aircraft operating at the airport. Routing to and from the en-route airways structure will be facilitated by tactical instructions from ATC, which currently leads to the natural dispersion of aircraft around the local area, depending on the routing the aircraft needs to take. When answering the questions below, please consider that the routes aircraft take may become more concentrated to remain within the new airspace structure.

An IAP is a series of pre-determined manoeuvres by reference to flight instruments which guide the aircraft, with specific protection from ground obstacles, to a point from where a successful landing can be completed or, if the landing is not completed, to an appropriate holding point. These procedures may be flown with reference to either conventional ground-based navigation aids or with reference to Global Navigation Satellite Systems (GNSS). GNSS is the standard generic term for satellite navigation systems that provide autonomous geo-spatial positioning with global coverage. This term includes, for example, the GPS (US), GLONASS (Russia), Galileo (European), BeiDou (China) and other regional systems.

IAPs will generally only affect the flight path of an aircraft when within approximately 15 miles of the airport. In order to execute a successful landing, aircraft will need to be aligned with the runway heading for approximately the final 8 miles of the approach, so regardless of the type of procedure flown, the heights and locations overflown at this stage of flight will be very similar for all types of approaches. Exeter Airport currently has IAPs that use both ground-based beacons and GNSS technology; Exeter Airport is not intending to change these procedures with this ACP and as a result, the tracks over the ground that aircraft fly are unlikely to change.

3.4 Urban and Rural Areas

You may wish to consider the advantages and disadvantages of designing airspace that may concentrate aircraft over either urban or rural areas. Flights over more sparsely populated areas may seem to be the best alternative. However, you may also wish to consider the levels of background noise when balancing the urban and rural alternatives. Aircraft flying over urban areas will pass over a larger number of people and residences. However, in urban areas the levels of background noise are likely to be much higher than in rural areas. Consequently, aircraft noise may be masked because of higher noise levels associated with traffic and many other background activities, common in urban locations.

3.5 Open Areas

In many urban locations you may feel it is important to protect quiet or open areas (e.g. parks) by designing airspace that avoids these areas. However, in large urban areas it may

not be possible to avoid overflight of quiet areas and, at the same time, also avoid overflight of more densely populated areas. This may be because of the proximity of runways to urban areas or to the orientation of the runway itself.

3.6 Noise and Emissions

An aircraft flying a straight line directly from one location to another is the most efficient routing option because it represents the shortest distance and time between locations. When flying a longer route between the same locations (perhaps to minimise noise impacts in a sensitive area) the distance and time of the flight will increase, as will the fuel burn and associated emissions into the atmosphere. When answering the questions, please consider this balance between noise and emissions in general terms.

3.7 Time of Day or Different Operations on Different Days.

When responding to the questions, you may also wish to consider whether your comments are applicable by day or by night, or whether you feel that priorities should change over the 24-hr period, or day to day.

4 Engagement & How to Respond

4.1 Engagement

Exeter Airport has a relationship with its local communities and remains committed to involving local stakeholders who may wish to offer their views on any operational changes. It is important to Exeter Airport to conduct effective engagement in a transparent way, and in accordance with the guidance contained within Stage 1 (Define) of the CAA CAP 1616 process. We recognise the importance of capturing the views of both local aviation and non-aviation stakeholders who may wish to express their views concerning any future changes.

It is important to understand that at this stage of the process our initial engagement is limited to a selection of representative bodies and individuals who can offer views on behalf of their local organisations and communities. These views will help us to formulate some Design Principles, which you will have an opportunity to review. The Design Principles will themselves provide the framework against which Design Options for the new airspace can be evaluated. After the Design Options are drawn up, Exeter Airport will share these with the same representative bodies involved in developing the Design Principles. It is worth noting that the more detailed Design Options will be subject to a formal consultation exercise, currently planned to take place between March and July 2020.

4.2 How to Respond

As stated before, this document has been produced to help us ascertain the views of our local non-aviation and aviation stakeholders. We have developed the questions below in Section 5 and would encourage you to insert your responses in the enclosed table and return this to us as described below.

Please do not feel constrained in your response to any question. If you wish to highlight any other relevant local constraints or issues, then Exeter Airport would welcome any feedback you choose to contribute that will support the development of our Design Principles. Your responses may be operational or environmental in nature but should be those you feel are most important to you or your represented community.

Please save the file that includes your responses and attach to an email to the following address:

acpexeterenquries@exeter-airport.co.uk

In addition to the word file, we will accept scanned, hand-written responses or email responses as long as they are legible and clearly identify the question to which your response relates.

It is important that individual email responses clearly show your name and contact details; this will allow us to cross-refer to the emails we send out.

We will also accept legible postal responses to the following address within the timescales specified below:

Airspace Change Proposal
Exeter & Devon Airport Ltd
Clyst Honiton
Exeter
EX5 2BD

4.3 Focus Groups

In addition to the questionnaire attached, Exeter Airport is organising 2 Focus Groups with stakeholders, where any additional views from the discussions will be recorded. Following analysis of all the views articulated by the groups and in the individual responses to questionnaires, Exeter Airport will draft the Design Principles document, for further review and subsequent submission to the CAA.

Invitations for these Focus Groups will be sent out separately by EDAL.

4.4 Timescale for responses

As briefly mentioned in paragraph 4.1 it is anticipated that the formal consultation will be conducted between March and July 2020. Exeter Airport will ensure any views expressed through this earlier engagement activity will also be recorded to inform the full consultation report.

In order that we can use your response to support our Design Principles activities, and in particular to help the Focus Group discussions, please send us your completed questionnaire by **Friday 31st May 2019.**

5 Stakeholder Questionnaire

5.1 Your Responses

The questions below are designed to help us understand the constraints that should be considered during the CAA CAP 1616 Design Principles step of the Define Stage (1). Please insert your responses below to each of the following questions; the size of the response box will expand as you type your response. Use as much space as you need, or alternatively attach additional sheets or documents making it clear which questions you are responding to. Save this and any other documents and return as described at paragraph 4.2 above. If any of the questions are not applicable or relevant, please say so against the appropriate question.

It should be noted that wherever possible, within the constraints that procedure designers are obliged to work to, designs will be developed to avoid built-up areas.

Please complete the following:

Representative Organisation:
for example: Airport Consultative Committee; Exeter City Council; Flybe etc.
UK Flight Safety Committee

Question
Q1 - Please list any altitude constraints, together with your reasons, that you feel Exeter Airport could consider when designing its new airspace structure?
Your Response: Any CAS at surface level (ATZ and CTZ) should be of the minimum possible dimensions.
Q2 - Please inform us of the latest proposed timescales for any neighbouring airspace/procedure re-design projects?
Your Response: No comment
Q3 - Please advise us of any future requirements for improved coordination (particularly adjacent/contiguous routes) between Exeter Airport and adjacent ATC units that should be considered during the development of the new Exeter Airport airspace structure?

Your Response: No comment
Q4 - Are there any current Air Transport Movement coordination arrangements with Exeter Airport that you would like to see remain or change as a result of Exeter Airport's new airspace design? Please provide a brief description.
Your Response: N/A
Q5 - Are there any aspects of the Future Airspace Strategy (FAS) (e.g. airway entry/exit points, existing planned or new handover points) that Exeter Airport should take into account in the design of the new airspace? Please provide details.
Your Response: The Future Airspace Strategy has been subsumed by the CAA Airspace Modernisation Strategy.
Q6 - Are you aware of anything in the CAA Airspace Modernisation Strategy that presents a risk or opportunity to Exeter Airport airspace development? Please provide details.
Your Response: The increasing importance of noise-preference routes
Q7 - Do you have an existing Letter of Agreement or Memorandum of Understanding or other agreement with Exeter Airport? If so, do you see this as: (a) An agreement you would like to see remain, preferably in its current form. (b) An opportunity to alter or extend this agreement – and how? (c) An agreement that is unfit for purpose (or may come to be as a result of the change).
Your Response: N/A
Q8 - Please let us know if there are any day time or night time constraints that you consider Exeter Airport could take into account when updating its airspace structure? Please provide details and reasons.

Your Response: No comment
Q9 - Please tell us if there are there any other operational constraints that Exeter Airport will need to consider when planning its new airspace?
Your Response: No comment
Q10 - Please inform us of who you consider to be the other key local aviation stakeholders that you believe Exeter Airport should engage with during the process of designing its new airspace? Please provide details and reasons.
Your Response: No comment
Q11 - Please provide details of any constraints imposed by restricted operations in the area encompassed by Exeter Airport flight operations (e.g. military operations, danger areas, restricted areas, route crossings, transit corridors, training areas etc.)?
Your Response: No other constraints known beyond those already promulgated.
Q12 - Please indicate if you feel there is a requirement for improved coordination between Exeter Airport and adjacent Air Navigation Service Providers (ATC) units that should be considered during the development of the Design Principles, Design Options and when implementing the new Exeter Airport airspace structure?
Your Response: No comment
Q13 - Please provide details of any issues or constraints due to local helicopter operations that you believe may have an impact on Exeter Airport's new airspace design project?

Your Response: No comment
Q14 - Please provide details of any issues or constraints due to local General Aviation operations, that you believe may have an impact on Exeter Airport's new airspace structure.
Your Response: Any new airspace structure should make full provision for the passage of GA and avoid the creation of choke points for VFR traffic
Q15 - Please provide details of any constraints that may be occasioned by local gliding activities on the Exeter Airport's new airspace structure?
Your Response: N/A
Q16 - Please provide details of any impacts on General Aviation flying that you feel may be occasioned by any new airspace proposed by Exeter Airport.
Your Response: You already asked this in Q14
Q17 - When Exeter Airport designs new airspace, please list the facilities in your local area that you believe could be prioritised when considering aircraft noise (eg hospitals, schools, parks, hospices etc)?
Your Response: No comment
Q18 - Please tell us if multiple routes that disperse noise across a greater number of households are more of a priority for you than a single route that concentrates noise along a track above a smaller number of households.

Your Response: As a general rule, noise exposure should be limited by the number of people affected.
Q19 - Please identify any other areas, in adjacent council/borough areas, that in your opinion may be sensitive to either direct overflight or exposure to aircraft noise, including during the night-time period?
Your Response: No comment
Q20 - Do you believe aircraft conducting continuous climbs or descents to/from altitude (where this is safe to do so) may improve (lessen) exposure to noise in your local area?
Your Response: Not local to Exeter, but CFDA are the most environmentally friendly arrivals.
Q21 - Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to Areas of Outstanding Natural Beauty (AONB), Sites of Special Scientific Interest (SSSI) etc), that you feel aircraft could avoid?
Your Response: No comment
Q22 - Please state what principles you believe Exeter Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner exhaust fumes or pollution?
Your Response: No comment
Q23 - Please bring to our attention any recent or ongoing local environmental studies, you feel should be considered by Exeter Airport when designing the new airspace structure?

Your Response: No comment
Q24 - Are there any other local development projects, perhaps currently at the planning stage, that Exeter Airport should be aware of and consider when planning its new airspace structure?
Your Response: No comment
Q25 - Please list any other relevant local or national organisations that you believe Exeter Airport should ensure are involved in its formal consultation.
Your Response: No comment
Q26 - Please provide the location of any future planned facilities you are aware of in your local area that could be considered sensitive to the impact of aircraft noise; please state why you feel this is necessary?
Your Response: No comment
Q27 - Are there any areas that you feel will suffer more due to the impact of aircraft noise if the displacement of other aviation traffic were to occur due to the Exeter Airport airspace design project?
Your Response: No comment
Q28 - If you were flying as a passenger from Exeter Airport, we would be grateful for any views you may wish to express about how Exeter Airport should consider the needs of the local community?

Your Response: No comment
Q29 - Please advise us of any other issues or constraints you feel Exeter Airport could consider when designing its new airspace structure? Please provide details.
Your Response: If the underlying policy is for IAP containment, the decision not to use SID/STAR makes no sense.

Table 1 – Stakeholder Questionnaire

Thank you for your cooperation in completing this questionnaire. Your comments will provide a valuable input to aid development of the Design Principles against which the options for the Exeter Airport airspace design can be developed.

[redacted]

From: ACP Exeter Enquiries <ACPExeterEnquiries@Exeter-airport.co.uk>
Sent: 03 June 2019 12:05
To: [redacted]
Cc:
Subject: FW: British Gliding Association - Response to - Exeter – Airspace Change Project

Hi [redacted]

Please see the response below from the BGA.

[redacted]

From: [redacted]
Sent: 26 May 2019 13:12
To: ACP Exeter Enquiries <ACPExeterEnquiries@Exeter-airport.co.uk>
[redacted]
Subject: British Gliding Association - Response to - Exeter – Airspace Change Project

Dear Madam or Sir

Thank you for consulting with the British Gliding Association on your Initial Design Principles for your airspace change project.

The British Gliding Association is the governing body for the sport of gliding in the UK. Our members are the 80+ clubs that provide gliding facilities for their members – clubs that are spread throughout the UK from the north of Scotland to the SW tip of England and which range from small, member-run clubs through to some of the largest gliding clubs in the world. Through these clubs we represent and provide services to some 7000 UK glider pilots.

We also work in collaboration with the General Aviation Alliance (GAA). This is an independent group and partnership of organisations representing, as far as possible, UK General Aviation (GA), and Sports and Recreational Aviation interests (S&RA). Its objective is to promote and protect the cost-effective use of GA and S&RA aircraft, and their owners, pilots and the associated operations, and to actively participate in the formulation of regulations and actions that may affect their interests so as to ensure the welfare and the free and safe movement of these aircraft, pilots, owners and the associated operations.

We welcome the opportunity to comment on your design principles within the CAP1616 airspace change proposal (ACP), but remind you that you are required to identify, and engage with, local gliding stakeholders who will allow you to develop these principles into Options to consult further on.

At this stage we will encourage local gliding clubs, who will be most impacted, to provide responses to your questionnaire but would welcome the opportunity to comment further at the Option appraisal stage, which we understand will be completed in a co-ordinated, and efficient, way to optimise Class G airspace for use by General Aviation, or where that is not possible allows integrated access where risks are a low as reasonably practicable.

Your airport is geographically located in area where gliding can transit from distances further away. We will encourage our gliding clubs to work collaboratively through a local single point of contact and, where possible, within alliances with other General Aviation partner organisations.

We are at a challenging point in the development of UK Airspace: the Airspace Modernisation Strategy (AMS) has not as yet considered the needs of lower airspace and we remain very concerned that the CAA has yet to lay down minima, methodology and guidance on how overall airspace safety is assessed, and then

incorporated into its decision-making process. We are also responding at a time when the Government has just completed a consultation on a green paper that is related to airspace and a CAA 'Call for Evidence' on e-conspicuity. Either of these may ultimately reveal a more integrated, than segregated, approach to commercial aviation safety management at Exeter Airport which we will want embraced as your ACP develops.

Specifically, we think it is an absolute requirement of the Regulator to co-ordinate any ACP with others to ensure optimisation is achieved and that ACPs developed in isolation will fail to meet the GAA principles.

As an Alliance we have reminded the Government that overall airspace safety is the primary responsibility of the Regulator.

We hope you are able to develop your design principles to encompass those we believe reflect the needs of General Aviation in the UK which are stated below in no particular order of priority;

- An assumption that GA including sporting and recreational aviation is entitled to continued safe use of airspace and that commercial aviation does not have a right to limit airspace access
- Sponsors must show how they are integrating their proposal within the overall UK airspace modernisation context (for example, proposals which do not connect efficiently between upper and lower airspace (potentially under different airspace "management") would only inhibit overall airspace efficiency and therefore not receive our support)
- Reiteration that the UK airspace's default classification is G
- Reiteration that Class E airspace default is without the addition of a TMZ or RMZ
- Expectation that data used, particularly forecasts, will be verifiable including details of any and all assumptions
- Proper validation of forecast traffic levels
- Proper analysis of overall airspace safety changes, ie based on modelling and evidence rather than purely subjective opinion.
- Minimum size of controlled airspace
- Steeper and continuous climbs and descents for cost and environmental benefits as well as minimisation of CAS footprint
- Use of Class E airspace as an alternative to class A, C or D airspace
- Optimisation of the development work above and below the 8,000ft NATS en-route split.
- Flexible use of airspace including interoperability with existing e-conspicuity, eg FLARM and PilotAware
- Efficient consultation

Regards

for

[redacted]
Chair Airspace Committee
British Gliding Association
[redacted]

1 Stakeholder Questionnaire

1.1 Your Responses

The questions below are designed to help us understand the constraints that should be considered during the CAA CAP 1616 Design Principles step of the Define Stage (1). Please insert your responses below to each of the following questions; the size of the response box will expand as you type your response. Use as much space as you need, or alternatively attach additional sheets or documents making it clear which questions you are responding to. Save this and any other documents and return as described at paragraph **Error! Reference source not found.** above. If any of the questions are not applicable or relevant, please say so against the appropriate question.

It should be noted that wherever possible, within the constraints that procedure designers are obliged to work to, designs will be developed to avoid built-up areas.

Please complete the following:

Representative Organisation:
for example: Airport Consultative Committee; Exeter City Council; Flybe etc.
British Helicopter Association

Question
Q1 - Please list any altitude constraints, together with your reasons, that you feel Exeter Airport could consider when designing its new airspace structure?
Your Response: Any new CAS should be kept to a minimum in vertical and horizontal extent
Q2 - Please inform us of the latest proposed timescales for any neighbouring airspace/procedure re-design projects?
Your Response:

Q3 - Please advise us of any future requirements for improved coordination (particularly adjacent/contiguous routes) between Exeter Airport and adjacent ATC units that should be considered during the development of the new Exeter Airport airspace structure?
Your Response:
Q4 - Are there any current Air Transport Movement coordination arrangements with Exeter Airport that you would like to see remain or change as a result of Exeter Airport's new airspace design? Please provide a brief description.
Your Response:
Q5 - Are there any aspects of the Future Airspace Strategy (FAS) (e.g. airway entry/exit points, existing planned or new handover points) that Exeter Airport should take into account in the design of the new airspace? Please provide details.
Your Response:
Q6 - Are you aware of anything in the CAA Airspace Modernisation Strategy that presents a risk or opportunity to Exeter Airport airspace development? Please provide details.
Your Response: Is you plan UTM proof?
Q7 - Do you have an existing Letter of Agreement or Memorandum of Understanding or other agreement with Exeter Airport? If so, do you see this as: (a) An agreement you would like to see remain, preferably in its current form. (b) An opportunity to alter or extend this agreement – and how? (c) An agreement that is unfit for purpose (or may come to be as a result of the change).

Your Response:
Q8 - Please let us know if there are any day time or night time constraints that you consider Exeter Airport could take into account when updating its airspace structure? Please provide details and reasons.
Your Response:
Q9 - Please tell us if there are there any other operational constraints that Exeter Airport will need to consider when planning its new airspace?
Your Response:
Q10 - Please inform us of who you consider to be the other key local aviation stakeholders that you believe Exeter Airport should engage with during the process of designing its new airspace? Please provide details and reasons.
Your Response: The local flying clubs and surrounding minor airfields
Q11 - Please provide details of any constraints imposed by restricted operations in the area encompassed by Exeter Airport flight operations (e.g. military operations, danger areas, restricted areas, route crossings, transit corridors, training areas etc.)?
Your Response:
Q12 - Please indicate if you feel there is a requirement for improved coordination between Exeter Airport and adjacent Air Navigation Service Providers (ATC) units that should be considered during the development of the Design Principles, Design Options and when implementing the new Exeter Airport airspace structure?

Your Response: Yes
Q13 - Please provide details of any issues or constraints due to local helicopter operations that you believe may have an impact on Exeter Airport's new airspace design project?
Your Response: Provision of a LARS for transiting helicopters. This could be facilitated by any work of the electronic conspicuity consultation
Q14 - Please provide details of any issues or constraints due to local General Aviation operations, that you believe may have an impact on Exeter Airport's new airspace structure.
Your Response: Allow transit traffic to safely bypass the CAS without creating bottlenecks or choke points
Q15 - Please provide details of any constraints that may be occasioned by local gliding activities on the Exeter Airport's new airspace structure?
Your Response:
Q16 - Please provide details of any impacts on General Aviation flying that you feel may be occasioned by any new airspace proposed by Exeter Airport.
Your Response:
Q17 - When Exeter Airport designs new airspace, please list the facilities in your local area that you believe could be prioritised when considering aircraft noise (eg hospitals, schools, parks, hospices etc)?

Your Response:
Q18 - Please tell us if multiple routes that disperse noise across a greater number of households are more of a priority for you than a single route that concentrates noise along a track above a smaller number of households.
Your Response: traffic that will be forced to circumvent CAS will naturally concentrate traffic noise over households underneath those aircraft
Q19 - Please identify any other areas, in adjacent council/borough areas, that in your opinion may be sensitive to either direct overflight or exposure to aircraft noise, including during the night-time period?
Your Response:
Q20 - Do you believe aircraft conducting continuous climbs or descents to/from altitude (where this is safe to do so) may improve (lessen) exposure to noise in your local area?
Your Response:
Q21 - Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to Areas of Outstanding Natural Beauty (AONB), Sites of Special Scientific Interest (SSSI) etc), that you feel aircraft could avoid?
Your Response:
Q22 - Please state what principles you believe Exeter Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner exhaust fumes or pollution?

Your Response:
Q23 - Please bring to our attention any recent or ongoing local environmental studies, you feel should be considered by Exeter Airport when designing the new airspace structure?
Your Response:
Q24 - Are there any other local development projects, perhaps currently at the planning stage, that Exeter Airport should be aware of and consider when planning its new airspace structure?
Your Response:
Q25 - Please list any other relevant local or national organisations that you believe Exeter Airport should ensure are involved in its formal consultation.
Your Response: Devon Air Ambulance
Q26 - Please provide the location of any future planned facilities you are aware of in your local area that could be considered sensitive to the impact of aircraft noise; please state why you feel this is necessary?
Your Response:
Q27 - Are there any areas that you feel will suffer more due to the impact of aircraft noise if the displacement of other aviation traffic were to occur due to the Exeter Airport airspace design project?

Your Response:
Q28 - If you were flying as a passenger from Exeter Airport, we would be grateful for any views you may wish to express about how Exeter Airport should consider the needs of the local community?
Your Response:
Q29 - Please advise us of any other issues or constraints you feel Exeter Airport could consider when designing its new airspace structure? Please provide details.
Your Response:

Table 1 – Stakeholder Questionnaire

Thank you for your cooperation in completing this questionnaire. Your comments will provide a valuable input to aid development of the Design Principles against which the options for the Exeter Airport airspace design can be developed.

1 Stakeholder Questionnaire

1.1 Your Responses

The questions below are designed to help us understand the constraints that should be considered during the CAA CAP 1616 Design Principles step of the Define Stage (1). Please insert your responses below to each of the following questions; the size of the response box will expand as you type your response. Use as much space as you need, or alternatively attach additional sheets or documents making it clear which questions you are responding to. Save this and any other documents and return as described at paragraph **Error! Reference source not found.** above. If any of the questions are not applicable or relevant, please say so against the appropriate question.

It should be noted that wherever possible, within the constraints that procedure designers are obliged to work to, designs will be developed to avoid built-up areas.
Please complete the following:

Representative Organisation:
for example: Airport Consultative Committee; Exeter City Council; Flybe etc.
Branscombe Airfied and camping ltd

Question
Q1 - Please list any altitude constraints, together with your reasons, that you feel Exeter Airport could consider when designing its new airspace structure?
Your Response: The bases of any future controlled airspace should not jeopardise the safe operation and access to/from local GA airfields (Dunkeswell, Watchford Farm, Farway Common & Branscombe). Neither should any controlled airspace inhibit the safe passage of GA traffic between these airfields and the transit of aircraft along the East Devon coast and routes between Dunkeswell & Sidmouth, Chard & Crediton and Crediton – Exmouth/Teignmouth. In addition It appears you need a control corridor, particularly at the eastern end, this could be a pan handle. I would like to see the local fields of North Hill, Dunkeswell, Branscombe, Watchford and Farway be able to continue unrestricted upto 3000' above ground level. I appreciate gliders and parachutists will need more.
Q2 - Please inform us of the latest proposed timescales for any neighbouring airspace/procedure re-design projects?
Your Response: No such timescales known.

Q3 - Please advise us of any future requirements for improved coordination (particularly adjacent/contiguous routes) between Exeter Airport and adjacent ATC units that should be considered during the development of the new Exeter Airport airspace structure?
Your Response:Yeovilton is the nearest airfield with air traffic control and clearly a link needs to be with them.
Q4 - Are there any current Air Transport Movement coordination arrangements with Exeter Airport that you would like to see remain or change as a result of Exeter Airport's new airspace design? Please provide a brief description.
Your Response: No knowledge of any such arrangements.
Q5 - Are there any aspects of the Future Airspace Strategy (FAS) (e.g. airway entry/exit points, existing planned or new handover points) that Exeter Airport should take into account in the design of the new airspace? Please provide details.
Your Response: All Exeter VRPs should be reviewed with regard to the effectiveness of RT communications between aircraft and Exeter Radar, especially Axminster VRP for traffic below 2000ft. Having lived directly under the approach flight path overhead Ottery St Mary, I believe they should have some respite at night and therefore minimal noise through the main part of the night
Q6 - Are you aware of anything in the CAA Airspace Modernisation Strategy that presents a risk or opportunity to Exeter Airport airspace development? Please provide details.
Your Response: AMS objectives should be adopted to include: CAT arrivals and departures from Exeter should adopt continuous climb and descent profiles. Future airspace design should be relevant to all airspace users. The volume of new airspace should be the minimum volume consistent with safe and efficient air traffic operations. Access to new airspace should be provided for GA.

Q7 - Do you have an existing Letter of Agreement or Memorandum of Understanding or other agreement with Exeter Airport? If so, do you see this as: (a) An agreement you would like to see remain, preferably in its current form. (b) An opportunity to alter or extend this agreement – and how? (c) An agreement that is unfit for purpose (or may come to be as a result of the change).
Your Response: No such LoA / MOU known for GA but locally based pilots do have a good working relationship with Exeter ATC. This should be maintained and developed in line with improving airmanship and helping to develop the 'known environment'.
Q8 - Please let us know if there are any day time or night time constraints that you consider Exeter Airport could take into account when updating its airspace structure? Please provide details and reasons.
Your Response: Most GA flights from local airfields operate from dawn to dusk. Night time flights occur occasionally from Dunkeswell.
Q9 - Please tell us if there are there any other operational constraints that Exeter Airport will need to consider when planning its new airspace?
Your Response: Traffic circuits and manoeuvring areas at local airfield (i.e. Dunkeswell, Watchford Farm, Farway Common and Branscombe) should not be jeopardised by any new airspace. Interested in the fact that FlyBe has been bought and what are it's future plans? The figures do seem excessive and believe this is because they contain many ground movements. How does this plan fit in with Devon County Council's future plans, including its transport and environmental plans.
Q10 - Please inform us of who you consider to be the other key local aviation stakeholders that you believe Exeter Airport should engage with during the process of designing its new airspace? Please provide details and reasons.
Your Response: Devon & Somerset Gliding Club (North Hill), Devon & Somerset Flight Training (Dunkeswell), Skydive Buzz Ltd (Dunkeswell), Somerset Microlights (Dunkeswell), Devon & Somerset Condors (Hang gliders using various hill sites in east Devon), owners of airfields and club officers likely to be affected by any changes in airspace e.g [redacted] (Dunkeswell), [redacted], (Sec DSGC) [redacted] (Watchford farm), [redacted] (Farway Common), [redacted] (Branscombe airfield) . between them they have a further 35 aircraft and a number of movements from visitors.

Q11 - Please provide details of any constraints imposed by restricted operations in the area encompassed by Exeter Airport flight operations (e.g. military operations, danger areas, restricted areas, route crossings, transit corridors, training areas etc.)?
Your Response: Other than restricted operational areas published on the current charts, the local airfield operating areas and transit routes referred to in the answer to Q1 apply.
Q12 - Please indicate if you feel there is a requirement for improved coordination between Exeter Airport and adjacent Air Navigation Service Providers (ATC) units that should be considered during the development of the Design Principles, Design Options and when implementing the new Exeter Airport airspace structure?
Your Response: Not applicable to our response.
Q13 - Please provide details of any issues or constraints due to local helicopter operations that you believe may have an impact on Exeter Airport's new airspace design project?
Your Response: The new airspace design should take into account helicopter operations at Dunkeswell, Devon & Cornwall Police from Middlemoor, Air Ambulances from Royal Devon & Exeter hospital and private helicopters from helipads at private properties, some of which are marked on current charts.
Q14 - Please provide details of any issues or constraints due to local General Aviation operations, that you believe may have an impact on Exeter Airport's new airspace structure.
Your Response: As previously described in Q1. Local GA airfield operations require 3000ft minimum agl to provide circuits and manoevering, which is consistent with current CAT climb and descent capabilities and operating performances into and out of Exeter. Most of the responses have been from a GA perspective. Concerns are the impact on the local fields of Dunkeswell, Watchford, Farway and Branscombe. That proposals will become too complex and thus lead to more infractions. That GA will be concentrated into tight corridors. That currently 'free aircraft' ie non radio and or non transponder aircraft will be prevented from flying from or to these local Devon fields or along the Devon coast.
Q15 - Please provide details of any constraints that may be occasioned by local gliding activities on the Exeter Airport's new airspace structure?

Your Response: Refer to response from Devon & Somerset Gliding Club
Q16 - Please provide details of any impacts on General Aviation flying that you feel may be occasioned by any new airspace proposed by Exeter Airport.
Your Response: Potential impacts on GA can not be identified until more details of the proposed airspace design is discussed. However, current GA flying must not be jeopardised and at best, access to any new airspace should be facilitated in accordance with the objectives (Ends) of the CAA's Airspace Modernisation Strategy.
Q17 - When Exeter Airport designs new airspace, please list the facilities in your local area that you believe could be prioritised when considering aircraft noise (eg hospitals, schools, parks, hospices etc)?
Your Response: Commercial aircraft should be avoiding the Jurasic coast but we still get a few overhead Sidmouth.
Q18 - Please tell us if multiple routes that disperse noise across a greater number of households are more of a priority for you than a single route that concentrates noise along a track above a smaller number of households.
Your Response: In your paper you say you will not be varying the approach routes! *IAPs will generally only affect the flight path of an aircraft when within approximately 15 miles of the airport. In order to execute a successful landing, aircraft will need to be aligned with the runway heading for approximately the final 8 miles of the approach, so regardless of the type of procedure flown, the heights and locations overflown at this stage of flight will be very similar for all types of approaches. Exeter Airport currently has IAPs that use both ground-based beacons and GNSS technology; Exeter Airport is not intending to change these procedures with this ACP and as a result, the tracks over the ground that aircraft fly are unlikely to change.*
Q19 - Please identify any other areas, in adjacent council/borough areas, that in your opinion may be sensitive to either direct overflight or exposure to aircraft noise, including during the night-time period?

Your Response: Ottery St Mary is very much under the approach flight path and ought to be given some respite through the middle of the night
Q20 - Do you believe aircraft conducting continuous climbs or descents to/from altitude (where this is safe to do so) may improve (lessen) exposure to noise in your local area?
Your Response: Yes, as identified in the CAA's AMS.
Q21 - Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to Areas of Outstanding Natural Beauty (AONB), Sites of Special Scientific Interest (SSSI) etc), that you feel aircraft could avoid?
Your Response: Budleigh Salterton, Sidmouth, the Jurasic Coast.
Q22 - Please state what principles you believe Exeter Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner exhaust fumes or pollution?
Your Response: No response provided.
Q23 - Please bring to our attention any recent or ongoing local environmental studies, you feel should be considered by Exeter Airport when designing the new airspace structure?
Your Response: No response provided.
Q24 - Are there any other local development projects, perhaps currently at the planning stage, that Exeter Airport should be aware of and consider when planning its new airspace structure?

Your Response: No response provided.
Q25 - Please list any other relevant local or national organisations that you believe Exeter Airport should ensure are involved in its formal consultation.
Your Response: Light Aircraft Association, British Gliding Association, General Aviation Alliance, All Party Parliamentary Group – GA.
Q26 - Please provide the location of any future planned facilities you are aware of in your local area that could be considered sensitive to the impact of aircraft noise; please state why you feel this is necessary?
Your Response: No response provided.
Q27 - Are there any areas that you feel will suffer more due to the impact of aircraft noise if the displacement of other aviation traffic were to occur due to the Exeter Airport airspace design project?
Your Response: No response provided.
Q28 - If you were flying as a passenger from Exeter Airport, we would be grateful for any views you may wish to express about how Exeter Airport should consider the needs of the local community?
Your Response: No response provided.
Q29 - Please advise us of any other issues or constraints you feel Exeter Airport could consider when designing its new airspace structure? Please provide details.

Your Response: Airspace design should be justified by quantitative modelling rather than qualitative, subjective considerations, and tested against criteria described in the AMS.

The design should apply only to critical areas of flight, be of minimum volume consistent with safe and efficient air traffic operations, should embody flight path modernisation based on satellite technology and inertial navigation systems with consistent and predictable continuous climbs & descents.

Such airspace should have the flexibility to provide access for GA (e.g. by ATC provision of zone transits, the inclusion of published corridors and the adoption of a listening squawk transponder frequency). The design should avoid the creation of GA pinch points and funnelling over geographical features and high ground, and not jeopardise the existing safe operation of local GA airfields.

With regard to the protection of existing GA and gliding activities, previously submitted suggestions for either a south-side class D airspace or a MATZ-style CTR with stubs aligned with Exeter's RW 08/26, may form the basis for future discussions. I still see no clear reason why Exeter airport want what they want. What do they actually want, need? Another question, why not have SID or STAR or a standard approach procedure/track? The questions that have been put forward above are a strange range and include the generic to the leading - is this the Osprey influence..? My final thoughts:

Why not have a slightly enlarged space and pan/double pan handle? The paper' s comments reference IAPs come across as a standard approach procedure, so why not a controlled corridor, why the need to create a complex controlled map around the whole of Exeter? Your comments

IAPs will generally only affect the flight path of an aircraft when within approximately 15 miles of the airport. In order to execute a successful landing, aircraft will need to be aligned with the runway heading for approximately the final 8 miles of the approach, so regardless of the type of procedure flown, the heights and locations overflown at this stage of flight will be very similar for all types of approaches. Exeter Airport currently has IAPs that use both ground-based beacons and GNSS technology; Exeter Airport is not intending to change these procedures with this ACP and as a result, the tracks over the ground that aircraft fly are unlikely to change.

What would an ATC expert etc.. actually advise?
What are the CAA recommendations?
The CAA turned down the last application so clearly they have an idea? Which are the comparable airfields and what do they do?

Also I am struggling with the stats / figures.... are they really as high as portrayed and as serious as put forwards, then surely the CAA would have intervened before now!?

The figures/tables are not helped by providing figures that can be misleading ie movements include: changing pan positions and have even included compass swings in that last table!

The paper appears to assume the continuing current FlyBe operations. Connect has stated that they will be expanding FlyBe operations at their own airfields of Southend and Carlisle - how will this affect Exeter? The ongoing growth also does not appear to take into account the probable future decline in air travel due to economic conditions

and the necessary decline due to future environmental requirements. A concern I and others have is that this is a first step to the approach that Bristol now has. One of ignoring GA, often not responding to calls, not usually allowing a transit. The whole Bristol controlled airspace becoming a no go zone for GA, which is now channeled into two relatively small spaces, on the west and east sides. In future interactions with the general public I encourage you (in the principles of plain English) not to use acronyms but just write those out in full and consider a glossary that explains concepts that may not be obvious.

Table 1 – Stakeholder Questionnaire

Thank you for your cooperation in completing this questionnaire. Your comments will provide a valuable input to aid development of the Design Principles against which the options for the Exeter Airport airspace design can be developed.

1 Stakeholder Questionnaire

1.1 Your Responses

The questions below are designed to help us understand the constraints that should be considered during the CAA CAP 1616 Design Principles step of the Define Stage (1). Please insert your responses below to each of the following questions; the size of the response box will expand as you type your response. Use as much space as you need, or alternatively attach additional sheets or documents making it clear which questions you are responding to. Save this and any other documents and return as described at paragraph **Error! Reference source not found.** above. If any of the questions are not applicable or relevant, please say so against the appropriate question.

It should be noted that wherever possible, within the constraints that procedure designers are obliged to work to, designs will be developed to avoid built-up areas.
Please complete the following:

Representative Organisation:
for example: Airport Consultative Committee; Exeter City Council; Flybe etc.
Devon Strut of the Light Aircraft Association (LAA)

Question
Q1 - Please list any altitude constraints, together with your reasons, that you feel Exeter Airport could consider when designing its new airspace structure?
Your Response: **The sizes and bases of any future controlled airspace should not jeopardise the safe operation and access to/from local GA airfields (Dunkeswell, Watchford Farm, Farway Common & Branscombe). Neither should any controlled airspace inhibit the safe passage of GA traffic between these airfields and the transit of aircraft along the East Devon coast and routes between Dunkeswell & Sidmouth, Chard & Crediton and Crediton – Exmouth/Teignmouth.**
Q2 - Please inform us of the latest proposed timescales for any neighbouring airspace/procedure re-design projects?
Your Response: **No such timescales known**.
Q3 - Please advise us of any future requirements for improved coordination (particularly adjacent/contiguous routes) between Exeter Airport and adjacent ATC units that should be considered during the development of the new Exeter Airport airspace structure?

Your Response: **No knowledge of any such requirements**.
Q4 - Are there any current Air Transport Movement coordination arrangements with Exeter Airport that you would like to see remain or change as a result of Exeter Airport's new airspace design? Please provide a brief description.
Your Response: **No knowledge of any such arrangements**.
Q5 - Are there any aspects of the Future Airspace Strategy (FAS) (e.g. airway entry/exit points, existing planned or new handover points) that Exeter Airport should take into account in the design of the new airspace? Please provide details.
Your Response: **Any new airspace design should ensure it is possible for aircraft to contact Exeter ATC from below and outside controlled airspace to avoid RT dead areas. I.e. controlled airspace should not extend to the limit of Exeter RT coverage.** **All Exeter VRPs should be reviewed with regard to the effectiveness of RT communications between aircraft and Exeter ATC. E.g. comms are difficult from Axminster VRP for traffic below 2000ft.** **Any new VRPs should, where possible, be established in relation to recognisable ground features (e.g. towns, major roads / rail lines & junctions).**
Q6 - Are you aware of anything in the CAA Airspace Modernisation Strategy that presents a risk or opportunity to Exeter Airport airspace development? Please provide details.
Your Response: **AMS objectives should be adopted to include: CAT arrivals and departures from Exeter should adopt continuous climb and descent profiles. Future airspace design should be relevant to all airspace users. The volume of new airspace should be the minimum volume consistent with safe and efficient air traffic operations. Access to new airspace should be provided for GA.**

Q7 - Do you have an existing Letter of Agreement or Memorandum of Understanding or other agreement with Exeter Airport? If so, do you see this as: (a) An agreement you would like to see remain, preferably in its current form. (b) An opportunity to alter or extend this agreement – and how? (c) An agreement that is unfit for purpose (or may come to be as a result of the change).
Your Response: **No such written LoA / MOUs are known for GA but locally based pilots do have a good working relationship with Exeter ATC. E.g. The procedures for the Devon Strut's fly-ins at Farway Common and Branscombe are published and shared with Exeter ATC They include the circuit heights and directions and the requirements that all inbound and outbound traffic to these events should contact Exeter Radar to minimise the potential for conflict with Exeter's CAT, to which end these procedures have been very successful. This co-operation should be maintained and developed in line with improving airmanship and helping to develop the 'known environment'.**
Q8 - Please let us know if there are any day time or night time constraints that you consider Exeter Airport could take into account when updating its airspace structure? Please provide details and reasons.
Your Response: **Most GA flights from local airfields operate from dawn to dusk. Night time flights occur occasionally from Dunkeswell.**
Q9 - Please tell us if there are there any other operational constraints that Exeter Airport will need to consider when planning its new airspace?
Your Response: **Traffic circuits and manoeuvring areas at local airfield (i.e. Dunkeswell, Watchford Farm, Farway Common and Branscombe) should not be jeopardised by any new airspace.**
Q10 - Please inform us of who you consider to be the other key local aviation stakeholders that you believe Exeter Airport should engage with during the process of designing its new airspace? Please provide details and reasons.
Your Response: **Devon & Somerset Gliding Club (North Hill), Devon & Somerset Flight Training (Dunkeswell), Skydive Buzz Ltd (Dunkeswell), Somerset Microlights (Dunkeswell), Devon & Somerset Condors (Hang gliders using various hill sites in east Devon), owners of airfields and club officers likely to be affected by any changes in airspace e.g. [redacted] (Dunkeswell), [redacted] (Sec DSGC), [redacted] (Watchford farm), [redacted] (Farway Common), [redacted] (Branscombe airfield) .**

Q11 - Please provide details of any constraints imposed by restricted operations in the area encompassed by Exeter Airport flight operations (e.g. military operations, danger areas, restricted areas, route crossings, transit corridors, training areas etc.)?
Your Response: **Other than restricted operational areas published on the current charts, the local airfield operating areas and transit routes referred to in the answer to Q1 apply.**
Q12 - Please indicate if you feel there is a requirement for improved coordination between Exeter Airport and adjacent Air Navigation Service Providers (ATC) units that should be considered during the development of the Design Principles, Design Options and when implementing the new Exeter Airport airspace structure?
Your Response: **Not applicable to our response**.
Q13 - Please provide details of any issues or constraints due to local helicopter operations that you believe may have an impact on Exeter Airport's new airspace design project?
Your Response: **The new airspace design should take into account helicopter operations at Dunkeswell, Devon & Cornwall Police from Middlemoor, Air Ambulances from Royal Devon & Exeter Hospital and private helicopters from helipads at private properties, some of which are marked on current charts**.
Q14 - Please provide details of any issues or constraints due to local General Aviation operations, that you believe may have an impact on Exeter Airport's new airspace structure.
Your Response: **As previously described in Q1.** **Local GA airfield operations require 3000ft minimum agl to provide circuits and manoeuvring, which is consistent with current CAT climb and descent capabilities and their operating performances into and out of Exeter.** **The design of new airspace should avoid the creation of funnelling and pinch points for the routing of GA traffic.**
Q15 - Please provide details of any constraints that may be occasioned by local gliding activities on the Exeter Airport's new airspace structure?

Your Response: **Refer to response from Devon & Somerset Gliding Club**
Q16 - Please provide details of any impacts on General Aviation flying that you feel may be occasioned by any new airspace proposed by Exeter Airport.
Your Response: **Potential impacts on GA can not be identified until more details of the proposed airspace design is discussed. However, current GA flying must not be jeopardised and at best, access to any new airspace should be facilitated in accordance with the objectives (Ends) of the CAA's Airspace Modernisation Strategy.**
Q17 - When Exeter Airport designs new airspace, please list the facilities in your local area that you believe could be prioritised when considering aircraft noise (eg hospitals, schools, parks, hospices etc)?
Your Response: **No response provided**.
Q18 - Please tell us if multiple routes that disperse noise across a greater number of households are more of a priority for you than a single route that concentrates noise along a track above a smaller number of households.
Your Response: **No response provided**.
Q19 - Please identify any other areas, in adjacent council/borough areas, that in your opinion may be sensitive to either direct overflight or exposure to aircraft noise, including during the night-time period?
Your Response: **No response provided**.
Q20 - Do you believe aircraft conducting continuous climbs or descents to/from altitude (where this is safe to do so) may improve (lessen) exposure to noise in your local area?

Your Response: **Yes, as identified in the CAA's AMS.**
Q21 - Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to Areas of Outstanding Natural Beauty (AONB), Sites of Special Scientific Interest (SSSI) etc), that you feel aircraft could avoid?
Your Response: **No response provided.**
Q22 - Please state what principles you believe Exeter Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner exhaust fumes or pollution?
Your Response: **No response provided.**
Q23 - Please bring to our attention any recent or ongoing local environmental studies, you feel should be considered by Exeter Airport when designing the new airspace structure?
Your Response: **No response provided.**
Q24 - Are there any other local development projects, perhaps currently at the planning stage, that Exeter Airport should be aware of and consider when planning its new airspace structure?
Your Response: **No response provided.**
Q25 - Please list any other relevant local or national organisations that you believe Exeter Airport should ensure are involved in its formal consultation.

Your Response: **Light Aircraft Association, British Gliding Association, General Aviation Alliance, All Party Parliamentary Group – GA.**
Q26 - Please provide the location of any future planned facilities you are aware of in your local area that could be considered sensitive to the impact of aircraft noise; please state why you feel this is necessary?
Your Response: **No response provided**.
Q27 - Are there any areas that you feel will suffer more due to the impact of aircraft noise if the displacement of other aviation traffic were to occur due to the Exeter Airport airspace design project?
Your Response: **No response provided**.
Q28 - If you were flying as a passenger from Exeter Airport, we would be grateful for any views you may wish to express about how Exeter Airport should consider the needs of the local community?
Your Response: **No response provided**.
Q29 - Please advise us of any other issues or constraints you feel Exeter Airport could consider when designing its new airspace structure? Please provide details.

Your Response: **Airspace design should be justified by quantitative modelling rather than qualitative, subjective considerations, and should be tested against criteria described in the AMS.** **The design should apply only to critical areas of flight, be of minimum volume consistent with safe and efficient air traffic operations, should embody flight path modernisation based on satellite technology and inertial navigation systems with consistent and predictable continuous climbs & descents.** **Such airspace should have the flexibility to provide access for GA, e.g. by ATC provision of zone transits, the inclusion of published corridor(s) and the adoption of a listening squawk transponder frequency.** **The airspace design should avoid the creation of GA pinch points and funnelling over geographical features and high ground, and not jeopardise the existing safe operation of local GA airfields.** **The design should be supported by a local VFR guide which would make it easier for GA pilots, (local and from further afield) to locate and avoid Exeter airspace, thus reducing possible infringements.** **With regard to the protection of existing GA and gliding activities, previously submitted suggestions for either a south-side class D airspace or a MATZ-style CTR with stubs aligned with Exeter's RW 08/26, may form the basis for future discussions.**

Table 1 – Stakeholder Questionnaire

Thank you for your cooperation in completing this questionnaire. Your comments will provide a valuable input to aid development of the Design Principles against which the options for the Exeter Airport airspace design can be developed.

Devon & Somerset Gliding Club Ltd
North Hill Airfield
Sheldon
Honiton
Devon
EX14 4QW
Tel: 01404 841386
Company No: 14946R

EXETER AIRSPACE CHANGE PROPOSAL
DEVON AND SOMERSET GLIDING CLUB
OBJECTION WITH REASONS TO PROPOSALS FOR CLASS D AIRSPACE

The Devon and Somerset Gliding Club (DSGC) objects *in the strongest possible terms* to the proposals for Class D airspace. *The ACP proposals are an unreasonable and disproportionate 'remedy' to a problem that has not been justified.* The ACP contains numerous misrepresentations both of facts and of the effects of its proposal, and Exeter Airport as change sponsor manifestly fails to meet its obligations to other aviation stakeholders under CAP 725.

Consider five basic points:

1) The proportion of Exeter's Air Transport Movements (ATMs) that connect to the Airway N864 north of Exeter Airport is around 30%. During DSGC's normal operating period of 10.00am to 6.00pm, the proportion of Exeter's ATMs using this route is only 13%, as most flights to and from Manchester, Newcastle, Edinburgh and Glasgow are early morning or late evening. *During DSGC's normal operating hours the actual number of ATMs using the northern sector of N864 averages only 5.5 aircraft movements per day.* [Appendix 1].

2) The case appears to be based almost entirely on projected figures for ATMs which have been exaggerated by the inclusion of a number of activities that are outside the statutory definition of ATMs; and for which, the change sponsor will not provide any further justification when requested by consultees. The ACP thus gives an unsubstantiated estimate of growth which consultees are therefore expected to take on trust after reading an estimate of 40,417 ATMs for 2017 when the total for the (legitimate) top 3 rows in the table is in fact 13,525.

3) In 2016, after 4 years of growth, Exeter passenger numbers were back up to a figure of 847,257, a figure marginally <u>below</u> the figure for 2005 which was 847,544.

4) Astonishingly, the volume of controlled airspace proposed in the ACP is greater than that for Gatwick Airport - for an airport that has 5% of the number of Gatwick's ATMs. In consultation, Exeter's consultants were emphatic that the size of this CAS was unable to be reduced.

5) The proposals are likely to lead to the closure of DSGC, one of the largest gliding clubs in the country, yet the ACP clearly shows that the authors do not grasp the nature of gliding and what is required for a gliding club to operate. Unsatisfactory 'mitigation' was offered in the form of a Glider Box concept, but the anticipated further discussions were dispensed with by the change sponsor and were published in the ACP. This demonstrates a regrettable approach to meaningful consultation.

This Response is set out in more detail in the sections shown below. In view of paragraph 5 above, it is considered necessary to explain in some detail what gliding entails, both generally and at DSGC, and the impacts upon the Club.

1.0 THE CASE FOR CHANGE IS UNPROVEN

1.1 **Current airspace arrangements are safe**. Fundamentally – the existing airspace arrangements are safe. In the words of the ACP "Exeter ATC handles the current operational issues safely and effectively". [Section 2.1]

1.2 **Controller interventions**. From figures for ATMs in Appendix 2, it will be noted that there have been, during Exeter's period of compiling a voluntary database of controller interventions from 2009 – 2016 inclusive, three years where the ATMs have been at 13,000, and four years where the ATMs have been at 12,000, giving figures up to the year 2015. The 2016 figure was also a rounded figure of 13,000, thereby giving a conveniently round figure of 100,000 ATMs in total in the same eight year period. From the voluntary database figures and analysis, it should be noted that during this time *"337 aircraft inbound to or outbound from Exeter required controller intervention to alter tracks and/or climb/descent profiles in accordance with requirements of a Deconfliction service."* This means that of the 100,000 ATMs in eight years, 0.337% of ATMs in and out of Exeter needed such actions. Further comment is made on this point in paragraph 4.9 below.

1.3 **Latest forecasts of ATMs**. Exeter's projected increase in ATMs are contained in the ACP Section 2.2 in the table in **Figure 2 Projected Exeter Airport ATM**. This is taken from the **Exeter Airport Management Business Plan from October 2016**, and referred to in the References at the end of the ACP. DSGC has asked for a copy of this document to assist in preparation of this Response, but has been told it cannot be released due to commercial sensitivity.

1.4 **Misleading ATM statistics.** It should be noted that the data used in the ACP in the Projected Exeter Airport ATM misrepresents the appropriate statistics by including ground-based and other activities in the table that do not give rise to airborne traffic movements and therefore do not affect Airspace considerations. Only the top 3 categories in the table should be included, see Definition of ATMs [Appendix 3].

1.5 **Current and estimated future ATMs.** Exeter estimates it will have 13,525 movements this year, an average of 37 a day. During DSGC's 16 day snapshot observation period [Appendix 1] the range was from 32 – 51 movements per day. A rise of 3% would be 1.1 extra movements per day, and after 5 years, the average would move from 37 to 43 per day. In 2007 Exeter handled 17,000 movements per annum, an average of 46.5 per day. Clearly a rise of 3% per annum in the forecast period (if achieved) should be well within the capability of the ATC team to handle. Indeed, it seems surprising that such a modest rise has been put forward as a reason for seeking Class D airspace.

1.6 **Differing data sets.** It is clear looking at different data sources that data on ATMs is collated and recorded in differing ways for differing purposes. Nevertheless, data is available to show both the general trends and the reliability of forecast figures. The figures used below for differing years are from the same data sets, so do illustrate overall trends.

1.7 **Air Transport Movements 2005 – 2015.** The ATM figures in Appendix 2 show that Exeter has never really moved much beyond its Movements for 2005 which can effectively be taken as a baseline figure. The exception is - 'the boom before the bust' - of the financial crash in 2008, when there were 3 peak years. Since 2009, annual figures have remained remarkably stable, fluctuating between 12000 and 13000 per annum, showing no real growth since the 12000 recorded in 2005.

1.8 Other data indicators and the reliability of forecasts. In the absence of more detailed information on the latest forecasts (see 1.3 above) it is useful to look at Exeter's previous forecasts and associated data. Passenger numbers are not strictly relevant to the case for additional Airspace, but it is instructive to look at the forecasts [available on-line] from the **Draft Master Plan of September 2008**: *"Forecasts for Future Growth to 2015 and 2030. There has been significant passenger growth at Exeter Airport over the last few years, and the Master Plan forecasts that this will continue. It sets out a range of forecasts, through defining a planning figure, a low forecast and a high forecast for each year. The planning forecast for 2015 is 1.912 million passengers, with a low figure of 1.415 million and a high of 1.956 million. For 2030 the planning forecast is 3.368 million, with a low forecast of 1.964 million and a high of 4.037 million. These figures compare with the 2007 throughput of 1.026 million passengers."* These were used as the basis for the **Exeter International Airport Master Plan** in 2009. [Available on-line]. Compare these estimates to the actual figures achieved: **2005: 847,544**; **2015: 821,789**; and **2016: 847,257**. [From CAA datasets]. *Passenger numbers in 2016 are still marginally lower than the 2005 level, and the 2015 actual figure of 0.822 million is only 43% of the 2008/9 forecast of 1.912 million.* Moreover, the general comparability of the 2005 and 2015 figures confirm the conclusion in 1.7 above, namely, that with the exception of the short-term consumer boom before the financial crash, **Exeter is showing very little overall growth since 2005.**

1.9 **Comparable Airports.** Comparable regional airports to Exeter are struggling to keep passenger numbers and thus ATMs to 2005 levels. Several are not succeeding, as the table on the following page shows. Only Bristol (an appreciably larger airport with a higher population catchment area, and the main competitor of Exeter) has actually expanded. Exeter is to this limited extent bucking the trend, but these figures are another strong indicator that expansion is unrealistic – see paragraphs 1.7 and 1.8 above.

Airport	2005 Movements x 1000	2015 Movements x 1000
Bristol	55	61
Southampton	44	34
Norwich	22	17
Cardiff	21	14
Exeter	12	13

1.10 **Post-Brexit Forecast by IATA for falling demand.** Probably the most authoritative forecast available for air travel as a whole must come the International Air Travel Association (IATA). Its latest forecast which was issued in the middle of October 2016 (the same month as the Exeter Airport Management Business Plan used in Exeter's forecast). This indicates: 1) that previous forecasts for aviation must be revised downwards; 2) "the problems of the weaker £ and changes to the relationship with the EU are likely to cut demand for air travel in the coming decade..." [Appendix 4].

1.11 **The fall in real incomes and declining growth.** The IATA forecast is in line with recent Office for National Statistics on-line data for both real earnings and the forecast slowdown in economic growth. Air travel is towards the luxury end of spending of disposable income, and falls in real income are likely to dampen the demand for air travel. As indicated, Brexit may well exacerbate this situation, at least due to the effects of the weaker pound.

1.12 **Exeter's expansion plans**. It is clear from Exeter's Master Plan 2009 (Airspace paragraphs) that the Airspace expansion plans were developed in the more optimistic times when passenger numbers were forecast to rise to 1.912 million in 2015 and 3.368 million in 2030. Both the economic climate and the reality indicate that any real growth is highly unlikely.

Summary and Conclusion

- Regrettably for Exeter Airport, past growth forecasts have been - to use an apt phrase - flights of fancy. The reality to be drawn from these figures is that in the current economic climate and with the uncertainties following Brexit, Exeter will be doing well if it can continue to maintain ATMs around the 2005 level.
- The ACP states that "Exeter ATC handles the current operational issues safely and effectively".
- In light of the evidence given, growth of even 3% seems optimistic and IATA forecasts a fall in the demand for air travel. 3% growth would result in an average of approximately 1.1 extra movements per day for every year it happened. **On no reasonable assessment can this justify any change to current Airspace arrangements, let alone the immediate and wholesale imposition of Class D over a large area around the Airport.**

2.0 THE NATURE OF GLIDING AND GLIDING AT DSGC

2.1 **Lack of understanding of gliding in the ACP.** Regrettably, it is apparent from the ACP that despite consultation meetings the authors do not fully grasp the nature of gliding and what is involved. Indeed, the wording of the last two paragraphs of Paragraph 5.4.3 imply that DSGC pilots 'break the rules', and

there is even the implication that they are alone in doing this. DSGC pilots are trained to and operate within the rules and practices of good airmanship laid down by the British Gliding Association, on the same basis as glider pilots worldwide, avoiding controlled Airspace, because soaring flight is not compatible with it.

2.2 **The essence of gliding.** This is difficult to compress into a few brief words but is important. Glider pilots throughout the world have for 70 years used principally thermals, plus other forms of lift, to gain sufficient height to fly cross country. The essence of this is freedom, developed skills and using atmospheric conditions to stay airborne: it is exciting, challenging and very rewarding. No two flights are the same. Most frequently, it involves gaining as much height as possible, with the target of soaring to just below cloudbase. On this basis, gliding clubs throughout the UK and around the world fly both locally and cross-country, with regional and national cross-country competitions in the UK, and worldwide. Pilots at DSGC fly within the same regulatory parameters as glider pilots throughout the UK.

2.3 **The importance of weather.** Learning to fly and fly well is just the essential stepping stone to soaring flight. After learning to fly, there is a possible lifetime of understanding and using weather – in the planning, understanding the implications of every aspect of available forecast data. And in the air, combining this preparation with an ability to read the sky and the changing lift conditions to make informed judgments, often from minute to minute. 'Tasks' around the many GPS turnpoints across the country provide soaring pilots with the opportunity to evaluate the weather for the day ahead and set a task appropriate to the conditions, and then to test their evaluation by using skill and judgement to complete the task – if conditions are indeed as evaluated.

2.4 **The two essentials.** For sustained soaring flight, the two inter-related essentials are height and lift. The greater the height, the further the glider can fly before having to top up with another source of lift. Limited height means limited distance. There are 4 main sources of lift that glider pilots use: thermal, ridge, wave, and convergence. Ridge soaring is limited to a relatively low altitude, whereas thermal, wave and convergence lift can be used to considerable altitudes. Sea Breeze convergence is a line of continuous lift usually marked by clouds, and normally parallel to the coast, the line can move inland through the day and is often used by DSGC pilots.

2.5 **The importance of clouds.** For the soaring pilot, cumulus clouds provide the best possible indication of lift. Formed by thermals, they are magnets attracting soaring pilots to go beneath them to find the strongest area of lift and climb as high as possible. Thermal lift is stronger and more reliable in the upper half of the convective layer, and weaker and harder to use at lower levels. Where there is lift, there will be sink - downward air movement – not far away; this is something the glider pilot must be vigilant to avoid. As an illustration of the importance of this cloud to glider pilots, RASP ('Regional Atmospheric Soaring Prediction') is a specialist meteorological website available to assist in the evaluation of soaring conditions for the day/days ahead; outputs are available for all BGA turnpoints, including NHL, North Hill. It indicates on graphs, inter alia, **likely heights of cloudbase and the Cu potential,** giving the day a rating from Poor to Excellent.

2.6 **Soaring from North Hill Airfield.** The developing post-solo pilot at DSGC is able to fly local cross-country tasks within gliding range of the airfield - *provided he/she has sufficient height.* These can be as far as Wellington and Taunton. For pilots who have passed an exam and further practical tests, longer tasks are available, for example to Yeovil, Okehampton, Dorchester and Salisbury Cathedral.

2.7 **Devon and Somerset Gliding Club – background and assets.** DSGC has been operating successfully at North Hill for over 50 years alongside Exeter Airport. During that time, the members have purchased the airfield, built clubhouse and hangars, improved the fleet and built a good membership, becoming the largest non-commercial gliding club in the south west, and the eighth largest

gliding club in the UK. The club fleet consists of four two-seater training aircraft, two single seat gliders suitable for early solo pilots and a Piper Pawnee tug aircraft for aerotows. 6 years ago the club invested £80,000 in a new gas-powered 400HP winch for the majority of launches. **Winch launch heights** are generally 1200 to 1400 feet height/QFE, with occasional launches to 1800ft, and on rare occasions dependent on wind speed and direction, to 2000ft. Aerotow launches can go to the base of Airway N864. In addition, there are currently 46 private gliders housed in trailers at the airfield. Photographs illustrate these points in Appendix 7. The club is run entirely by volunteer members, including the 30-strong team of trained Instructors.

2.8 **DSGC – activities.** While the main activity of the Club is training aspiring new pilots, improving skills, local soaring, aerobatics and the cross-country flying dealt with above, the Club also looks outward to the community and the wider public, and provides:

- trial lessons for members of the public wishing to experience the thrill of non-commercial flying; a particularly popular offering is the Club's "Mile High" aerotow flight to 5000ft amsl.
- a summer-long programme of evening flying for groups such as Air Cadets, scouts, Round Table, workplace groups and the like;
- from April to September, monthly week-long training courses for beginners and improvers which are open to members and non-members;
- an annual Open Day for members of the public to experience gliding;
- DSGC actively encourages young people to take up the sport of gliding by offering subsidised flying. Young pilots can go solo in gliders at 14 years. The Club has been awarded accreditation by the British Gliding Association as a Junior Gliding Centre.

2.9 **DSGC Local Rules.** DSGC has a long-standing published procedure, for gliders approaching the A30 with the intention of flying further south close to or across the Exeter extended centreline. Pilots will make a position report by radio contact with Exeter ATC. This procedure continues to work well for both parties.

3.0 THE IMPACT OF THE PROPOSALS ON DSGC

3.1 **Preliminary statement.** The proposals in Paragraph 5.4.3 of the ACP for opening up Glider Boxes were not and are not agreed, and are not accepted. This will be dealt with in 3.8 below.

3.2 **Class D over and surrounding North Hill Airfield.** As indicated by paragraph 2.0, the imposition of Class D airspace above and for a considerable distance around the airfield will have devastating results.

3.3 **Local soaring.** This will be limited to approximately 2000ft above the airfield before entering CTA4. For members who prefer local soaring to cross country, who have perhaps spent an hour or more driving to the airfield, the prospect of being limited to thermalling five or six hundred feet from a winch launch on a good soaring day without breaking the law will have little or no attraction.

3.4 **Post-solo developing pilots.** The proposed ceilings of usable Class G airspace would be too low for relatively inexperienced soaring pilots, or indeed any club pilots. Two examples will illustrate this. Their first 'adventure' is to fly solo to Cullompton and back so as to be at minimum circuit height of 800ft QFE. The first time, anxious to avoid the possibility of sink on the return leg, they would probably aim to turn Cullompton (CUL) at 2500ft QFE, 3420ft amsl. This is not possible. Similarly, to turn TIE ('Tiverton East' – the M5 junction with the North Devon Link Road), they might aim to be at 3000ft QFE to ensure a safe return. This is not achievable. Newly qualified pilots will be unable to develop properly their soaring skills and judgement of conditions.

3.5 **Experienced cross-country pilots and implications for cross-country.** As indicated above, height=gliding distance/more options. **Most cross-country pilots departing North Hill airfield on task aim to be at 3000' QFE/ 3920' amsl. This is clearly impossible with a ceiling of Class D at 3000' amsl.**

3.6 **Is access to Class D a possibility?** In theory, any pilot can ask consent to enter Class D airspace. For the glider pilot, this is impractical and potentially dangerous in relation to soaring flight. Three reasons will be sufficient.

- **Making a radio call – distraction at critical times.** Radio calls in straight and level flight are a normal part of flying. However, it is not uncommon for two or even three gliders to be circling around the same thermal. This requires 100% concentration and lookout – anything less is unsafe. One of the highest causes of accidents in aviation is known to be distraction. To approach the Class G ceiling while thermalling and then make a radio call asking consent to enter Class D - or even alone in a thermal - is too great a distraction which will endanger the key obligation of the glider pilot to himself and others in the sky – lookout.
- **Making a radio call** – what do I say? ATC need to know – what is your heading. Clearly – "to the cloud above me" is a non-starter as an intended route. (Vertical) transit time unknown. Heading – in circles, not a straight line.
- **VFR in Class D.** Only VFR flight is allowed in Class D Airspace. The glider pilot wishes to climb to cloudbase, but must stay 1000ft below it, and doesn't know how high it is until he checks it out with his altimeter by getting there.

3.7 **General factors.** There are more general factors arising from Class D Airspace above the airfield:

- **Loss of freedom.** As well as the specific points already covered, there is the more general and intangible loss of freedom that is the very nature of why glider pilots love their sport.
- **Instructors.** Instructors are the lifeblood of a gliding club, and a club cannot survive without them. A club run on a voluntary basis relies on their selfless and generous amounts of time spent bashing out circuits and nudging Bloggs towards going solo. DSGC has 30 Instructors, on rota. Many Instructors continue with this generous donation in the knowledge that they can also escape from teaching (which can of course also be rewarding in itself) to fly local soaring or cross-country. It is highly likely that without the raison d'etre of freedom flying, many would move to other clubs or simply call it a day.
- **'Mile High Aerotows'.** The introduction of Mile High Aerotows for Trial Lessons [to 5000ft above sea level] has proved very popular with members of the public wishing to experience gliding for the first time. They make a real contribution to covering the costs of running the gliding club for members. These will not be possible within the ACP proposals.

3.8 **Reasons for Rejecting the Glider Box concept.** At meetings with DSGC, Exeter's Consultants stated that in view of the 'essential need', there was no alternative to Class D overhead and surrounding North Hill. In trying to rescue something from the situation, a Glider Box was tentatively discussed. It was understood that further discussions would take place. It was understood that this 'concession' was for DSGC pilots, at a local level, in the same way that previous Letters of Agreement have been reached with Exeter ATC in previous years. In the past, the Club has made clear to members what is expected of them in respect of the Letter of Agreement and this has generally worked well. 'Incursions', whether in Airspace or outside of informal agreements, are for ATC regrettably part of life and presumably part of the job.

3.9 **What happened next.** To the surprise of DSGC, the Glider Box concept was included in the ACP consultation document and not entirely in the form that had been discussed. It appears that the Consultation process was being pushed ahead regardless, to a timetable, and as a shortcut to further discussion on what the Club had understood. ***DSGC has re-examined the Glider Box concept put forward in the ACP consultation.***

- It can see no justification for it, in light of the number of ATMs in the glider operations period from 10.00am to 6.00pm.
- it is completely unreasonable to go forward for the future knowing that flying from day to day is only at the discretion of Exeter ATC, which might or might not be forthcoming, either short term or long term. Furthermore, it would be impossible to plan future investment decisions without the certain knowledge of our ability to continue flying.
- The proposals within and more widely around the Glider Box concept impose limitations which DSGC finds unacceptable.

3.10 **Summary.** ***Imposition of the proposed Class D would be a disaster for DSGC, and would be likely to cause its closure. Important note: Any alternative proposal that involved controlled airspace would have similar consequences for its location – virtual no-go areas for gliders. Gliders on cross-country cannot afford to get low, otherwise they risk being forced into a field landing, either on hitting sink or due to finding insufficient lift at low level. Thus the likelihood of field landings increases markedly - with attendant risks to pilot and aircraft.***

4.0 ACP MISREPRESENTATIONS AND FAILURES TO MEET DESIGN OBJECTIVES

4.1 **Important Note.** Clearly, the ACP document refers to the outcome of the pre-publication design and consultations. In the case of DSGC, Exeter were aware that (a) DSGC considered the unmitigated Class D design would have unworkable and disastrous consequences for the Club; (b) there were only the most tentative discussions on a Glider Box after Exeter stated unequivocally that the design of the Class D could not be reduced. The ACP was published by Exeter Consultants before the completion of initial consultations - in the knowledge that, in any event, the outcome would might or might not have been considered acceptable to the DSGC committee and membership. It was also published in the knowledge that - *in the absence of any LoA* - the Club is thus faced with the attempted imposition of the unmitigated Class D design, in its entirety.

4.2 **Overview.** Throughout the ACP there are a number of misrepresentations of facts and of the effects of the proposals. Some of these are relatively trivial but many significant. These are highlighted because they indicate an unsatisfactory approach to the process of consultation and if unchallenged could mislead the CAA on the legitimacy of the initial consultations and of the ACP document. In following paragraphs, the Section within the ACP is noted, and then the paragraph containing the words highlighted.

4.3 **ACP 1.1** first paragraph: “Exeter considered various options, but in order to maintain levels of safety and enhance airspace efficiency, **whilst causing minimal disruption to all aviation stakeholders,** Exeter propose to establish Class D Controlled Airspace (CAS) around the existing Exeter Airport Aerodrome Traffic Zone (ATZ).” This is a knowingly false statement, and should not have been included.

4.4 **ACP 1.3** first paragraph: “Exeter wishes to engage with all aviation stakeholders that might be affected by the ACP. Constructive feedback will inform the proposal development, **ensuring that positive impact is enhanced and any negative impact is minimised.**” At present the negative impact is maximised: this aspiration remains a goal to be achieved, dependent upon review after the Consultation period closes.

4.5 **ACP 1.7**, first paragraph "**Although unlikely, should the issues identified require major changes to the proposal, a further consultation on the revisions would be required**". This is not a misrepresentation, rather it is a welcome statement of what is still needed – major change.

4.6 **ACP 1.8** first paragraph: **"The full proposal submitted to the CAA will include the following: the full CAS design….and the results of the consultation to demonstrate that the proposal is balanced and that it meets stakeholder requirements".** Clearly the design at present is *lacking any balance whatsoever,* being totally biased in favour of the change sponsor.

4.7 **ACP 1.9** third bullet point requiring the CAA to "Satisfy the requirements of operators and owners of all classes of aircraft;" At risk of repetition, this aspiration is yet to be met.

4.8 **ACP 2.1** first paragraph: "Although Exeter ATC handles the current operational issues safely and effectively on a tactical basis, any future increase in traffic may result in overload situations **as controllers try to accommodate more aircraft in a limited volume of airspace, particularly to the east of the Airport**." As an observation, this seems a misleading statement as this is Class G airspace, and therefore by definition unlimited airspace.

4.9 **ACP 2.2** third paragraph: there are a number of statements within this paragraph that should be read in the context of the point made in paragraph 1.2 above regarding controller interventions. In particular the statement that…."*These incidents create a significant increase in workload and distract ATC from the task of providing a service in Class G airspace"*… sits uneasily with the fact that such incidents, where recorded, occur in 0.337% of ATMs. This would not appear to give rise to a "significant" increase in workload.

4.10 **ACP 2.2** fifth paragraph: **ATMs**. The misrepresentation of ATMs and the lack of any substantiation of forecasts is dealt with in 1.3 &1.4 above and elsewhere.

4.11 **ACP 2.3** first paragraph "The safety, operational and navigational requirements of Exeter, its on-base flight operators **and local aerodromes**, have influenced the development of the proposed airspace design." The existence of North Hill airfield and indeed Dunkeswell Aerodrome and Upottery Airfield have made no difference to the current design, so this is completely untrue.

4.12 **ACP 2.4: "**Despite continued economic pressures in Europe, **Exeter reports that passenger numbers have increased by 20% between 2011/12 and 2016/17** with the introduction of new routes, which will continue to be added to in the coming years. The Exeter ACP has been designed with the intent to protect current day-to-day operations at the Airport, whilst providing the flexibility to incorporate, effectively and efficiently, projected growth (projected 3% year on year growth to the end of this decade) in CAT ". While the growth figure quoted may be correct, it is misleading to the extent that passenger numbers for 2016 are still slightly below those for 2005.

4.13 **ACP 3.1** fourth bullet point: "**Be of the minimum practicable dimensions**, commensurate with the regulatory and environmental requirements and the safe and efficient use of airspace." Given that the proposed CAS is greater than that of Gatwick and is overhead or adjacent to four airfields north of the A30 [North Hill, Dunkeswell, Upottery Airfield at Smeatharpe and Watchford Farm] any suggestion that this guideline has been complied with would be nothing short of absurd.

4.14 **3.3.1** second paragraph: "Exeter have considered several options in their development of potential solutions **and is keen to minimise the impact to local aviation stakeholders**…" Insufficient options have been considered to satisfy this aspiration.

5.0 OPTIONS NOT CONSIDERED

5.1 **Background.** Any Airspace decision is of course a compromise between the needs and aspirations of different parties, and a balancing of the importance of sometimes conflicting criteria. However, with no compromise whatsoever, the ACP in effect offers a false choice between all or nothing, and dismisses the status quo as unsatisfactory. It is therefore worth reviewing from Section 3.1, the principal objectives of the ACP. For convenience, bullet points are numbered instead:

1. As a minimum, to maintain the current level of safety;
2. To make the airspace more efficient for all users;
3. Provide protection to public transport passenger aircraft in the critical stages of flight prior to landing and after departure;
4. Be of the minimum practicable dimensions, commensurate with the regulatory and environmental requirements and the safe and efficient use of airspace;
5. Provide for access to the maximum extent practicable by all classes of aircraft.

5.2 **The status quo – do nothing.** In terms of these objectives, the status quo option has advantages: **(a)** It satisfies 1 above and in the circumstances where there is no substantiation of any increase in ATMs (indeed a forecast fall by IATA) and where movements 10 years ago were 25% higher than now, and were handled with no declared problem. Additionally, if 1. is satisfied, then 3. above has also been satisfied – Exeter ATC is handling current operational issues safely and effectively. **(b)** It satisfies 2. above. ATC has the maximum flexibility to route traffic at its discretion, whilst remaining aviation stakeholders continue to enjoy their existing rights of access to airspace. **(c)** It obviously satisfies the "minimum practicable dimensions" clause of 4. Regarding "…efficient use of airspace" of clause 4 - as an aside - it is worth noting that although the ACP refers to potential fuel savings in 2.3 (third paragraph) there is no quantification given. Thus it is a superficially attractive statement, but is not supported. Knowledgeable aviation-industry opinion within DSGC states that while this might be a factor, these fuel savings from the ACP's design are at the margins and relatively minimal.

5.3 **Controller Interventions.** *The need for these have effectively been put forward as the other driver for the ACP, in addition to a projected increase in ATMs*. ACP 2.2 states "In the eight years (2009-2016) there have been over 600 recorded instances of controller intervention due to unknown aircraft, and 3 AIRPROX incidents during 2016", in the vicinity of Exeter airport. The clarification from Exeter ATC provided data, and stated that as the recording of Controller Intervention was voluntary, many went unreported, so the number was only a minimum. *Nevertheless, in statistical terms these recorded instances amount to one every five days or so, or 0.337% of ATMs [see paragraphs 1.2 and 4.9 above], which would thus appear to be part of the overall normal deconfliction role of ATC.*

5.4 **Analysis of Controller Interventions.** This data showed a total of 632 recorded instances, and that 613 (97%) of these crossed the extended runway centre line or flew within 3nm of it without contacting Exeter ATC. 176 flew within the first 5nm from the overhead, 413 within the next 5nm, and 43 within the third 5 nm. The data does not state how these numbers are apportioned to the east or west of the airport.

5.5 **Analysis of AIRPROX reports.** During the same eight year period there were 6 AIRPROX incidents. Of these, three were 'close' to the ILS feathers, one was 5nm from the centreline, and two were actually within the Exeter ATZ. It should therefore be noted that five out of six AIRPROX were in close proximity to the extended runway centre line.

5.6 **Possible alternative Option 1 – Class D Airspace similar to Military Air Traffic Zone (MATZ),** see Appendix 5. As was clear from the analysis above, it is the area close to the extended runway centre line that is of concern. Under this proposal, this area could be protected by the MATZ-based design of

a 5nm radius around the airport and together with a 5nm long and 4nm wide stub centred on the extended centreline in each direction.

5.7 **Advantages.** This design does offer a solution that meets the Objective 4 above (Be of minimum practical dimensions, commensurate with the regulatory and environmental requirements and the safe and efficient use of airspace). It provides the protected approach and departure routes which Exeter is seeking, while avoiding major impact upon DSGC and other aviation stakeholders caused by the ACP. DSGC cross-country gliders are able to continue to take the southerly departure-and-return route to the south of Dunkeswell if on tasks to the east. Additionally, it substantially alleviates any funnelling of traffic into the North Hill airfield circuit and the pinchpoint created by the ACP proposal. The avoidance of these hazards was made a CAA requirement during 'Exeter International Airport Proposed Controlled Airspace Framework Briefing' of 28 June 2016. See explanation below.

5.8 **Explanation of funnelling and pinchpoint under the ACP.** Under the ACP design, some GA traffic approaching Dunkeswell from the west is likely to fly eastwards along the northerly edge of CTA-3, under the 3000ft amsl floor of CTA-4. This will put this traffic into the normal southerly circuits for gliders landing at North Hill Airfield, whether landing to west or to east on the airfield. It should be borne in mind that there is a ridge running south from the east end of North Hill airfield to Hembury Hill (a BGA turnpoint); this ridge is of similar elevation to North Hill.

5.9 **Possible alternative Option 2 – Class D Airspace as in Option 1 above with the addition of Class D to the south – see Appendix 6.** If controlled airspace is required from Airport to Airway, a 6nm block of Class D to the south of the stubs would be sufficient to permit this, with traffic to and from the north remaining in the Airway and overflying Exeter Airport. Thus both designs avoid the massive impact on long-established aviation stakeholders, and provide a proportionate and balanced solution. The reduction of funnelling through the pinchpoint also applies.

SUMMARY AND CONCLUSIONS

1. On the evidence put forward, the ACP has failed to substantiate the need for any change to the existing Airspace arrangements.

2. While not expressed in this form, the main driver for change arises from the projected growth of a very small 3% year-on-year in ATMs, against the background of the ongoing need for 'Controller Interventions'.

3. With reference to projected growth, as already noted - a key statement in the ACP is that "Exeter ATC handles current operational issues safely and effectively."

4. Exeter's estimated ATMs for 2017 are 13,525 (not the 40,417 indicated in the ACP). Passenger numbers, although not strictly relevant, were in 2016 still slightly below the figure for 2005. For three years, 2006, 2007 and 2008 ATMs were 15,000, 17,000, 15,000 respectively. 17,000 is 26% above the estimated figure for the end of 2017: it therefore seems surprising that nowhere in the ACP is there any statement that Exeter struggled to deal with these numbers at that time, to support its current case.

5. Although the case for the change is made based on a projected increase of 3%, year-on-year, no evidence is provided. Nor is any further indication given of how this is expected to be achieved. However, even if were to be achieved, the increase would appear to be marginal in terms of ATMs, and

within Exeter ATC's past capability for response – it would be useful to refer back to paragraph 1.5 at this point.

6. With regard to the secondary 'main driver' put forward as a basis for change in the ACP - the need for Controller Interventions - the ACP makes clear that Exeter ATC is currently capable of dealing with these, as outlined in the document. The failure of pilots to follow established rules and protocols is not, and should not be, acceptable. However, as it is within the 'normal' remit of ATC to monitor and act in such cases, a statistical occurrence of one such intervention every five days (for those occurrences that were recorded), or expressed differently, in 0.337% of ATMs, would not, to the non-specialist, seem excessive.

7. In the event that this reasoned evaluation is not accepted, the ACP would clearly need very substantial modification and reduction in size if it were to avoid the consequences set out earlier.

8. The analysis of controller interventions indicated that in 97% of cases the aircraft concerned crossed the Exeter final approach tracks, runway climb out areas or flew within 3nm of them, without calling Exeter ATC. Notwithstanding the facts highlighted above, if greater control is deemed necessary to be put in place, the approach and climb-out areas would seem to be where the enhancement should be focussed. It is for this reason that DSGC has proposed two options that would provide such enhancement, without the overwhelming impact of the ACP as tabled.

9. An effective consultation process is vital for all aviation stakeholders affected. A guiding principle is set down in CAP 725 where it is stated that "Commitment is key to effective consultation. The Change Sponsor must be prepared to respond to what it learns and to make changes, even if this requires major modifications, if it is appropriate"; [paragraph 4.7 of CAP 725]. DSGC would add to this, that *any* change at all from the status quo should only take place if a case has been made for that change. Rises of approximately one additional aircraft movement per day, every year for five years, do not satisfy this criterion.

10. **DSGC rejects the current ACP, which should be withdrawn. If the Change Sponsor can find new justification for an airspace change then the whole consultation process should start again including a modification to move the 'EX' NDB Hold.**

Closing Note

DSGC has for many years had a good and amicable working relationship with Exeter ATC. Regardless of the outcome of this process, it is hoped and anticipated that this will continue to be the case.

[redacted]
Secretary
Devon and Somerset Gliding Club Ltd
on behalf of the DSGC Management Committee

Appendix 1

Observations of Scheduled Flights 20 May to 4 June 2107.

DSGC monitored departures and arrivals at Exeter between these dates which included the Spring Bank Holiday, during which flights increased by about 25%. In many cases flight tracks were noted from Flight Radar 24. Although this is essentially a snapshot of activities at that time, it was able to provide some useful background information. The main focus of interest was in the number of movements to and from the northerly section of the Airway N864.

This information noted was as follows:

Average number of total movements in/out of Exeter per day - 42.8, range 32 – 51.

Average number of total movements using N864 per day - 12.4, range 8 – 14.

Average number of movements using N864 between 10:00 and 18:00 per day - 5.5, range 4 – 7.

Appendix 2

Air transport Movements 2005 - 2015 (in thousands)

Table 4.2

Appendix 2

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Percentage change on past year
London Area Airports												
GATWICK	252	254	259	256	245	234	245	240	244	255	263	3
HEATHROW	472	471	476	473	460	449	476	471	470	471	472	-
LONDON CITY	61	66	77	84	67	60	61	64	68	70	79	13
LUTON	75	79	83	86	75	69	72	72	71	76	87	16
SOUTHEND	-	-	-	-	-	-	1	7	9	12	9	-22
STANSTED	178	190	192	177	156	143	137	131	132	143	154	8
Total London Area Airports	1 038	1 061	1 088	1 077	1 004	954	992	986	994	1 026	1 065	4
Other UK Airports												
ABERDEEN	89	98	103	100	94	88	95	99	100	106	96	-10
BARRA	1	1	1	1	1	1	1	1	-	-	-	-
BELFAST CITY (GEORGE BEST)	37	37	40	40	38	39	41	36	37	36	41	13
BELFAST INTERNATIONAL	48	48	52	54	44	39	37	39	37	35	36	4
BEMBRIDGE	-	-	-	-	-	-	..	..	..	..	..	..
BENBECULA	3	3	3	3	3	3	3	2	2	2	2	-
BIGGIN HILL	-	-	-	-	-	-	-	-	-	-	-	-
BIRMINGHAM	113	109	104	103	94	85	84	84	85	89	90	-
BLACKPOOL	13	13	13	11	11	10	9	10	10	8	7	-20
BOURNEMOUTH	12	12	12	12	9	7	6	7	7	7	9	27
BRISTOL	61	66	59	60	54	54	53	51	54	53	55	4
CAMBRIDGE	-	-	-	-	-	-	-	-	-	1	-	-
CAMPBELTOWN	-	-	-	-	-	-	-	-	1	1	-	-
CARDIFF WALES	21	22	23	23	20	17	16	14	14	14	14	-1
CITY OF DERRY (EGLINTON)	4	5	6	6	4	4	4	3	3	3	2	-24
COVENTRY	10	8	7	4	1	-	-	-	-	-	-	-
DONCASTER SHEFFIELD	5	8	9	7	6	7	6	4	4	5	6	9
DUNDEE	2	2	3	4	4	4	3	3	1	1	1	-2
DURHAM TEES VALLEY	12	12	11	9	6	6	5	4	4	4	4	-3
EAST MIDLANDS INTERNATIONAL	54	56	61	66	57	52	54	55	57	57	56	-1
EDINBURGH	116	116	115	114	106	101	105	103	104	101	107	6
EXETER	12	15	17	15	13	12	12	12	13	12	13	4
GLASGOW	97	97	94	87	74	69	70	72	73	74	80	8
GLOUCESTERSHIRE	-	-	-	2	2	2	1	1	1	1	1	-1
HAWARDEN	2	-	-	-	-	-	-	-	-	-	-	..
HUMBERSIDE	11	13	13	13	14	13	13	13	12	12	11	-9
INVERNESS	16	17	15	14	12	10	10	10	10	10	11	10
ISLAY	1	1	1	1	1	1	2	1	2	2	2	5
ISLES OF SCILLY (ST.MARYS)	11	11	12	11	11	10	11	10	11	9	11	12
ISLES OF SCILLY (TRESCO)	3	3	3	3	2	2	2	2	..	..	..	..
KIRKWALL	9	10	11	11	11	10	11	10	11	11	11	-
LANDS END (ST JUST)	4	4	5	5	5	5	5	6	7	6	8	46
LEEDS BRADFORD	36	37	40	38	33	33	33	30	30	30	31	4
LERWICK (TINGWALL)	1	1	2	2	2	1	2	2	1	1	1	11
LIVERPOOL (JOHN LENNON)	49	48	46	44	42	43	46	36	33	30	33	10

Appendix 3

Definition of ATMs (most relevant section in bold)

Appendix Definitions - UK Airport Statistics (including Channel Islands & Isle of Man)

There are some differences between the definitions used in this publication and those used in "UK Airlines - Monthly Operating Traffic and Financial Statistics". These arise mainly because UK Airlines are not asked to report non-revenue passengers or non-revenue cargo. The classification of European traffic differs between the publications. Airport statistics include all traffic with an origin or destination within the Community: Airline statistics analyse activity within the liberalised area, the geographic boundary of which may vary from time to time.

MOVEMENTS

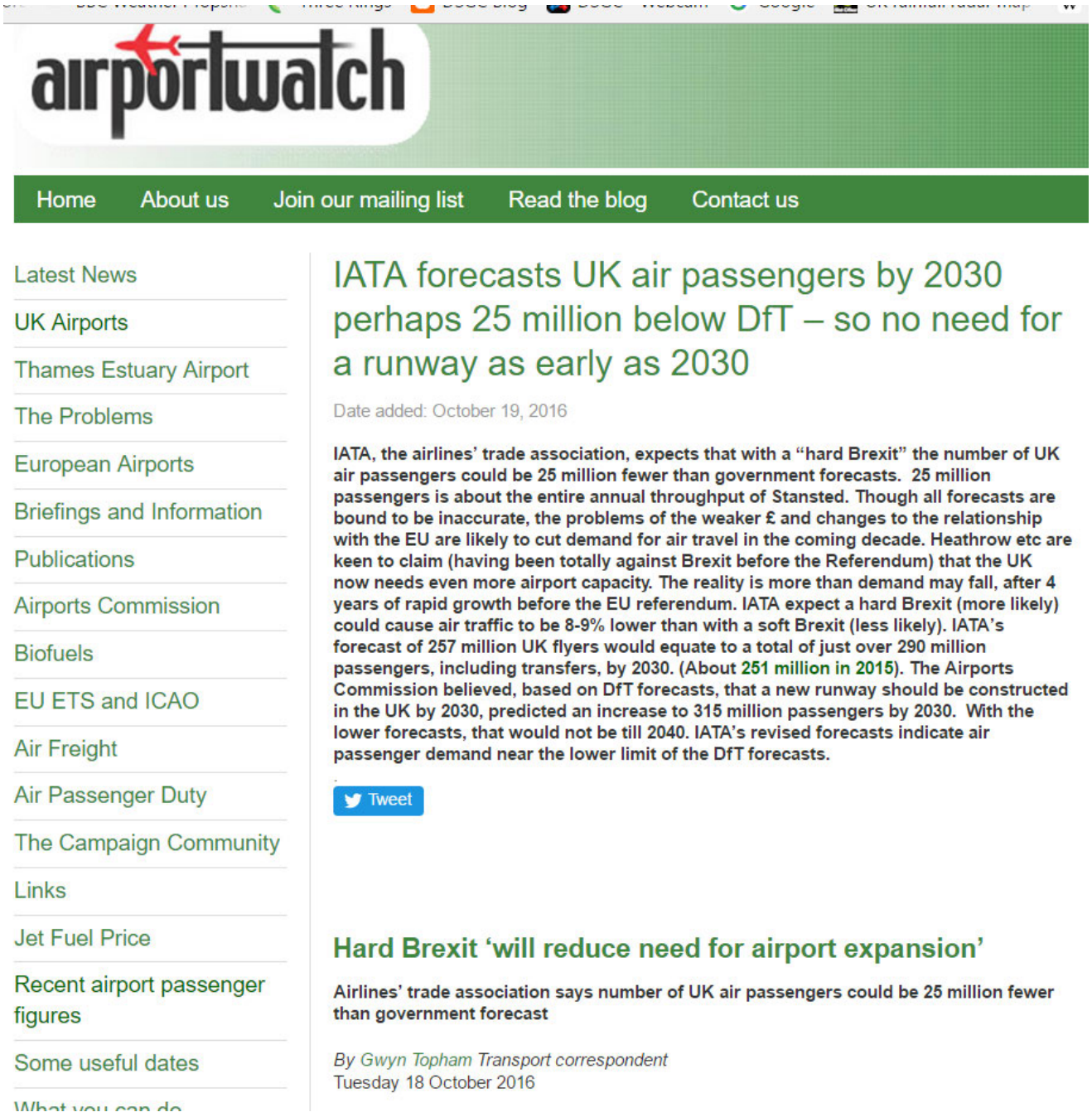
Aircraft movement. An aircraft take-off or landing at an airport. For airport traffic purposes one arrival and one departure are counted as two movements.

Commercial Movements

Air transport movements are landings or take-offs of aircraft engaged on the transport of passengers, cargo or mail on commercial terms. All scheduled movements, including those operated empty, loaded charter and air taxi movements are included. For the purpose of these statistics where flights are operated on a sub charter basis the operator is identified according to the flight number. In the case of code sharing and franchise services the flight is allocated to the operator who has commercial responsibility for the service.

Source:
https://www.caa.co.uk/uploadedFiles/CAA/Content/Standard_Content/Data_and_analysis/Datasets/Airline_data/2016/April/Foreword.pdf (page 4).

Appendix 4



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- Recent airport passenger figures
- Some useful dates
- What you can do

IATA forecasts UK air passengers by 2030 perhaps 25 million below DfT – so no need for a runway as early as 2030

Date added: October 19, 2016

IATA, the airlines' trade association, expects that with a "hard Brexit" the number of UK air passengers could be 25 million fewer than government forecasts. 25 million passengers is about the entire annual throughput of Stansted. Though all forecasts are bound to be inaccurate, the problems of the weaker £ and changes to the relationship with the EU are likely to cut demand for air travel in the coming decade. Heathrow etc are keen to claim (having been totally against Brexit before the Referendum) that the UK now needs even more airport capacity. The reality is more than demand may fall, after 4 years of rapid growth before the EU referendum. IATA expect a hard Brexit (more likely) could cause air traffic to be 8-9% lower than with a soft Brexit (less likely). IATA's forecast of 257 million UK flyers would equate to a total of just over 290 million passengers, including transfers, by 2030. (About 251 million in 2015). The Airports Commission believed, based on DfT forecasts, that a new runway should be constructed in the UK by 2030, predicted an increase to 315 million passengers by 2030. With the lower forecasts, that would not be till 2040. IATA's revised forecasts indicate air passenger demand near the lower limit of the DfT forecasts.

Tweet

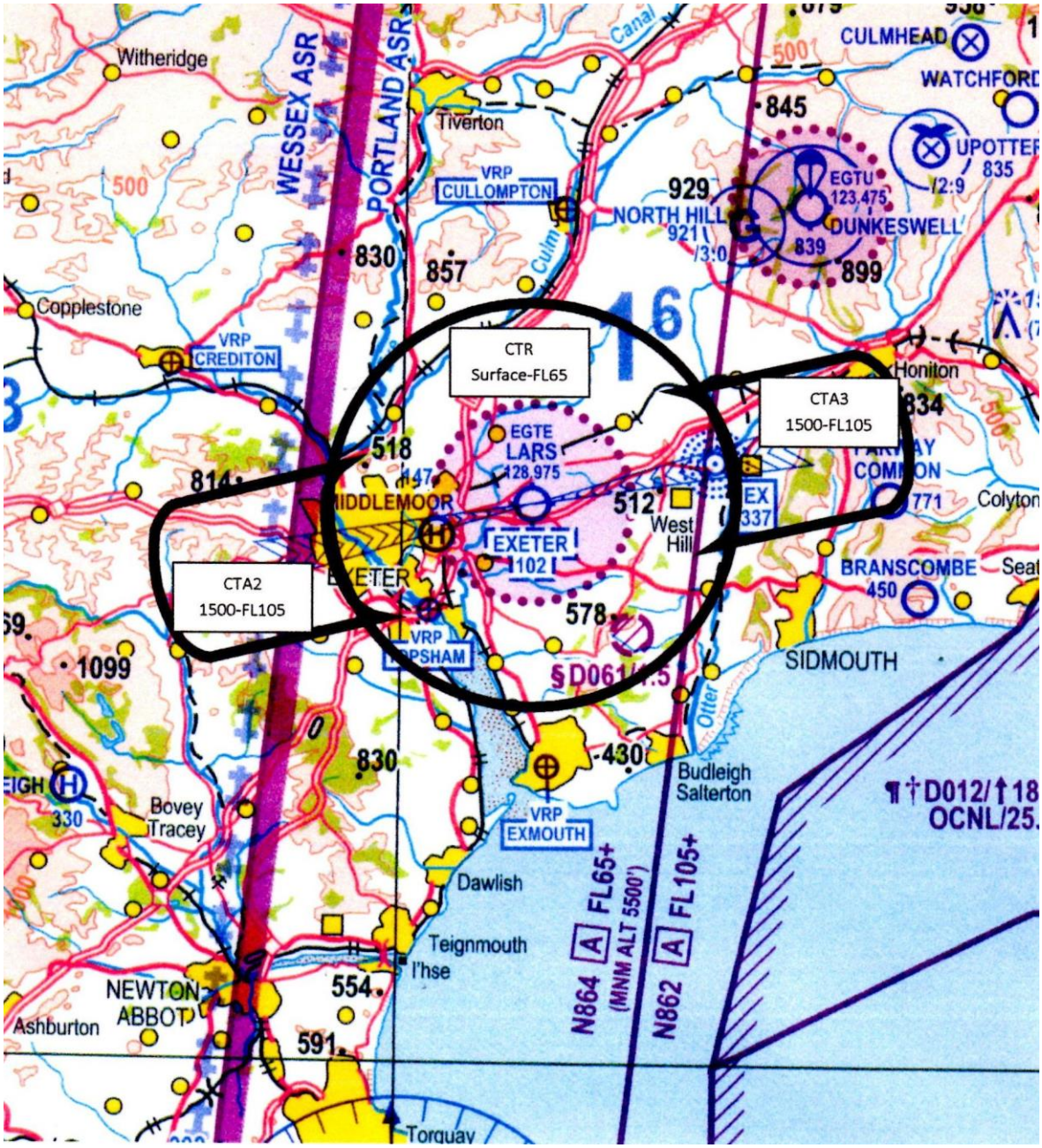
Hard Brexit 'will reduce need for airport expansion'

Airlines' trade association says number of UK air passengers could be 25 million fewer than government forecast

By Gwyn Topham Transport correspondent
Tuesday 18 October 2016

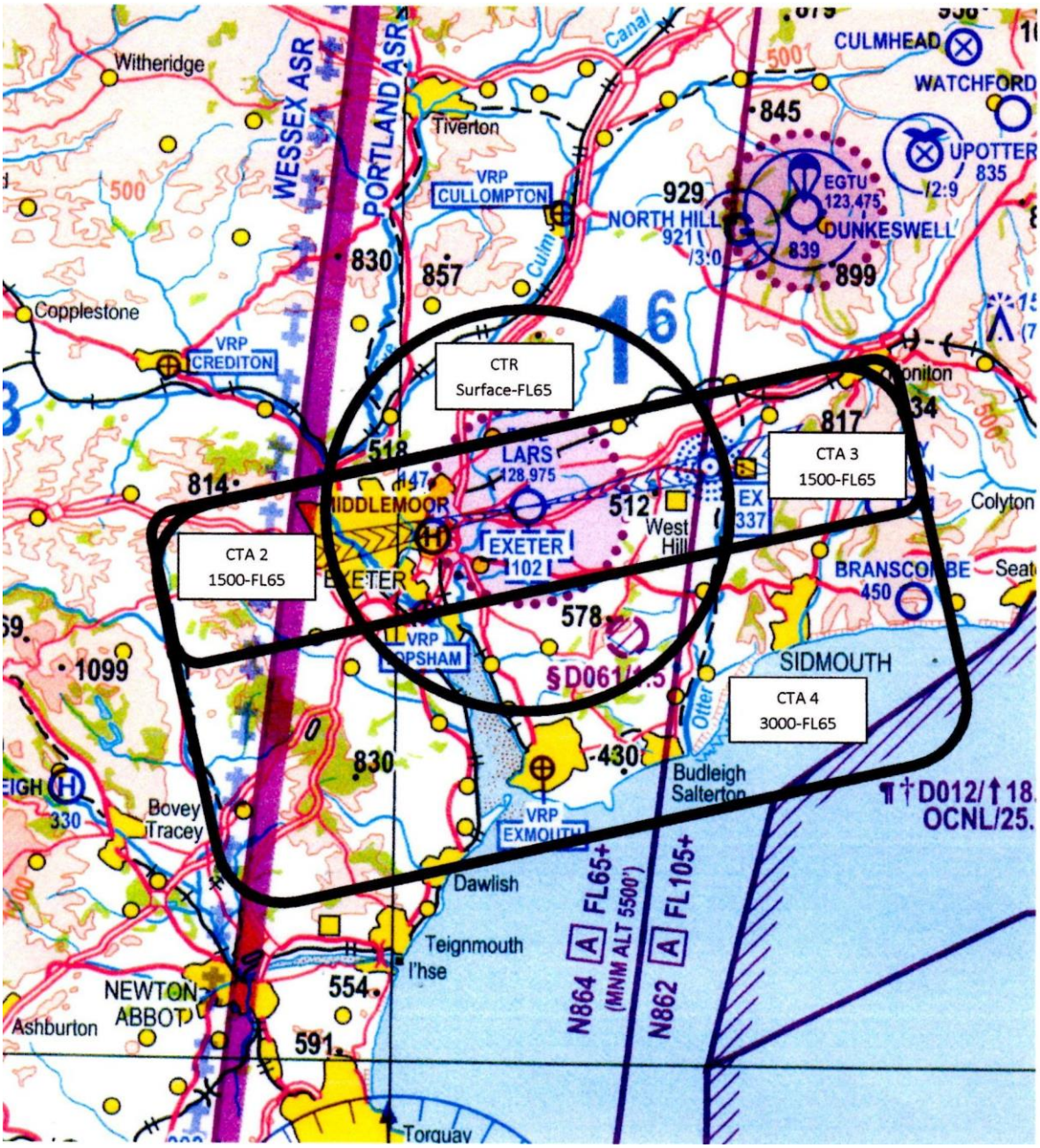
Appendix 5

DSGC – Possible Option 1



Appendix 6

DSGC – Possible Option 2



Appendix 7

A busy launch grid in summer

Exeter Scouts enjoy a flying evening

Appendix 7 (continued)

The club fleet

Annex 1 to Exeter ACP Stakeholder Questionnaire

ACP Design Principles

DSGC believes that from the viewpoint of aviation stakeholders, the principles which should guide any changes proposed to local airspace are set out in the appropriate legislative and industry guidance, as highlighted below. These principles should therefore guide the development and assessment of options.

1. **The statutory framework:** the established hierarchy of principles and priorities set out in the Transport Act 2000 Section 70, including footnotes 1 – 3. (See https://www.caa.co.uk/Commercial-industry/Airspace/Airspace-change/Legislative-framework-to-airspace-change/) .
2. Compliance with all other statutory and CAA guidance on changes to and the modernisation of airspace, including and subject to the following provisions.
3. "The principle that the least restrictive categorisation of airspace should be the norm in UK airspace design, with more restrictive classifications only being established where necessary when the safety need is clearly demonstrated". (Taken from SARG's Policy Statement dated 14 August 2015 for Radio Mandatory Zones and Transponder Mandatory Zones, paragraph 1.2).
4. "Any airspace design is to use the minimum volume of CAS, consistent with safe and efficient air traffic operations". (So as to comply with the relevant Airspace Modernisation Strategy Objective/parameter, see AMS page 23).
5. "Airspace developments at lower altitudes must…consider the need to safely integrate other airspace users within the airport vicinity, including General Aviation…" (AMS paragraph 4.24) with the related principle that "airspace modernisation should satisfy the requirements of operators and owners of all classes of aircraft across the commercial, General Aviation and military sectors". (AMS paragraph 3.5).
6. Additional Note: DSGC feels that airspace structures in terms of zones and CTAs should not be overly complicated. This principle appears to have had backing from NATS during the 2017 ACP process. [*"NATS raised concerns relating to the airspace design which was assessed as potentially complicating Air Traffic Management (ATM) arrangements in the area":* , quote from Consultations Report, Executive Summary: this was understood to relate to the number, size and varying bases of the CTAs].

Summary

The principles set out above enable a subsequent test to be applied to the preferred option which is proposed to form an ACP submission:

(a) Has the safety need for any change from the status quo been clearly demonstrated? (So as to comply with the SARG principle referred above).

(b) Do the proposals constitute the least restrictive categorisation of airspace required to meet the demonstrated need? (Ditto).

(c) In the event of a demonstrable need for controlled airspace, has the change sponsor clearly demonstrated that its proposal will…*"use the minimum volume of CAS, consistent with safe and efficient air traffic operations?"* (So as to comply with the relevant AMS Objective/parameter, see AMS page 23).

Exeter Airport Airspace Change Proposal

Design Principles Questionnaire

Responses of Devon & Somerset Gliding Club

Date: **29th April 2019**
Revision: **Issue 1**
Osprey Ref: **71189 012**

Document Details

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	Design Principles Questionnaire
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Issue	Amendment	Date
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Approval Level	Authority	Name
Author	Osprey CSL	
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1 Stakeholder Questionnaire

1.1 Your Responses

The questions below are designed to help us understand the constraints that should be considered during the CAA CAP 1616 Design Principles step of the Define Stage (1). Please insert your responses below to each of the following questions; the size of the response box will expand as you type your response. Use as much space as you need, or alternatively attach additional sheets or documents making it clear which questions you are responding to. Save this and any other documents and return as described at paragraph **Error! Reference source not found.** above. If any of the questions are not applicable or relevant, please say so against the appropriate question.

It should be noted that wherever possible, within the constraints that procedure designers are obliged to work to, designs will be developed to avoid built-up areas.

Please complete the following:

Representative Organisation:
Devon and Somerset Gliding Club (DSGC) flying from North Hill Airfield (NH).

Question
Q1 - Please list any altitude constraints, together with your reasons, that you feel Exeter Airport could consider when designing its new airspace structure?

Question 1, Altitude Constraints. DSGC Response:

Preliminary Note

DSGC gliders have, since the club was formed in 1967 enjoyed almost unlimited access to Class G airspace overhead and around the club.

North Hill airfield is located 9 nm north-east of Exeter Airport in Class G airspace, and 6 nm north of the ILS feathers for Runway 26. It is on the edge of the Blackdown Hills at approximately 900 ft amsl, with a spur of the Blackdowns running southwards for 2 nm from a point just east of the airfield, at approximately the same height.

The club's current constraints are:

- **The Dunkeswell airfield ATZ,** where limited access is available within the terms of a Letter of Agreement [LOA] between DSGC and Dunkeswell. On a reciprocal basis, Dunkeswell's approach and departure traffic is required to avoid NH.
- **The requirements of Skydive Buzz Ltd, the parachuting club based at Dunkeswell Airfield.** There are arrangements between DSGC and Skydive Buzz.
- **Exeter Airport Letter of Agreement.** Given the close proximity of NH to Exeter, DSGC has a LOA with Exeter ATC which (subject to agreed procedures and rules) permits NH gliders to fly without making radio contact to Exeter ATC, south as far as the clearly visible topographic boundaries of the A30 trunk road and the Honiton–Exeter railway line. If NH gliders wish to fly to south of this topographic boundary, they are required to make contact with Exeter ATC.
- **The north-south airway Berry Head CTA FL65+ (N864)** which lies overhead and adjacent to the western end of North Hill Airfield.

"Altitude constraints, together with your reasons".

1. ***Any* future altitude constraints overhead and within gliding range of NH make gliding less attractive to members. Firstly, local soaring.** Gliding range from a home airfield such as NH is determined by soaring conditions on the day. On a good soaring day with favourable thermal lift conditions, this can be up to 20 nautical miles from NH. **Reasons for adverse impact of altitude constraints:** put simply, the pleasure and satisfaction in gliding arises - firstly, from successfully using the skill of gaining and sustaining altitude to prolong the duration of the flight; and secondly - from using the height gained to fly away from and then return to the home base. Many club members prefer to remain within gliding range of the club. However, any constraint on altitude also imposes consequent limitations on gliding range from the airfield and more widely, on the satisfaction of flying. **Constraints arising from CAS therefore have significant implications for member satisfaction and thus on the viability of the club.**
2. **Future altitude constraints – adverse implications for cross-country flying.** Flying longer distances cross-country is what most glider pilots aspire to. When weather conditions permit, DSGC pilots fly to-and-from distant turnpoints, for example, Chard, Crewkerne, Dorchester, Crediton, Wimbleball Reservoir and Okehampton; and in strongest conditions, to Salisbury Cathedral and beyond to the east, and Launceston to the west. **Reasons for adverse impact of altitude constraints:** before setting off on a cross-country flight, pilots will wish to gain sufficient height to satisfy themselves that the soaring conditions are indeed as interpreted from meteorological data before the flight, and to gain sufficient height to fly away from NH. Secondly, when gliding home from a distant turnpoint, the pilot needs to have sufficient altitude to get home (stopping if necessary to gain more height by circling in a thermal and by routing via most likely sources of lift). Any limitation in altitude places a barrier to the route of the flight and/or increases the risk of a forced landing, particularly as thermals are weaker in the lower half of the convective layer. For these reasons, controlled airspace (CAS) is a virtual no-go area for glider pilots, as - unlike powered aircraft - gliders do not fly in straight lines at fixed altitudes.
3. **Future altitude constraints – detrimental effects on DSGC operations.** DSGC's normal operations include aerotows to 5000ft amsl for both spin recovery training for pilots, and trial lessons flights for members of the public. Regarding the latter, a useful part of the club's income

is derived from the marketing and sale of these 'mile-high aerotows' (to a mile above sea-level). (As noted above, NH is approximately 900 ft amsl).
Q2 - Please inform us of the latest proposed timescales for any neighbouring airspace/procedure re-design projects?
Q.2 Your Response: N/A [not applicable] to DSGC.
Q3 - Please advise us of any future requirements for improved coordination (particularly adjacent/contiguous routes) between Exeter Airport and adjacent ATC units that should be considered during the development of the new Exeter Airport airspace structure?
Your Response: N/A to DSGC.
Q4 - Are there any current Air Transport Movement coordination arrangements with Exeter Airport that you would like to see remain or change as a result of Exeter Airport's new airspace design? Please provide a brief description.
Your Response: <u>Recommended change.</u> Relocate the EX NDB Hold to a right-hand pattern to the south of the runway, which would move it from the currently heavily used Class G area.
Q5 - Are there any aspects of the Future Airspace Strategy (FAS) (e.g. airway entry/exit points, existing planned or new handover points) that Exeter Airport should take into account in the design of the new airspace? Please provide details.
Your Response: It is the understanding of DSGC that with effect from December 2018 the FAS is superseded and replaced by the Airspace Modernisation Strategy (AMS) [see AMS/CAP 1711 Executive Summary paragraph 3] with the possible exception of the redesign of the terminal network [AMS page 112]. *(DSGC would welcome correction on this point as appropriate).*
Q6 - Are you aware of anything in the CAA Airspace Modernisation Strategy that presents a risk or opportunity to Exeter Airport airspace development? Please provide details.

[Question 6 – AMS, risk or opportunity?] Your Response:

It is the view of DSGC that the AMS - in conjunction with this Airspace Change Proposal – can provide the opportunity and impetus to rationalise and integrate Exeter traffic and GA traffic. However, this is dependent upon the extent of any CAS envisaged by the change sponsor.

1. The AMS requires the modernisation of airspace at lower altitudes (up to 7000 ft) by 2024. [AMS see Table 1 page 10; and Paragraph 4.1, page 62].
2. It is understood that the majority of CAT approaches at Exeter utilise the ILS system for instrument flight procedures, rather than the available RNAV LPV approaches (or NDB hold).
3. The AMS refers to the modernisation of airspace at lower altitudes by implementing more precise and flexible satellite-based arrival and departure routes [AMS Paragraph 4.24]. This modernisation is understood by DSGC to be a top priority [AMS Paragraph 4.30].
4. Two alternative initiatives are identified in AMS Paragraph 4.26 to achieve this modernisation: either the replication of existing arrival and departure routes with satellite navigation upgrades, or the deployment of new arrival and departure routes designed to satellite navigation standards.
5. Notwithstanding these stated "ends" [objectives] of the AMS, EDAL has stated in paragraph 3.3 of this Questionnaire that *"Exeter Airport does not have, and is not intending to introduce SID or STAR procedures for aircraft operating from the airport. Routing to and from the airways structure will be facilitated by tactical instructions from ATC, which currently leads to the natural dispersion of aircraft around the local area...."*
6. The airspace modernisation proposed in the AMS, coupled with this ACP, would seem to present an appropriate opportunity to introduce SIDs and STARs which would have the effect of reducing the volume of any CAS that is proved to be necessary.
7. **Thus, if the case for CAS beyond the critical stages of flight is clearly demonstrated, DSGC is requesting in Question 29 below that Exeter revises its routings of CAT to minimise the potential confliction of Exeter traffic with GA traffic in areas to the north of the ILS feathers. It is the view of DSGC that this aim can be achieved during the modernisation of Exeter's approach and departure methodology referred to in replies above to Questions 6.1 to 6.6, which is understood to be required in any event by 2024 under the objectives of the AMS.**

Q7 - Do you have an existing Letter of Agreement or Memorandum of Understanding or other agreement with Exeter Airport? If so, do you see this as:

(a) An agreement you would like to see remain, preferably in its current form.
(b) An opportunity to alter or extend this agreement – and how?
(c) An agreement that is unfit for purpose (or may come to be as a result of the change).

Your Response:

Following a long period of unwritten rules, DSGC has a LOA with Exeter ATC jointly signed in June 2017 and reviewed annually. It is beneficial to both parties: it facilitates NH pilots to fly southwards (towards the ILS feathers and the easterly final approach track, to a readily identifiable topographic boundary) without the need to make radio contact with ATC; the LOA thus also reduces ATC workload.

The future retention of this LOA depends upon the extent of any CAS that may be introduced as a result of this ACP. This is dealt with in response to Q.29.

Q8 - Please let us know if there are any day time or night time constraints that you consider Exeter Airport could take into account when updating its airspace structure? Please provide details and reasons.

Your Response:

1. DSGC's normal soaring-flight hours are 10.00am to 6.00pm (dependent upon time of year) although training and limited local flying can take place outside these hours.
2. Additionally, it is the contention of DSGC that 10.00am to 6.00pm is also the core time for most GA flights.
3. Any additional controlled airspace at Exeter will negatively impact DSGC's existing rights under Class G airspace.
4. DSGC therefore strongly believes that any proposal for a revised airspace structure which goes beyond the critical stages of flight should and can be adapted to minimise the impact upon NH and the other airfields north of the Exeter airport during these hours. Further details are given in Q.29 below.

Q9 - Please tell us if there are there any other operational constraints that Exeter Airport will need to consider when planning its new airspace?

Your Response:

See response to Q.15 below.

Q10 - Please inform us of who you consider to be the other key local aviation stakeholders that you believe Exeter Airport should engage with during the process of designing its new airspace? Please provide details and reasons.

Your Response:

- Devon and Somerset Flight Training Ltd, Dunkeswell, EX14 4LG. Its operations will be directly affected.
- The Devon Strut of the Light Aircraft Association. It is the largest aviation membership body in the south west, including members who fly out of Exeter, Dunkeswell and Watchford Farm. It is an established fact that many GA pilots prefer to avoid CAS, and this may cause funnelling and pinch points around the margins of re-classified airspace.
- Skydive Buzz Ltd at Dunkeswell Airfield. On flying days, the parachuting club operates numerous flights to 15,000 ft before dropping within the Dunkeswell DZ.
- Somerset Microlights, Dunkeswell Airfield, Culme Way, Honiton EX14 4LJ
- Farway and Branscombe Airfields.

Q11 - Please provide details of any constraints imposed by restricted operations in the area encompassed by Exeter Airport flight operations (e.g. military operations, danger areas, restricted areas, route crossings, transit corridors, training areas etc.)?

Your Response:

N/A to DSGC.

Q12 - Please indicate if you feel there is a requirement for improved coordination between Exeter Airport and adjacent Air Navigation Service Providers (ATC) units that should be considered during the development of the Design Principles, Design Options and when implementing the new Exeter Airport airspace structure?

Your Response:

DSGC has no response to make on this point.

Q13 - Please provide details of any issues or constraints due to local helicopter operations that you believe may have an impact on Exeter Airport's new airspace design project?

Your Response:

DSGC has no response to make on this point.

Q14 - Please provide details of any issues or constraints due to local General Aviation operations, that you believe may have an impact on Exeter Airport's new airspace structure.

Your Response:

See response to Q.8 above.

Q15 - Please provide details of any constraints that may be occasioned by local gliding activities on the Exeter Airport's new airspace structure?

Your Response:

Refer again to response to Q.1. In addition:

1. It is worth emphasising that gliders do not fly in straight lines or at fixed altitudes because they are reliant on atmospheric conditions (particularly thermal lift) to remain airborne. Thermals are weaker in the lower half of the convective layer. Before flying, glider pilots choose a route dependent upon conditions on the day, and then en route, by reading the sky for likely best sources of lift on and adjacent to the intended route. There is a constant chance of encountering sink (down-going air) which causes varying amounts of height loss, from minor to dramatic.
2. Constraints on altitude mean reduced distance capability and a greater risk of a forced landing. Forced landings are the highest cause of injury to glider pilots and of damage to aircraft in gliding.
3. For these reasons, CAS is effectively a no-go area for gliding, especially if the current exemption to the SERA 5001 rules when flying in Class D airspace is withdrawn. See https://members.gliding.co.uk/2019/04/24/caa-consultation-on-proposed-changes-to-vmc-minima-in-class-d-airspace-2/.

Q16 - Please provide details of any impacts on General Aviation flying that you feel may be occasioned by any new airspace proposed by Exeter Airport.

Your Response:

- Risk to the viability of DSGC dependent upon the extent of CAS introduced.
- Insofar as gliding is a part of General Aviation, see responses to questions 1, 8 and 15.
- Doubtless this question will be dealt with by other aviation stakeholders.

Q17 - When Exeter Airport designs new airspace, please list the facilities in your local area that you believe could be prioritised when considering aircraft noise (eg hospitals, schools, parks, hospices etc)?
Your Response: Blackdown Hills AONB.
Q18 - Please tell us if multiple routes that disperse noise across a greater number of households are more of a priority for you than a single route that concentrates noise along a track above a smaller number of households.
Your Response: DSGC is not a householder and of course cannot speak for any individuals on this point. However, in general terms it would seem desirable that aircraft noise is dispersed. If controlled airspace is proved necessary beyond the critical stages of flight, then PBN enables the use of alternative routes which can 'share' the noise arising from larger aircraft.
Q19 - Please identify any other areas, in adjacent council/borough areas, that in your opinion may be sensitive to either direct overflight or exposure to aircraft noise, including during the night-time period?
Your Response: DSGC has no response to make on this point.
Q20 - Do you believe aircraft conducting continuous climbs or descents to/from altitude (where this is safe to do so) may improve (lessen) exposure to noise in your local area?
Your Response: 1. In general terms it is understood that Continuous Descent Approaches (CDAs) and Continuous Climb Departures (CCDs) can lessen overall noise levels around an airport from CAT. This would therefore apply to the Exeter Airport locality. 2. It is also understood that CDAs require CAS from Airway to Airport. DSGC has commented on the implications of this in Question 29 below.
Q21 - Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to Areas of Outstanding Natural Beauty (AONB), Sites of Special Scientific Interest (SSSI) etc), that you feel aircraft could avoid?
Your Response: Blackdown Hills AONB.
Q22 - Please state what principles you believe Exeter Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner exhaust fumes or pollution?

Your Response: DSGC has no response to make on this point.
Q23 - Please bring to our attention any recent or ongoing local environmental studies, you feel should be considered by Exeter Airport when designing the new airspace structure?
Your Response: DSGC has no response to make on this point.
Q24 - Are there any other local development projects, perhaps currently at the planning stage, that Exeter Airport should be aware of and consider when planning its new airspace structure?
Your Response: DSGC has no response to make on this point.
Q25 - Please list any other relevant local or national organisations that you believe Exeter Airport should ensure are involved in its formal consultation.
Your Response: • The Devon Strut of the Light Aircraft Association. • British Gliding Association. • The General Aviation Alliance. • The Light Aircraft Association. • British Hang Gliding and Paragliding Association.
Q26 - Please provide the location of any future planned facilities you are aware of in your local area that could be considered sensitive to the impact of aircraft noise; please state why you feel this is necessary?
Your Response: DSGC has no response to make on this point.
Q27 - Are there any areas that you feel will suffer more due to the impact of aircraft noise if the displacement of other aviation traffic were to occur due to the Exeter Airport airspace design project?

Your Response: CAS is avoided by much GA traffic, therefore funnelling of GA traffic, both horizontally and vertically, into potential pinch-points on the periphery of proposed CAS needs to be considered carefully before introducing CAS, from both a safety and noise viewpoint.
Q28 - If you were flying as a passenger from Exeter Airport, we would be grateful for any views you may wish to express about how Exeter Airport should consider the needs of the local community?
Your Response: The needs of the local community include other aviation users.
Q29 - Please advise us of any other issues or constraints you feel Exeter Airport could consider when designing its new airspace structure? Please provide details.

[**Q29 – "other issues or constraints"].** Your Response:

1. **Design Principles for the ACP process.**
    1) It is understood that these Responses will contribute to Step 1B of CAP 1616, the development of "design principles" which will act as guidance for the development of design options. It is noted that this is to be part of a *"two-way conversation with relevant stakeholders"*. [Appendix D, paragraph D4].
    2) Although this part of the process has not yet started, DSGC wishes to take this opportunity to put forward what it sees as fair and reasonable design principles from the viewpoint of an aviation stakeholder. These design principles are set out in "Annex 1 – Design Principles" with this Response.
    3) It is also noted that paragraph 108 of CAP 1616 (page 33) states *"The design principles form a framework against which airspace change design options can be evaluated."* The DSGC Annex 1 - proposed Design Principles - incorporate a simple 'test' for evaluating design options, again from the viewpoint of aviation stakeholders.
    4) *DSGC would therefore welcome the agreement of the change sponsor to the adoption of these **Annex 1 Design Principles** for use in guiding the design process.*
2. **Recap on CAA's decision not to approve Exeter's 2017 ACP.**
    1) **Disproportionate size of proposed CAS.** Regarding "the efficient use of airspace", the CAA in its Decision found that *"…there is a significant impact on other airspace operators. The size and classification of the proposed airspace is disproportionate when considering the potential efficiency benefits of CAT operating at Exeter. The proposal falls short on facilitating access for as many other types of aircraft movements. The size of the final design is not predicated on a safety argument, (unlike the protection afforded to CAT in the critical stages of flight element of the proposal,) but on the containment of existing instrument flight procedures, which is not required. The misapplication of the Containment Policy has led to a design which is disproportionate and therefore fails to secure the most efficient use of airspace."* [Decision in CAP 1654, para 15].
    2) **Protection for the critical stages of flight.** In its Decision, the CAA appears to have accepted the need for enhancement "in respect of providing protection to Commercial Air Transport (CAT) in the critical stages of flight." [ACP Operational Assessment, OA, para 1.2; OA 1.4, first line; OA 2.9 first two lines]. The justification for this acceptance by the CAA was illustrated during the 2017 ACP process: analysis showed that 97% of recorded 'controller interventions' arose from traffic which crossed the extended centreline, or flew within 3nm of it without contacting ATC. [**see Appendix 2,** comprising DSGC's ACP Consultation Response of 8 June 2017 **paras 5.3 & 5.4,** based on information from SATCO].

3. **Options for the enhancement of safety in the critical stages of flight/beyond the critical stages of flight.** As indicated, the CAA has accepted the case for the enhancement of safety to CAT in the critical stages of flight. It is apparent that the issues giving rise to this current ACP are substantially identical to those during EDAL's 2017 ACP, notwithstanding the incremental increase in passenger numbers since that date. This being the case, DSGC believes that - in accordance with the Design Principles set out in Annex 1 - EDAL should consider the least restrictive categorisation of airspace necessary to achieve this safety enhancement, over the smallest possible volume. *Towards meeting this objective, DSGC requests that the options set out in sub-paragraphs 4-7 below are fully evaluated during the CAP 1616 Stage 2 process:*

    Option 1 - Controlled airspace focussed on the critical stages of flight (two possible designs).

    Option 2 - Flexible use of airspace (2 possible types of FUA).

    Option 3 - Implementation of an RMZ/RMA.

    Option 4 - Controlled airspace based around modern PBN flight profiles.

4. ***Option 1*** **- Controlled airspace focussed on the critical stages of flight.** As indicated above, the issues presented in EDAL's Sections 1-3 of this Design Principles Questionnaire are identical to those presented during the 2017 ACP process. Following the 2017 ACP Consultations, **DSGC's response letter of 8 June 2017** ***[now re-submitted as Appendix 2 to this Response]*** put forward 2 designs which would provide Exeter with enhanced safety in the critical stages of flight, without the massive disruption to local aviation stakeholders from the 2017 proposals. These two designs are:

    1) **'MATZ-shaped' area of Class D airspace.** Analysis in 2017 showed that it is the area close to the extended runway centre-line that is of concern. Under this proposal, this area could be protected by the MATZ-shaped design of a 5nm radius around the airport and together with a 5nm long and 4nm wide stub centred on the extended centreline in each direction. **(Refer to paragraphs 5.3 – 5.7 of Appendix 2, and appended plan, for the rationale for this proposal).**

       Note: DSGC has noted that additional reporting on 'controller interventions' is now available to the change sponsor, but this is not yet available in analysed form to aviation stakeholders.

       Additional note for information: In its Submission to the proposed All Party Parliamentary Group (APPG) Inquiry into Lower Airspace, DSGC has put forward the request that the principle of a MATZ-shaped area of CAS be considered at the Inquiry, as a suitable compromise in the case of smaller airports such as Exeter seeking to enhance safety beyond the ATZ.

    2) **Class D Airspace (as in preceding proposal) with the addition of Class D to the south.** If controlled airspace is required from Airport to Airway, a 6nm block of Class D to the south of the stubs would be sufficient to permit this, with traffic to and from the north remaining in the Airway and overflying Exeter Airport. **(Again, refer to Appendix 2 to this Questionnaire response, paragraph 5.9 and its appended plan).**

5. ***Option 2*** **- Flexible Use of Airspace (FUA).** Congested airspace and competing airspace users indicate the need for a flexibility of approach to help find solutions, with innovation where appropriate. DSGC believes FUA can be a means of adapting the lower airspace at Exeter to meet the differing airspace needs of a number of aviation stakeholders.

    1) **FUA - Time-based CAS.** As noted in the response to Question 8 earlier, most DSGC flying and the majority of GA traffic flies during daylight hours, and in particular, between 10.00am and 6.00pm. PBN enables the concept of flexibility of/between defined routings, in and out of airports. In Exeter's case, designated areas could be classified as Class G from 10.00am to 6.00pm, and Class D from 6.00pm to 10.00am, with arrival and departure routes for commercial traffic varied dependent upon time of day.

       The AMS states in paragraph 1.32 *"Airspace modernisation is also expected to improve access to airspace for General Aviation, by enabling greater integration (rather than segregation) of different airspace user groups."* DSGC contends that this proposal for FUA could integrate the primary time-based needs of GA into the area surrounding Exeter Airport, in a way that provides an overall optimum outcome for the competing needs of the stakeholders concerned.

       Examples of time-based CAS: DSGC understands that a number of airports in France have a time-based airspace classification, although the basis for the switch is not as proposed by DSGC at Exeter. Airports such as La Rochelle, Bergerac and Brive have Class D airspace during operating hours but revert to Class G out of hours. Thus the principle of a time-based airspace classification is well established.

    2) **FUA – switchable airspace classification.** During the 2017 ACP process, the consultees cited the example of Innsbruck Airport where this operates, and provided reference material. It is understood that appropriate areas of airspace can be 'switchable' from Class D to Class G, on request, under an agreed procedure. This form of FUA is

understood to be ICAO and European ATM Regulation compliant. It should therefore be investigated and considered as an option.

Additional note for information: In its Submission to the proposed All Party Parliamentary Group (APPG) Inquiry into Lower Airspace, DSGC has put forward the request that both of these forms of FUA be considered at the Inquiry, as a suitable compromise in the case of smaller airports such as Exeter, and in particular where there are multiple stakeholder interests involved.

6. ***Option 3*** **- Implementation of an RMZ/RMA.**

1) **BGA Submission during 2017 ACP.** EDAL will be aware of, and have access to, the BGA Submission dated 2 June 2017 in response to the Consultation on EDAL's 2017 ACP. Following thorough analysis in this document at that time, the BGA proposed an RMZ/RMA in paragraph 8.

2) **DSGC support for BGA's RMZ proposal.** During the 2017 ACP process and after the raising of the bases of some CTAs, DSGC made the following points in its letter to EDAL dated 8 September 2017; this paragraph also sets out DSGC's current position regarding an RMZ:

3) *"DSGC supports the BGA proposal for an RMZ/RMA, in conjunction with a supplementary LOA. As with the current LOA, this would require a daily phone call to Exeter ATC on flying days for activation, to permit pilots to fly southwards as far as the same clear topographical boundary without making individual calls to ATC. Note: At the Meeting on 14 August, EDAL indicated that under Class D, it would remain OK for DSGC to fly non-radio south to the A30, as in the recent LOA. [Meeting Note 16 refers]. It is therefore assumed that under an RMZ/RMA, the same agreement for a dispensation could be reached ".*

7. ***Option 4*** **- CAS based around modern PBN flight profiles.**

1) The Air Navigation Guidance 2017 states that PBN introduces a number of key benefits, including: *"a safer and more efficient ATC system requiring less controller intervention".* [Annex B paragraph B.2] Controller interventions have been cited as a significant factor behind this new ACP.

2) *If the need for CAS beyond the critical stages of flight is clearly demonstrated,* then in accordance with the aims of the AMS Paragraph 4.26 referred to earlier, approach and departure procedures should be updated by "the deployment of new arrival and departure routes designed to satellite navigation standards".

3) If Airway-to-Aerodrome CAS is proposed, satisfactory design of these routes is unlikely to be achieved by the replication of existing routes. The reason for this is that containment of existing routes would conflict with widely-used and long-established Class G rights of numerous local aviation stakeholders north of the A30, including DSGC, and would result in inefficient use of airspace. It is the view of DSGC that replication of existing routes would not comply with guidance within the AMS: paragraph 3.5 states that airspace modernisation should deliver *"**integration**: airspace modernisation should satisfy the requirements of operators and owners of all classes of aircraft across the commercial, General Aviation and military sectors"*; and paragraph 4.24 states *"…Airspace developments at lower altitudes must also consider the need to safely integrate other airspace users within the airport vicinity, including General Aviation…".*

4) It therefore seems apparent that a 'south-side-only' area of CAS would be the obvious solution, particularly as the proportion of Exeter's CAT that connects northwards to the Airway is small, and overflying the airport to achieve southerly orbits has relatively small impact. This was proposed in 2017 by both DSGC and the Devon Strut of the LAA.

Table 1 – Stakeholder Questionnaire

Thank you for your cooperation in completing this questionnaire. Your comments will provide a valuable input to aid development of the Design Principles against which the options for the Exeter Airport airspace design can be developed.

BATH, WILTS AND NORTH DORSET GLIDING CLUB

The Park, Kingston Deverill, Warminster, Wilts, BA12 7HF
Tel: 01985 844095 Web: www.bwnd.co.uk

Please reply to:
Secretary at above address or
[redacted]

27 May 2019

A response to the

Exeter Airport Airspace Change Proposal Design Principles Questionnaire

from the

Bath, Wilts and North Dorset Gliding Club

The Bath Wilts and North Dorset Gliding Club operates from its own airfield at Kingston Deverill, near Warminster, Wilts. BA12 7HF. Its 130 + members make significant use of the regional airspace for gliding flights, and have flown cross country flights in the region near Exeter Airport for many decades.

The Club responded individually to the 2016 ACP consultation. We refer EDAL back to its responses at the time, and to those of the British Gliding Association and the Devon and Somerset Gliding Club. We assert that those responses remain valid as EDAL begins its second attempt at generating an ACP. We refer EDAL to their contents which are on its files.

In the recently published Design Principles Questionnaire we find the questions to be too constraining at this stage in the process. Our current response is therefore one in which we state the principles on which we intend to respond during the forthcoming process.

The Design Principles Process

Under the terms of CAP 1616 EDAL is required to consult fully with those who may be affected by its proposals.

We deem ourselves to be an affected party

Before any proposal is submitted under the CAP 1616 process, agreement with all affected parties should be reached, documented and placed on record.

We remain ready to co-operate in a sensible dialogue that is flexible and open to ideas.

The Need as described in the Design Principles Document

We recognise that a commercial airport carrying fare-paying passengers needs managed airspace to achieve the highest levels of safety.

Exeter Airport chose to grow to its present size with very limited protected airspace. This growth has generated a perceived need for a more known environment. Exeter has managed its situation successfully to date by means of voluntary local liaison with other air traffic users.

Exeter Airport has no automatic right to restrict or control the operations of existing airspace users. Its needs must be balanced equitably against the needs of its long-term neighbours, many of whom pre-existed its growth phase.

The Development of EDAL's proposals

The 2016 proposals were developed somewhat simply around previously used flight profiles. No doubt this simplified the thinking needed for developing a proposal and may have reduced the design costs as a consequence. The impact of the proposals on existing airspace users would have been highly damaging.

A root and branch review of the needs of EDAL should be at the heart of this new process. Simply encompassing all historically used routings within controlled airspace is completely unacceptable to those affected as it results in a wasteful design with adverse consequences.

An efficient airspace plan is needed taking full account of the latest aircraft and equipment performance parameters, minimising the impact on other lower airspace users.

Protection of the rights of non EDAL traffic of all kinds is of paramount importance.

[redacted]
Airspace Representative

For and on behalf of
Bath Wilts and North Dorset Gliding Club
The Airfield
Kingston Deverill
Warminster,
Wilts BA12 7HF

Contact No [redacted]

Dated 27th May 2019

Exeter Airport Airspace Change Proposal

Design Principles Questionnaire

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Glossary

Acronym	Meaning
aal	above aerodrome level
ACP	Airspace Change Proposal
ACAS	Airborne Collision Avoidance System
ANSP	Air Navigation Service Provider
AONB	Area of Outstanding National Beauty
ARP	Aerodrome Reference Point
ATC	Air Traffic Control
ATM	Air Transport Movement
ATS	Air Traffic Service
ATZ	Aerodrome Traffic Zone
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
CAS	Controlled Airspace
CAT	Commercial Air Transport
CTZ	Control Zone
CTR	Control Area
EDAL	Exeter & Devon Airport Ltd
FAS	Future Airspace Strategy
ft	feet
GA	General Aviation
GNSS	Global Navigation Satellite System
IAP	Instrument Approach Procedure

Acronym	Meaning
IFP	Instrument Flight Procedure
IFR	Instrument Flight Rules
nm	nautical mile
RA	Resolution Advisories
SID	Standard Instrument Departure
SSSI	Site of Special Scientific Interest
STAR	Standard Instrument Arrival
VFR	Visual Flight Rules

1 Introduction & Background

1.1 Context

The current UK current airspace system was designed many years ago; since then ever-increasing air traffic congestion has led to reduced airspace efficiency. Improvements in aircraft technology and performance now present an opportunity to modernise UK airspace and flight procedures. Such modernisation also allows the UK aviation community to exploit opportunities to enhance the overall environmental performance of the airspace system, where these exist.

Over the last few years, the majority of UK airports, including Exeter Airport, have been modernising their Instrument Flight Procedures (IFPs). IFPs is a term used to describe the published profiles aircraft fly over the ground, both in plan and elevation view when arriving at and departing from an airport. Modernisation will ensure that operations at UK airports can be conducted more efficiently for the benefit of both operators, fare-paying passengers and local communities.

Exeter & Devon Airport Ltd (EDAL) has identified a requirement to adapt the existing airspace structure surrounding the Airport to assist Air Traffic Control (ATC) in providing enhanced levels of information to aircraft operating in and out of Exeter Airport and to aircraft operating in the local area.

1.2 Background

This project concerns an entirely new submission of an Airspace Change Proposal (ACP) to the Civil Aviation Authority (CAA) to adapt the existing airspace structure at Exeter Airport.

EDAL plays a key part in the regional economy; therefore, it is essential that it continues to develop Exeter Airport to its full potential, while also respecting and supporting the needs of the local and transitory flight operations and aviation communities.

Despite continued economic pressures in Europe, passenger numbers at Exeter Airport have increased by 37% between 2012/13 and 2018/19 and with the introduction of new routes, EDAL anticipates that this will continue to increase in the coming years. EDAL considers that the increased volume of traffic warrants a greater level of protection for flight procedures for now and into the future. The improved protection will facilitate an additional layer of safety and improve the effective and efficient management of local air traffic.

Increased air traffic levels, changes in regulatory guidance, improved aircraft performance and enhanced navigational system accuracy and reliability have all contributed to the emerging need for a re-design of the airspace surrounding Exeter Airport. Although Exeter ATC handles the current operational issues safely and effectively on a tactical basis, the anticipated increase in traffic may result in overload situations as controllers try to accommodate more aircraft in a limited volume of airspace, particularly to the east of the Airport.

The principal area of concern regarding current operations at Exeter is one of limited protection currently afforded to commercial aircraft, including passenger-carrying airliners, operating near the airport.

In order to maintain levels of safety and enhance airspace efficiency, whilst causing minimal disruption to all aviation stakeholders, Exeter propose to establish new airspace around the existing Exeter Airport Aerodrome Traffic Zone (ATZ) that will:

- Safeguard routinely utilised flights operating under Instrument Flight Rules (IFR) at Exeter Airport.
- Ensure safe separation between the IFR traffic and promote proactive coordination of traffic operating under Visual Flight Rules (VFR) near the Airport.
- Protect aircraft operating within the Visual Circuit at Exeter Airport that routinely need to extend beyond the boundary of the ATZ.
- Enhance efficiency by providing airspace that will reduce the instances of avoiding action.
- Reduce traffic delays on the ground and in the air.

The rules regarding the provision of an Air Traffic Service (ATS) to aircraft in Class G airspace are designed to minimise the risks to all aircraft. The ability of air traffic controllers to intervene with traffic avoidance instructions, given the rates of closure and climb/descent profiles, is limited. On initial departure and final approach commercial aircraft also have limited manoeuvrability and therefore a limited manoeuvrability response to warnings. The busy Class G airspace environment at Exeter Airport has led to a number of reportable safety events between unknown aircraft and aircraft arriving at and departing from Exeter Airport in recent years:

Three Air Proximity (AIRPROX)[1] events were recorded in 2016 and three in 2018, and the airport has logged 139 observations of unknown aircraft in 11 months since May 2018. Exeter ATC continue to intervene in potential safety events every week, delaying or halting departures, providing avoidance instructions and extending departure and arrival routes. The events have included:

- 12 aircraft broken off final approach;
- 7 aircraft given avoiding action;
- 2 aircraft electing to continue approach at own risk;
- 82 aircraft were given extended routing or delayed due to unknown aircraft.

These incidents create a significant increase in workload for pilots and distract ATC from the task of ATS provision. Additionally, the arrival and departure phase of flight is a particularly busy time on the flight deck, when unexpected ATC interventions (often at very short notice) add significantly to pilot workload. While current operations are tolerably safe, a disproportionate amount of controller capacity is consumed ensuring this is the case. There have also been occasions where the prevalence of unknown traffic operating within the vicinity of the Airport could easily lead to a degradation of safety margins.

Exeter Airport continues to monitor, record and analyse the frequency of ATC intervention, and is devising a campaign to raise awareness of the importance of reporting with all commercial and private operators based at the aerodrome.

Exeter Airport understands that some people may have concerns about any airspace change. We will therefore need to ensure that this planned change balances the requirement to provide enhanced levels of information to aircraft operating in and out of Exeter Airport and to aircraft operating in the local area with the requirements of local communities, whilst at the same time minimising the environmental impacts. Transparency and engagement with local communities is at the heart of the new Civil Aviation Publication (CAP) 1616 process, and the questionnaire later in this document (Section 5) will help us to gather your views to assist in the development of Design Principles; these will serve as the framework against which the new airspace design options can be prepared. This will also help us to ensure that the new airspace is designed, wherever practicable, in accordance with the priorities of those people most likely to be affected by its introduction.

1.3 Governmental Guidance and the CAP 1616 Process

Under section 66 of the Transport Act 2000, the Secretary of State gave the CAA (the UK aviation independent regulator) a number of airspace-related functions, including: the duty to develop policy and strategy on the classification and use of airspace; to publish the UK airspace design; and to approve changes to it. Under section 70 of the Transport Act 2000, the CAA has a duty to take several factors into account when considering whether to agree to an airspace change proposal; this includes taking account of specific guidance on the environmental objectives contained within the current Air Navigation Guidance.

At the beginning of 2018 the CAA introduced a new process that the regulator and sponsors of airspace change proposals should follow when proposing any airspace change. This new process was developed to ensure a greater level of transparency and two-way engagement with local communities. The new process is described in the CAA publication (CAP) 1616, at the link below:

https://publicapps.caa.co.uk/docs/33/CAP1616E2interactive.pdf

The CAP 1616 Airspace Design process sets out the CAA's role to approve changes to airspace design[2], and to the law and policy which govern the CAA role. The guidance in CAP 1616 sets out the framework for the stages of the process and the activities that must be undertaken from the conception of the need for a change. It details what must be undertaken during the airspace re-design; the consulting and engagement requirements with those potentially impacted; how to assess the impacts of different design options from a safety, operational and environmental perspective; and ultimately how the regulatory decision will be made. If an airspace design change is approved by the CAA, the guidance also covers implementation and the subsequent Post-implementation Review[3] that assesses how the airspace change has performed since introduction and whether the anticipated impacts and benefits defined in the original proposal and decision have been delivered.

[2] Defined by CAP 1616 as: "Together, the airspace structure and flight procedures."
[3] Post Implementation Review (PIR), ideally conducted one year after implementation of the changes.

2 Exeter Airport Operations

2.1 Introduction

Exeter Airport is located within uncontrolled Class G airspace, where aircraft are not subject to mandatory compliance with ATC instructions and are only required to adhere to a small set of compulsory flight rules. Consequently, aircraft can enter, leave and transit the airspace without ATC permission. Exeter has an established Aerodrome Traffic Zone (ATZ), which is also classified as Class G airspace, of radius 2.5 nautical miles (nm) centred on the Exeter Airport Aerodrome Reference Point (ARP), expanding from ground level to 2,000 ft above aerodrome level (aal). The ATZ is the only airspace established to provide aircraft operating at Exeter Airport with any degree of protection. Pilots of aircraft within the ATZ, or requesting entry into the ATZ are required to make their presence known to Exeter ATC and comply with ATC instructions. Figure 1 provides an indication of the current airspace profile that surrounds Exeter Airport.

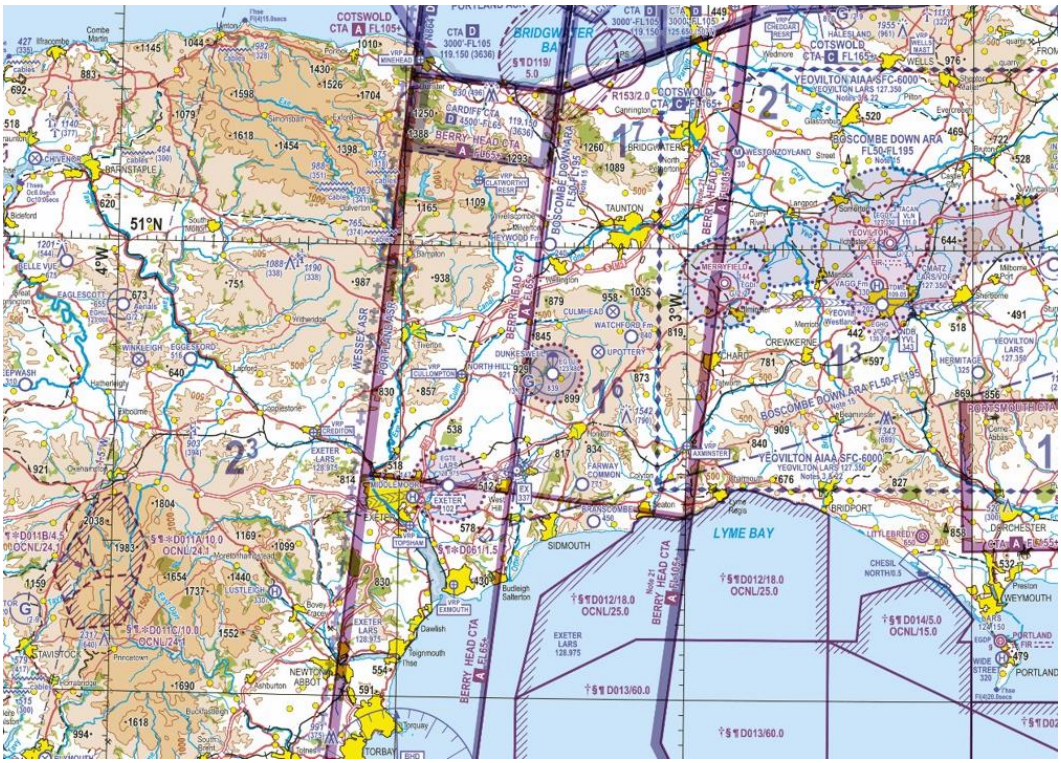

Figure 1 – Exeter Airport and the Current Surrounding Airspace

2.2 Current Operations

The majority of Commercial Air Transport (CAT) aircraft arrive via the N864 airway, which is Class A Controlled Airspace (CAS) (between the red parallel shaded lines that radiate from the bottom of the diagram, oriented, north-northeast over Exeter Airport in Figure 1 above)

which offers protection to CAT flying under Instrument Flight Rules (IFR)[4]. CAT is then vectored off, and below, this route into the Class G (uncontrolled airspace), to subsequently descend and make an approach to the Airport.

2.3 Airport Capacity

With the 37% increase in passenger numbers since 2012/13, , there is an associated growth in the number of CAT movements, projected to be 3% year on year growth for the next 5 years. Exeter Airport anticipates a projected increase in Air Transport Movements (ATM) of all types of aircraft (commercial, leisure, training, military etc.) in the near future. This detail is replicated from the Exeter Airport Management Business Plan is contained in Figure 2.

	FY17	FY18	FY19	FY20	FY21	FY22	FY23
Scheduled	11,509	11,675	11,889	13,612	15,766	17,302	18,692
IT Charter	1,280	1,279	1,287	1,358	1,296	1,388	1,382
Mail	499	500	495	508	506	506	508
General Aviation	9060	7874	8139	8,139	8,139	8,139	8,139
Corporate Aviation	2,050	1,948	1,793	2,110	2,215	2,326	2,442
Test & Training	11,949	11,429	12,628	11,952	11,952	11,952	11,952
Military & Official	400	716	650	661	661	661	661
Compass Swing	59	35	25	33	33	33	33
Engine Testing	180	184	212	192	192	192	192
Maintenance	401	463	504	519	519	519	519
Medical	11	8	4	3	3	3	3
Overshoots	1,128	1,258	1,303	1,298	1,298	1,298	1,298
Others	3,554	3,705	3,884	3,897	3,897	3,897	3,897
Total	42,080	41,074	42,748	44,282	46,477	48,216	49,718

Figure 2 – Projected Exeter Airport ATM

2.4 Why is a Change Required?

The current operations of commercial and passenger carrying aircraft operating in and out of Exeter Airport in Class G uncontrolled airspace requires recurrent ATC tactical

[4] The most important concept of IFR flying is that separation is maintained regardless of weather conditions.

intervention. This may include the re-routing of arriving aircraft or delaying the departure of commercial passenger traffic in order to ensure the safety of all airspace users. This practice inevitably brings CAT into potential conflict with local General Aviation (GA) and transitory air traffic operating in Class G airspace, often during the most critical stages of flight.

Given the speeds, rates of climb/descent, and manoeuvrability of the CAT, the ability of air traffic controllers to intervene with traffic avoidance instructions, or for airline pilots to respond to Airborne Collision Avoidance System (ACAS) warnings, or, as they are known, 'Resolution Advisories' (RA), is limited. This difficult environment has led to reportable safety events, between unknown aircraft and aircraft arriving and departing to/from Exeter Airport, resulting in 3 Air Proximity (AIRPROX)[5] in 2016 and over 600 recorded instances of controller intervention due to unknown aircraft over an 8-year period (2009 – 2016). These incidents create a significant increase in workload and distract ATC from the task of providing a service in Class G uncontrolled airspace. Additionally, the arrival and departure phase of flight is a busy time on the flight deck, unexpected ATC interventions (often at very short notice) add significantly to pilot workload too and adds uncertainty into CAT operations. While current operations are safe, there have been occasions where the prevalence of unknown traffic operating within the vicinity of the Airport could have potentially led to a degradation of safety margins.

The introduction of an alternative airspace arrangement would mean that the routing of CAT and transitory aircraft would be more predictable and regularised. This in turn would reduce airspace traffic interactions and flight deck workload as well as reducing ATC workload. Additional benefits would be the provision of a greater level of integrity and efficiency to all local airspace users and the implementation of a known air traffic environment. Altogether, Exeter ATC would be able to provide a greater level of protection to local and transiting aircraft.

[5] An AIRPROX is a situation in which, in the opinion of a pilot or air traffic services personnel, the distance between aircraft as well as their relative positions and speed have been such that the safety of the aircraft involved may have been compromised.

3 Points for Consideration

3.1 Introduction

This section provides some information and further explanation that you may wish to read before considering your responses to the questions at Section 5.

3.2 Airspace Structure

The airspace in the UK is a complex 'invisible infrastructure' that helps a diverse variety of airspace users, including commercial, cargo, military and leisure users, to operate safely in the sky. The airspace is divided into three-dimensional segments, each of which is assigned a specific class, as depicted in the example picture at Figure 3 below. The classification of the airspace determines the flight rules which apply to the aircraft flying within each particular area and also the minimum air traffic services which are to be provided. In the UK, there are currently five classes of airspace; A, C, D, E and G. Classes A, C, D and E are areas of CAS and Class G is uncontrolled airspace.

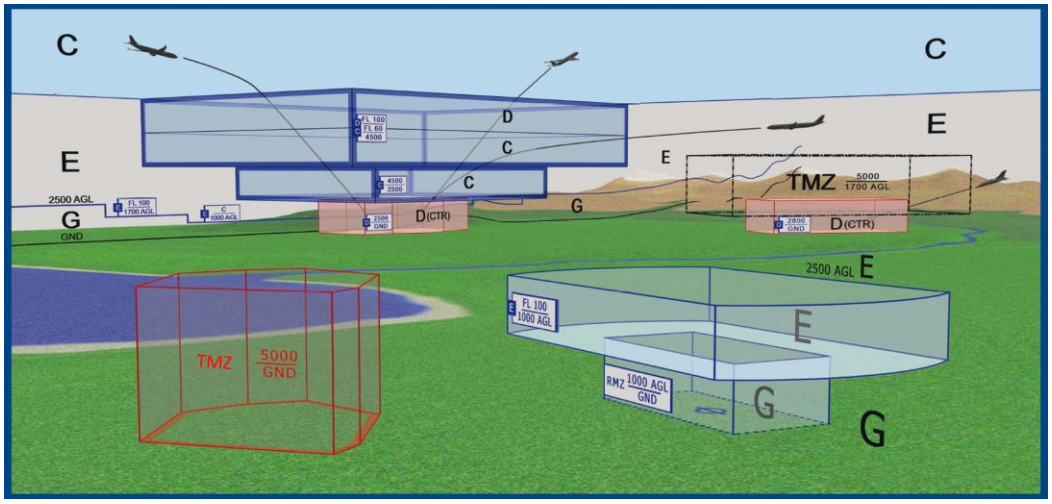

Figure 3 – Example Airspace Structure

CAS is provided primarily to protect its users, and as such, aircraft which fly within CAS must be equipped to a certain standard and their pilots must obtain clearance from ATC to enter such airspace and follow ATC instructions implicitly.

In addition to being given a class, CAS may be further defined by its type, depending on where it is and the function it describes.

- Control Zones (CTZ) – provides protection to aircraft in the immediate vicinity of an aerodrome, extending from the surface to a specified upper limit.
- Control Areas (CTR) – situated above the ATZ or CTZ and provides protection over a larger area from a specified lower limit (not necessarily the surface) to a specified upper limit.

3.3 Instrument Flight Procedures

Instrument Flight Procedures (IFPs) is a term used to describe the published profiles aircraft fly over the ground, both in plan and elevation view when arriving at and departing from an airport. There are 3 main types of IFPs; a Standard Instrument Departure (SID) for aircraft departing an airport, a Standard Instrument Arrival (STAR) for airport arriving at an airport and an Instrument Approach Procedure (IAP) for aircraft making an approach to land.

Exeter Airport does not have, and is not intending to introduce SID or STAR procedures for aircraft operating at the airport. Routing to and from the en-route airways structure will be facilitated by tactical instructions from ATC, which currently leads to the natural dispersion of aircraft around the local area, depending on the routing the aircraft needs to take. When answering the questions below, please consider that the routes aircraft take may become more concentrated to remain within the new airspace structure.

An IAP is a series of pre-determined manoeuvres by reference to flight instruments which guide the aircraft, with specific protection from ground obstacles, to a point from where a successful landing can be completed or, if the landing is not completed, to an appropriate holding point. These procedures may be flown with reference to either conventional ground-based navigation aids or with reference to Global Navigation Satellite Systems (GNSS). GNSS is the standard generic term for satellite navigation systems that provide autonomous geo-spatial positioning with global coverage. This term includes, for example, the GPS (US), GLONASS (Russia), Galileo (European), BeiDou (China) and other regional systems.

IAPs will generally only affect the flight path of an aircraft when within approximately 15 miles of the airport. In order to execute a successful landing, aircraft will need to be aligned with the runway heading for approximately the final 8 miles of the approach, so regardless of the type of procedure flown, the heights and locations overflown at this stage of flight will be very similar for all types of approaches. Exeter Airport currently has IAPs that use both ground-based beacons and GNSS technology; Exeter Airport is not intending to change these procedures with this ACP and as a result, the tracks over the ground that aircraft fly are unlikely to change.

3.4 Urban and Rural Areas

You may wish to consider the advantages and disadvantages of designing airspace that may concentrate aircraft over either urban or rural areas. Flights over more sparsely populated areas may seem to be the best alternative. However, you may also wish to consider the levels of background noise when balancing the urban and rural alternatives. Aircraft flying over urban areas will pass over a larger number of people and residences. However, in urban areas the levels of background noise are likely to be much higher than in rural areas. Consequently, aircraft noise may be masked because of higher noise levels associated with traffic and many other background activities, common in urban locations.

3.5 Open Areas

In many urban locations you may feel it is important to protect quiet or open areas (e.g. parks) by designing airspace that avoids these areas. However, in large urban areas it may

not be possible to avoid overflight of quiet areas and, at the same time, also avoid overflight of more densely populated areas. This may be because of the proximity of runways to urban areas or to the orientation of the runway itself.

3.6 Noise and Emissions

An aircraft flying a straight line directly from one location to another is the most efficient routing option because it represents the shortest distance and time between locations. When flying a longer route between the same locations (perhaps to minimise noise impacts in a sensitive area) the distance and time of the flight will increase, as will the fuel burn and associated emissions into the atmosphere. When answering the questions, please consider this balance between noise and emissions in general terms.

3.7 Time of Day or Different Operations on Different Days.

When responding to the questions, you may also wish to consider whether your comments are applicable by day or by night, or whether you feel that priorities should change over the 24-hr period, or day to day.

4 Engagement & How to Respond

4.1 Engagement

Exeter Airport has a relationship with its local communities and remains committed to involving local stakeholders who may wish to offer their views on any operational changes. It is important to Exeter Airport to conduct effective engagement in a transparent way, and in accordance with the guidance contained within Stage 1 (Define) of the CAA CAP 1616 process. We recognise the importance of capturing the views of both local aviation and non-aviation stakeholders who may wish to express their views concerning any future changes.

It is important to understand that at this stage of the process our initial engagement is limited to a selection of representative bodies and individuals who can offer views on behalf of their local organisations and communities. These views will help us to formulate some Design Principles, which you will have an opportunity to review. The Design Principles will themselves provide the framework against which Design Options for the new airspace can be evaluated. After the Design Options are drawn up, Exeter Airport will share these with the same representative bodies involved in developing the Design Principles. It is worth noting that the more detailed Design Options will be subject to a formal consultation exercise, currently planned to take place between March and July 2020.

4.2 How to Respond

As stated before, this document has been produced to help us ascertain the views of our local non-aviation and aviation stakeholders. We have developed the questions below in Section 5 and would encourage you to insert your responses in the enclosed table and return this to us as described below.

Please do not feel constrained in your response to any question. If you wish to highlight any other relevant local constraints or issues, then Exeter Airport would welcome any feedback you choose to contribute that will support the development of our Design Principles. Your responses may be operational or environmental in nature but should be those you feel are most important to you or your represented community.

Please save the file that includes your responses and attach to an email to the following address:

acpexeterenquries@exeter-airport.co.uk

In addition to the word file, we will accept scanned, hand-written responses or email responses as long as they are legible and clearly identify the question to which your response relates.

It is important that individual email responses clearly show your name and contact details; this will allow us to cross-refer to the emails we send out.

We will also accept legible postal responses to the following address within the timescales specified below:

Airspace Change Proposal
Exeter & Devon Airport Ltd
Clyst Honiton
Exeter
EX5 2BD

4.3 Focus Groups

In addition to the questionnaire attached, Exeter Airport is organising 2 Focus Groups with stakeholders, where any additional views from the discussions will be recorded. Following analysis of all the views articulated by the groups and in the individual responses to questionnaires, Exeter Airport will draft the Design Principles document, for further review and subsequent submission to the CAA.

Invitations for these Focus Groups will be sent out separately by EDAL.

4.4 Timescale for responses

As briefly mentioned in paragraph 4.1 it is anticipated that the formal consultation will be conducted between March and July 2020. Exeter Airport will ensure any views expressed through this earlier engagement activity will also be recorded to inform the full consultation report.

In order that we can use your response to support our Design Principles activities, and in particular to help the Focus Group discussions, please send us your completed questionnaire by **Friday 31st May 2019.**

5 Stakeholder Questionnaire

5.1 Your Responses

The questions below are designed to help us understand the constraints that should be considered during the CAA CAP 1616 Design Principles step of the Define Stage (1). Please insert your responses below to each of the following questions; the size of the response box will expand as you type your response. Use as much space as you need, or alternatively attach additional sheets or documents making it clear which questions you are responding to. Save this and any other documents and return as described at paragraph 4.2 above. If any of the questions are not applicable or relevant, please say so against the appropriate question.

It should be noted that wherever possible, within the constraints that procedure designers are obliged to work to, designs will be developed to avoid built-up areas.

Please complete the following:

Representative Organisation:
for example: Airport Consultative Committee; Exeter City Council; Flybe etc.
Flybe Ltd.

Question
Q1 - Please list any altitude constraints, together with your reasons, that you feel Exeter Airport could consider when designing its new airspace structure?
Your Response: For Westerly departures routing Eastbound, Flybe would prefer interaction between N864 and the ATZ/CTZ to allow continuous climb in an Easterly direction rather than being held at FL60. This is both to improve fuel efficiency and to reduce pilot workload in low levels. Flybe would expect continuous climb in all directions. Flybe promotes CDO/CDA from top of descent in all operations from all directions. Flybe would expect in an airport such as Exeter to have a predictable number of track miles and continuous descent for all approaches. In particular, interaction between Cardiff and Exeter if sub-optimal would result in significant increased track miles.
Q2 - Please inform us of the latest proposed timescales for any neighbouring airspace/procedure re-design projects?

Your Response: Flybe is unaware of any such projects.
Q3 - Please advise us of any future requirements for improved coordination (particularly adjacent/contiguous routes) between Exeter Airport and adjacent ATC units that should be considered during the development of the new Exeter Airport airspace structure?
Your Response: Flybe supports and wishes to be a part of a strong relationship between Cardiff , Western Radar and Exeter ATC units. Flybe expects predictable routing and co-ordination between Cardiff/Western and Exeter. Particularly from the North and East, track mile stability and predictable direct routing to initial / final approach fixes are required as early as possible in order to allow pilots to plan for optimum descent profiles. Routing via, for example EXMOR DCT TIVER, when arriving from the North with Cardiff prevents crews from planning efficient descents from top of descent as vectoring for the approach does not start at the same point on each arrival. Increased vectoring reduces predictability and currently increases time spent outside controlled airspace. Predictable descent planning allows the aircraft to fly the descent (using VNAV capability) rather than relying on pilot interpretation.
Q4 - Are there any current Air Transport Movement coordination arrangements with Exeter Airport that you would like to see remain or change as a result of Exeter Airport's new airspace design? Please provide a brief description.
Your Response: As above, improved Cardiff co-ordination (not via TIVER) for better descent planning.
Q5 - Are there any aspects of the Future Airspace Strategy (FAS) (e.g. airway entry/exit points, existing planned or new handover points) that Exeter Airport should take into account in the design of the new airspace? Please provide details.
Your Response: FAS should take into account airways connectivity into CTA at Exeter airport.
Q6 - Are you aware of anything in the CAA Airspace Modernisation Strategy that presents a risk or opportunity to Exeter Airport airspace development? Please provide details.

Your Response: Flybe is not directly aware of anything from AMS that presents a risk.
Q7 - Do you have an existing Letter of Agreement or Memorandum of Understanding or other agreement with Exeter Airport? If so, do you see this as: (a) An agreement you would like to see remain, preferably in its current form. (b) An opportunity to alter or extend this agreement – and how? (c) An agreement that is unfit for purpose (or may come to be as a result of the change).
Your Response: Flybe has worked with Exeter ATC to produce an SI to MATS P2 for procedure to be followed in the event of primary radar outage (because of the service provided outside controlled airspace). If Flybe could receive an approach and departure service that was always inside CTA, this would no longer be required. As long as there is routing outside controlled airspace, we require this SI & process to remain in place.
Q8 - Please let us know if there are any day time or night time constraints that you consider Exeter Airport could take into account when updating its airspace structure? Please provide details and reasons.
Your Response: Flybe has no operational restrictions or requests based on flying at different times of day or night.
Q9 - Please tell us if there are there any other operational constraints that Exeter Airport will need to consider when planning its new airspace?
Your Response: None in addition to the above.
Q10 - Please inform us of who you consider to be the other key local aviation stakeholders that you believe Exeter Airport should engage with during the process of designing its new airspace? Please provide details and reasons.
Your Response: GA community at EGTE & local airfields and glider sites, other locally based commercial operators.
Q11 - Please provide details of any constraints imposed by restricted operations in the area encompassed by Exeter Airport flight operations (e.g. military operations, danger areas, restricted areas, route crossings, transit corridors, training areas etc.)?

Your Response: D012 and D013 (Portland danger area complex) when active creates sub-optimal routing in a southbound direction for a minority of flights both inbound and outbound.
Q12 - Please indicate if you feel there is a requirement for improved coordination between Exeter Airport and adjacent Air Navigation Service Providers (ATC) units that should be considered during the development of the Design Principles, Design Options and when implementing the new Exeter Airport airspace structure?
Your Response: Answered above.
Q13 - Please provide details of any issues or constraints due to local helicopter operations that you believe may have an impact on Exeter Airport's new airspace design project?
Your Response: Delayed landing clearance on approach due to potential lifting of local helicopter traffic creates a minor increase in crew workload on final approach. No other operational issues foreseen.
Q14 - Please provide details of any issues or constraints due to local General Aviation operations, that you believe may have an impact on Exeter Airport's new airspace structure.
Your Response: The Parachute drop zone near EGTU can create extra track miles or increased low-level operations on arriving aircraft from the North. Flybe sees a time of high risk on busy days with multiple aircraft operating outside controlled airspace, due to the increased separation requirements against unknown, potentially non-transponding traffic. Flybe's only true mitigation in these circumstances is the use of EXT primary radar or, preferentially primary and secondary radar in addition to remaining inside controlled airspace at all times in the arrival and departure.
Q15 - Please provide details of any constraints that may be occasioned by local gliding activities on the Exeter Airport's new airspace structure?
Your Response: As above reference North Hill operations.
Q16 - Please provide details of any impacts on General Aviation flying that you feel may be occasioned by any new airspace proposed by Exeter Airport.

Your Response: Flybe supports all local GA clubs in the local area and does not wish to disadvantage any of their operations or members. Flybe's endeavours to fly it's passengers in the lowest-risk environment possible and, as above, our request for controlled airspace created in an effective, controlled and consistent way can allow both GA and commercial operations to occur harmoniously. Flybe would not expect to see any increase in normal track miles flown on approach or departure in order to remain in controlled airspace as part of any airspace changes made at Exeter.
Q17 - When Exeter Airport designs new airspace, please list the facilities in your local area that you believe could be prioritised when considering aircraft noise (eg hospitals, schools, parks, hospices etc)?
Your Response: Flybe considers all local residents and communities of equal priority.
Q18 - Please tell us if multiple routes that disperse noise across a greater number of households are more of a priority for you than a single route that concentrates noise along a track above a smaller number of households.
Your Response: Flybe has no general comment, but will follow all noise abatement departure restrictions and request consistent routes with minimum track miles.
Q19 - Please identify any other areas, in adjacent council/borough areas, that in your opinion may be sensitive to either direct overflight or exposure to aircraft noise, including during the night-time period?
Your Response: Flybe has no general comment, but will follow all noise abatement departure restrictions and request consistent routes with minimum track miles.
Q20 - Do you believe aircraft conducting continuous climbs or descents to/from altitude (where this is safe to do so) may improve (lessen) exposure to noise in your local area?
Your Response: Yes.
Q21 - Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to Areas of Outstanding Natural Beauty (AONB), Sites of Special Scientific Interest (SSSI) etc), that you feel aircraft could avoid?

Your Response: Flybe knows of no other areas not already notified.
Q22 - Please state what principles you believe Exeter Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner exhaust fumes or pollution?
Your Response: Airspace design to allow CDO/CDA operations, shortest track miles possible to minimise fuel burn. The use of controlled airspace will increase predictability, reducing requirement for extra miles and time in flight flown through avoiding action or delaying vectors. Repeatable arrival procedures will also allow aircraft to remain higher for longer reducing fuel burn and noise footprint.
Q23 - Please bring to our attention any recent or ongoing local environmental studies, you feel should be considered by Exeter Airport when designing the new airspace structure?
Your Response: Flybe is not aware of any recent or ongoing local environmental studies affecting the new airspace structure.
Q24 - Are there any other local development projects, perhaps currently at the planning stage, that Exeter Airport should be aware of and consider when planning its new airspace structure?
Your Response: Flybe is not aware of any local development projects affecting the new airspace structure.
Q25 - Please list any other relevant local or national organisations that you believe Exeter Airport should ensure are involved in its formal consultation.
Your Response: None.
Q26 - Please provide the location of any future planned facilities you are aware of in your local area that could be considered sensitive to the impact of aircraft noise; please state why you feel this is necessary?

Your Response: Flybe is not aware of any.
Q27 - Are there any areas that you feel will suffer more due to the impact of aircraft noise if the displacement of other aviation traffic were to occur due to the Exeter Airport airspace design project?
Your Response: Flybe does not envisage any increase in noise from its aircraft if requested design principles are followed.
Q28 - If you were flying as a passenger from Exeter Airport, we would be grateful for any views you may wish to express about how Exeter Airport should consider the needs of the local community?
Your Response: Flybe is responding as an airline, not an individual passenger.
Q29 - Please advise us of any other issues or constraints you feel Exeter Airport could consider when designing its new airspace structure? Please provide details.
Your Response: Flybe requests controlled airspace around Exeter airport to lower the risk of its commercial operation based on the high frequency of our flights into/out of Exeter outside controlled airspace. Flybe does not wish to disadvantage any other airspace users but expect that any changes to airspace would lower risk whilst ensuring similar or improved environmental efficiencies in arrivals and departure for Flybe aircraft.

Table 1 – Stakeholder Questionnaire

Thank you for your cooperation in completing this questionnaire. Your comments will provide a valuable input to aid development of the Design Principles against which the options for the Exeter Airport airspace design can be developed.

GAA Principles during ACP engagement

Consultation

1. The GAA welcomes the opportunity to engage in consultation at an early stage within the ACP CAP 1616 process.
2. Sponsors are encouraged to engage with the GAA and its members as early as possible during the development of the ACP. Previous ACPs have missed the opportunity for early engagement and dialogue resulting in significant and costly delays.

Airspace classification

1. The GAA considers that the UK airspace's default classification is G and that sponsors must establish a safety case for proposing to change this class or add any further restrictions or requirements by their ACP.
2. All sponsors must demonstrate that alternatives have been considered such as RMZ and TMZ before considering controlled airspace.
3. Class E without a TMZ should be considered as a normal option.

Access by GA

1. Sponsors must accept the assumption that GA including sporting and recreational aviation is entitled to continued safe use of airspace and that commercial aviation does not have a right to limit airspace access.
2. Sponsors should ensure that there will be measures to allow flexible use of airspace and prepare for the wider use of electronic conspicuity devices and interoperability with existing e-conspicuity, e.g. FLARM and Pilot Aware etc...

Airspace volume

1. In line with the principles of the Airspace Modernisation (was FAS) principles the ACP must respect the requirement for minimum airspace volumes designed for efficiency and reduced environmental impact. These principles will include:

- Minimum size of controlled airspace
- Minimum number of departure/arrival routes
- Steeper and continuous climbs and descents for cost and environmental benefits as well as minimisation of CAS footprint.

Justification

1. Sponsors must conduct and present proper analysis of overall airspace safety changes i.e. based on modelling and evidence rather than purely subjective opinion.

2. Sponsors must provide proper validation of forecast traffic levels. There is an expectation that data used, particularly forecasts, will be verifiable including details of any and all assumptions.

Airspace integration

1. Sponsors must show how they are integrating their proposal within the overall UK airspace modernisation context (for example, proposals which do not connect efficiently between upper and lower airspace (potentially under different airspace "management") would only inhibit overall airspace efficiency and therefore not receive our support)
2. Optimisation of the development work above and below the 7,000ft NATS en-route split.

Exeter Airport Airspace Change Proposal

Design Principles Questionnaire

Document Details

Reference	Description
Document Title	Exeter Airport Airspace Change Proposal
	Design Principles Questionnaire
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Issue	Issue 1
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Issue	Amendment	Date
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Approval Level	Authority	Name
Author	Osprey CSL	
Internal Approval	Osprey CSL	
External Approval	Exeter & Devon Airport Ltd	

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Glossary

Acronym	Meaning
aal	above aerodrome level
ACP	Airspace Change Proposal
ACAS	Airborne Collision Avoidance System
ANSP	Air Navigation Service Provider
AONB	Area of Outstanding National Beauty
ARP	Aerodrome Reference Point
ATC	Air Traffic Control
ATM	Air Transport Movement
ATS	Air Traffic Service
ATZ	Aerodrome Traffic Zone
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
CAS	Controlled Airspace
CAT	Commercial Air Transport
CTZ	Control Zone
CTR	Control Area
EDAL	Exeter & Devon Airport Ltd
FAS	Future Airspace Strategy
ft	feet
GA	General Aviation
GNSS	Global Navigation Satellite System
IAP	Instrument Approach Procedure

Acronym	Meaning
IFP	Instrument Flight Procedure
IFR	Instrument Flight Rules
nm	nautical mile
RA	Resolution Advisories
SID	Standard Instrument Departure
SSSI	Site of Special Scientific Interest
STAR	Standard Instrument Arrival
VFR	Visual Flight Rules

1 Introduction & Background

1.1 Context

The current UK current airspace system was designed many years ago; since then ever-increasing air traffic congestion has led to reduced airspace efficiency. Improvements in aircraft technology and performance now present an opportunity to modernise UK airspace and flight procedures. Such modernisation also allows the UK aviation community to exploit opportunities to enhance the overall environmental performance of the airspace system, where these exist.

Over the last few years, the majority of UK airports, including Exeter Airport, have been modernising their Instrument Flight Procedures (IFPs). IFPs is a term used to describe the published profiles aircraft fly over the ground, both in plan and elevation view when arriving at and departing from an airport. Modernisation will ensure that operations at UK airports can be conducted more efficiently for the benefit of both operators, fare-paying passengers and local communities.

Exeter & Devon Airport Ltd (EDAL) has identified a requirement to adapt the existing airspace structure surrounding the Airport to assist Air Traffic Control (ATC) in providing enhanced levels of information to aircraft operating in and out of Exeter Airport and to aircraft operating in the local area.

1.2 Background

This project concerns an entirely new submission of an Airspace Change Proposal (ACP) to the Civil Aviation Authority (CAA) to adapt the existing airspace structure at Exeter Airport.

EDAL plays a key part in the regional economy; therefore, it is essential that it continues to develop Exeter Airport to its full potential, while also respecting and supporting the needs of the local and transitory flight operations and aviation communities.

Despite continued economic pressures in Europe, passenger numbers at Exeter Airport have increased by 37% between 2012/13 and 2018/19 and with the introduction of new routes, EDAL anticipates that this will continue to increase in the coming years. EDAL considers that the increased volume of traffic warrants a greater level of protection for flight procedures for now and into the future. The improved protection will facilitate an additional layer of safety and improve the effective and efficient management of local air traffic.

Increased air traffic levels, changes in regulatory guidance, improved aircraft performance and enhanced navigational system accuracy and reliability have all contributed to the emerging need for a re-design of the airspace surrounding Exeter Airport. Although Exeter ATC handles the current operational issues safely and effectively on a tactical basis, the anticipated increase in traffic may result in overload situations as controllers try to accommodate more aircraft in a limited volume of airspace, particularly to the east of the Airport.

The principal area of concern regarding current operations at Exeter is one of limited protection currently afforded to commercial aircraft, including passenger-carrying airliners, operating near the airport.

In order to maintain levels of safety and enhance airspace efficiency, whilst causing minimal disruption to all aviation stakeholders, Exeter propose to establish new airspace around the existing Exeter Airport Aerodrome Traffic Zone (ATZ) that will:

- Safeguard routinely utilised flights operating under Instrument Flight Rules (IFR) at Exeter Airport.
- Ensure safe separation between the IFR traffic and promote proactive coordination of traffic operating under Visual Flight Rules (VFR) near the Airport.
- Protect aircraft operating within the Visual Circuit at Exeter Airport that routinely need to extend beyond the boundary of the ATZ.
- Enhance efficiency by providing airspace that will reduce the instances of avoiding action.
- Reduce traffic delays on the ground and in the air.

The rules regarding the provision of an Air Traffic Service (ATS) to aircraft in Class G airspace are designed to minimise the risks to all aircraft. The ability of air traffic controllers to intervene with traffic avoidance instructions, given the rates of closure and climb/descent profiles, is limited. On initial departure and final approach commercial aircraft also have limited manoeuvrability and therefore a limited manoeuvrability response to warnings. The busy Class G airspace environment at Exeter Airport has led to a number of reportable safety events between unknown aircraft and aircraft arriving at and departing from Exeter Airport in recent years:

Three Air Proximity (AIRPROX)[1] events were recorded in 2016 and three in 2018, and the airport has logged 139 observations of unknown aircraft in 11 months since May 2018. Exeter ATC continue to intervene in potential safety events every week, delaying or halting departures, providing avoidance instructions and extending departure and arrival routes. The events have included:

- 12 aircraft broken off final approach;
- 7 aircraft given avoiding action;
- 2 aircraft electing to continue approach at own risk;
- 82 aircraft were given extended routing or delayed due to unknown aircraft.

These incidents create a significant increase in workload for pilots and distract ATC from the task of ATS provision. Additionally, the arrival and departure phase of flight is a particularly busy time on the flight deck, when unexpected ATC interventions (often at very short notice) add significantly to pilot workload. While current operations are tolerably safe, a disproportionate amount of controller capacity is consumed ensuring this is the case. There have also been occasions where the prevalence of unknown traffic operating within the vicinity of the Airport could easily lead to a degradation of safety margins.

Exeter Airport continues to monitor, record and analyse the frequency of ATC intervention, and is devising a campaign to raise awareness of the importance of reporting with all commercial and private operators based at the aerodrome.

Exeter Airport understands that some people may have concerns about any airspace change. We will therefore need to ensure that this planned change balances the requirement to provide enhanced levels of information to aircraft operating in and out of Exeter Airport and to aircraft operating in the local area with the requirements of local communities, whilst at the same time minimising the environmental impacts. Transparency and engagement with local communities is at the heart of the new Civil Aviation Publication (CAP) 1616 process, and the questionnaire later in this document (Section 5) will help us to gather your views to assist in the development of Design Principles; these will serve as the framework against which the new airspace design options can be prepared. This will also help us to ensure that the new airspace is designed, wherever practicable, in accordance with the priorities of those people most likely to be affected by its introduction.

1.3 Governmental Guidance and the CAP 1616 Process

Under section 66 of the Transport Act 2000, the Secretary of State gave the CAA (the UK aviation independent regulator) a number of airspace-related functions, including: the duty to develop policy and strategy on the classification and use of airspace; to publish the UK airspace design; and to approve changes to it. Under section 70 of the Transport Act 2000, the CAA has a duty to take several factors into account when considering whether to agree to an airspace change proposal; this includes taking account of specific guidance on the environmental objectives contained within the current Air Navigation Guidance.

At the beginning of 2018 the CAA introduced a new process that the regulator and sponsors of airspace change proposals should follow when proposing any airspace change. This new process was developed to ensure a greater level of transparency and two-way engagement with local communities. The new process is described in the CAA publication (CAP) 1616, at the link below:

https://publicapps.caa.co.uk/docs/33/CAP1616E2interactive.pdf

The CAP 1616 Airspace Design process sets out the CAA's role to approve changes to airspace design[2], and to the law and policy which govern the CAA role. The guidance in CAP 1616 sets out the framework for the stages of the process and the activities that must be undertaken from the conception of the need for a change. It details what must be undertaken during the airspace re-design; the consulting and engagement requirements with those potentially impacted; how to assess the impacts of different design options from a safety, operational and environmental perspective; and ultimately how the regulatory decision will be made. If an airspace design change is approved by the CAA, the guidance also covers implementation and the subsequent Post-implementation Review[3] that assesses how the airspace change has performed since introduction and whether the anticipated impacts and benefits defined in the original proposal and decision have been delivered.

[2] Defined by CAP 1616 as: "Together, the airspace structure and flight procedures."
[3] Post Implementation Review (PIR), ideally conducted one year after implementation of the changes.

2 Exeter Airport Operations

2.1 Introduction

Exeter Airport is located within uncontrolled Class G airspace, where aircraft are not subject to mandatory compliance with ATC instructions and are only required to adhere to a small set of compulsory flight rules. Consequently, aircraft can enter, leave and transit the airspace without ATC permission. Exeter has an established Aerodrome Traffic Zone (ATZ), which is also classified as Class G airspace, of radius 2.5 nautical miles (nm) centred on the Exeter Airport Aerodrome Reference Point (ARP), expanding from ground level to 2,000 ft above aerodrome level (aal). The ATZ is the only airspace established to provide aircraft operating at Exeter Airport with any degree of protection. Pilots of aircraft within the ATZ, or requesting entry into the ATZ are required to make their presence known to Exeter ATC and comply with ATC instructions. Figure 1 provides an indication of the current airspace profile that surrounds Exeter Airport.

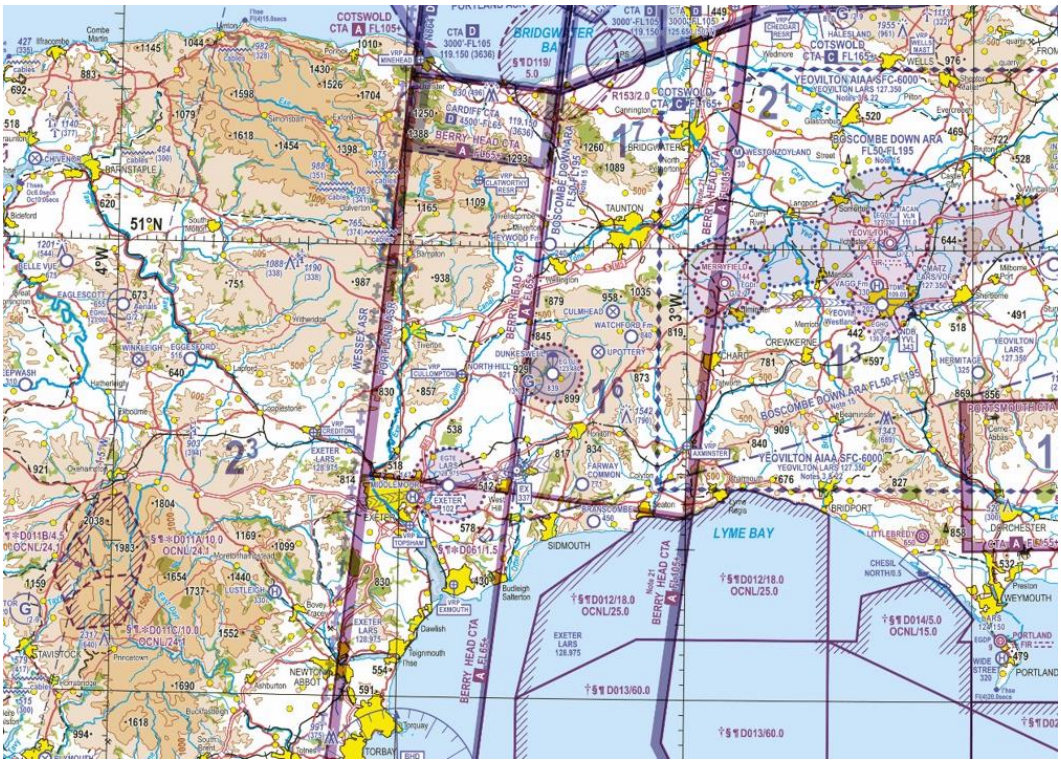

Figure 1 – Exeter Airport and the Current Surrounding Airspace

2.2 Current Operations

The majority of Commercial Air Transport (CAT) aircraft arrive via the N864 airway, which is Class A Controlled Airspace (CAS) (between the red parallel shaded lines that radiate from the bottom of the diagram, oriented, north-northeast over Exeter Airport in Figure 1 above)

which offers protection to CAT flying under Instrument Flight Rules (IFR)[4]. CAT is then vectored off, and below, this route into the Class G (uncontrolled airspace), to subsequently descend and make an approach to the Airport.

2.3 Airport Capacity

With the 37% increase in passenger numbers since 2012/13, , there is an associated growth in the number of CAT movements, projected to be 3% year on year growth for the next 5 years. Exeter Airport anticipates a projected increase in Air Transport Movements (ATM) of all types of aircraft (commercial, leisure, training, military etc.) in the near future. This detail is replicated from the Exeter Airport Management Business Plan is contained in Figure 2.

	FY17	FY18	FY19	FY20	FY21	FY22	FY23
Scheduled	11,509	11,675	11,889	13,612	15,766	17,302	18,692
IT Charter	1,280	1,279	1,287	1,358	1,296	1,388	1,382
Mail	499	500	495	508	506	506	508
General Aviation	9060	7874	8139	8,139	8,139	8,139	8,139
Corporate Aviation	2,050	1,948	1,793	2,110	2,215	2,326	2,442
Test & Training	11,949	11,429	12,628	11,952	11,952	11,952	11,952
Military & Official	400	716	650	661	661	661	661
Compass Swing	59	35	25	33	33	33	33
Engine Testing	180	184	212	192	192	192	192
Maintenance	401	463	504	519	519	519	519
Medical	11	8	4	3	3	3	3
Overshoots	1,128	1,258	1,303	1,298	1,298	1,298	1,298
Others	3,554	3,705	3,884	3,897	3,897	3,897	3,897
Total	42,080	41,074	42,748	44,282	46,477	48,216	49,718

Figure 2 – Projected Exeter Airport ATM

2.4 Why is a Change Required?

The current operations of commercial and passenger carrying aircraft operating in and out of Exeter Airport in Class G uncontrolled airspace requires recurrent ATC tactical

[4] The most important concept of IFR flying is that separation is maintained regardless of weather conditions.

intervention. This may include the re-routing of arriving aircraft or delaying the departure of commercial passenger traffic in order to ensure the safety of all airspace users. This practice inevitably brings CAT into potential conflict with local General Aviation (GA) and transitory air traffic operating in Class G airspace, often during the most critical stages of flight.

Given the speeds, rates of climb/descent, and manoeuvrability of the CAT, the ability of air traffic controllers to intervene with traffic avoidance instructions, or for airline pilots to respond to Airborne Collision Avoidance System (ACAS) warnings, or, as they are known, 'Resolution Advisories' (RA), is limited. This difficult environment has led to reportable safety events, between unknown aircraft and aircraft arriving and departing to/from Exeter Airport, resulting in 3 Air Proximity (AIRPROX)[5] in 2016 and over 600 recorded instances of controller intervention due to unknown aircraft over an 8-year period (2009 – 2016). These incidents create a significant increase in workload and distract ATC from the task of providing a service in Class G uncontrolled airspace. Additionally, the arrival and departure phase of flight is a busy time on the flight deck, unexpected ATC interventions (often at very short notice) add significantly to pilot workload too and adds uncertainty into CAT operations. While current operations are safe, there have been occasions where the prevalence of unknown traffic operating within the vicinity of the Airport could have potentially led to a degradation of safety margins.

The introduction of an alternative airspace arrangement would mean that the routing of CAT and transitory aircraft would be more predictable and regularised. This in turn would reduce airspace traffic interactions and flight deck workload as well as reducing ATC workload. Additional benefits would be the provision of a greater level of integrity and efficiency to all local airspace users and the implementation of a known air traffic environment. Altogether, Exeter ATC would be able to provide a greater level of protection to local and transiting aircraft.

[5] An AIRPROX is a situation in which, in the opinion of a pilot or air traffic services personnel, the distance between aircraft as well as their relative positions and speed have been such that the safety of the aircraft involved may have been compromised.

3 Points for Consideration

3.1 Introduction

This section provides some information and further explanation that you may wish to read before considering your responses to the questions at Section 5.

3.2 Airspace Structure

The airspace in the UK is a complex 'invisible infrastructure' that helps a diverse variety of airspace users, including commercial, cargo, military and leisure users, to operate safely in the sky. The airspace is divided into three-dimensional segments, each of which is assigned a specific class, as depicted in the example picture at Figure 3 below. The classification of the airspace determines the flight rules which apply to the aircraft flying within each particular area and also the minimum air traffic services which are to be provided. In the UK, there are currently five classes of airspace; A, C, D, E and G. Classes A, C, D and E are areas of CAS and Class G is uncontrolled airspace.

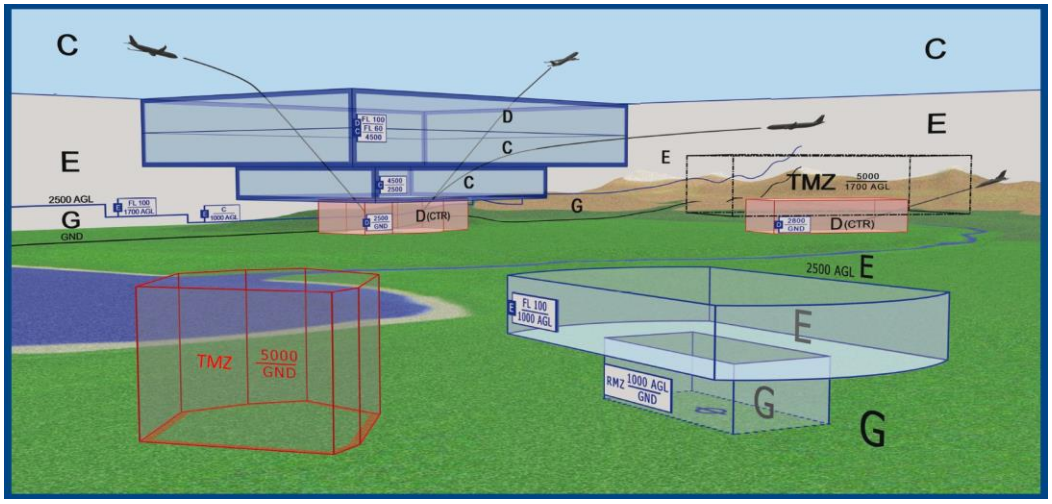

Figure 3 – Example Airspace Structure

CAS is provided primarily to protect its users, and as such, aircraft which fly within CAS must be equipped to a certain standard and their pilots must obtain clearance from ATC to enter such airspace and follow ATC instructions implicitly.

In addition to being given a class, CAS may be further defined by its type, depending on where it is and the function it describes.

- Control Zones (CTZ) – provides protection to aircraft in the immediate vicinity of an aerodrome, extending from the surface to a specified upper limit.
- Control Areas (CTR) – situated above the ATZ or CTZ and provides protection over a larger area from a specified lower limit (not necessarily the surface) to a specified upper limit.

3.3 Instrument Flight Procedures

Instrument Flight Procedures (IFPs) is a term used to describe the published profiles aircraft fly over the ground, both in plan and elevation view when arriving at and departing from an airport. There are 3 main types of IFPs; a Standard Instrument Departure (SID) for aircraft departing an airport, a Standard Instrument Arrival (STAR) for airport arriving at an airport and an Instrument Approach Procedure (IAP) for aircraft making an approach to land.

Exeter Airport does not have, and is not intending to introduce SID or STAR procedures for aircraft operating at the airport. Routing to and from the en-route airways structure will be facilitated by tactical instructions from ATC, which currently leads to the natural dispersion of aircraft around the local area, depending on the routing the aircraft needs to take. When answering the questions below, please consider that the routes aircraft take may become more concentrated to remain within the new airspace structure.

An IAP is a series of pre-determined manoeuvres by reference to flight instruments which guide the aircraft, with specific protection from ground obstacles, to a point from where a successful landing can be completed or, if the landing is not completed, to an appropriate holding point. These procedures may be flown with reference to either conventional ground-based navigation aids or with reference to Global Navigation Satellite Systems (GNSS). GNSS is the standard generic term for satellite navigation systems that provide autonomous geo-spatial positioning with global coverage. This term includes, for example, the GPS (US), GLONASS (Russia), Galileo (European), BeiDou (China) and other regional systems.

IAPs will generally only affect the flight path of an aircraft when within approximately 15 miles of the airport. In order to execute a successful landing, aircraft will need to be aligned with the runway heading for approximately the final 8 miles of the approach, so regardless of the type of procedure flown, the heights and locations overflown at this stage of flight will be very similar for all types of approaches. Exeter Airport currently has IAPs that use both ground-based beacons and GNSS technology; Exeter Airport is not intending to change these procedures with this ACP and as a result, the tracks over the ground that aircraft fly are unlikely to change.

3.4 Urban and Rural Areas

You may wish to consider the advantages and disadvantages of designing airspace that may concentrate aircraft over either urban or rural areas. Flights over more sparsely populated areas may seem to be the best alternative. However, you may also wish to consider the levels of background noise when balancing the urban and rural alternatives. Aircraft flying over urban areas will pass over a larger number of people and residences. However, in urban areas the levels of background noise are likely to be much higher than in rural areas. Consequently, aircraft noise may be masked because of higher noise levels associated with traffic and many other background activities, common in urban locations.

3.5 Open Areas

In many urban locations you may feel it is important to protect quiet or open areas (e.g. parks) by designing airspace that avoids these areas. However, in large urban areas it may

not be possible to avoid overflight of quiet areas and, at the same time, also avoid overflight of more densely populated areas. This may be because of the proximity of runways to urban areas or to the orientation of the runway itself.

3.6 Noise and Emissions

An aircraft flying a straight line directly from one location to another is the most efficient routing option because it represents the shortest distance and time between locations. When flying a longer route between the same locations (perhaps to minimise noise impacts in a sensitive area) the distance and time of the flight will increase, as will the fuel burn and associated emissions into the atmosphere. When answering the questions, please consider this balance between noise and emissions in general terms.

3.7 Time of Day or Different Operations on Different Days.

When responding to the questions, you may also wish to consider whether your comments are applicable by day or by night, or whether you feel that priorities should change over the 24-hr period, or day to day.

4 Engagement & How to Respond

4.1 Engagement

Exeter Airport has a relationship with its local communities and remains committed to involving local stakeholders who may wish to offer their views on any operational changes. It is important to Exeter Airport to conduct effective engagement in a transparent way, and in accordance with the guidance contained within Stage 1 (Define) of the CAA CAP 1616 process. We recognise the importance of capturing the views of both local aviation and non-aviation stakeholders who may wish to express their views concerning any future changes.

It is important to understand that at this stage of the process our initial engagement is limited to a selection of representative bodies and individuals who can offer views on behalf of their local organisations and communities. These views will help us to formulate some Design Principles, which you will have an opportunity to review. The Design Principles will themselves provide the framework against which Design Options for the new airspace can be evaluated. After the Design Options are drawn up, Exeter Airport will share these with the same representative bodies involved in developing the Design Principles. It is worth noting that the more detailed Design Options will be subject to a formal consultation exercise, currently planned to take place between March and July 2020.

4.2 How to Respond

As stated before, this document has been produced to help us ascertain the views of our local non-aviation and aviation stakeholders. We have developed the questions below in Section 5 and would encourage you to insert your responses in the enclosed table and return this to us as described below.

Please do not feel constrained in your response to any question. If you wish to highlight any other relevant local constraints or issues, then Exeter Airport would welcome any feedback you choose to contribute that will support the development of our Design Principles. Your responses may be operational or environmental in nature but should be those you feel are most important to you or your represented community.

Please save the file that includes your responses and attach to an email to the following address:

acpexeterenquries@exeter-airport.co.uk

In addition to the word file, we will accept scanned, hand-written responses or email responses as long as they are legible and clearly identify the question to which your response relates.

It is important that individual email responses clearly show your name and contact details; this will allow us to cross-refer to the emails we send out.

We will also accept legible postal responses to the following address within the timescales specified below:

Airspace Change Proposal
Exeter & Devon Airport Ltd
Clyst Honiton
Exeter
EX5 2BD

4.3 Focus Groups

In addition to the questionnaire attached, Exeter Airport is organising 2 Focus Groups with stakeholders, where any additional views from the discussions will be recorded. Following analysis of all the views articulated by the groups and in the individual responses to questionnaires, Exeter Airport will draft the Design Principles document, for further review and subsequent submission to the CAA.

Invitations for these Focus Groups will be sent out separately by EDAL.

4.4 Timescale for responses

As briefly mentioned in paragraph 4.1 it is anticipated that the formal consultation will be conducted between March and July 2020. Exeter Airport will ensure any views expressed through this earlier engagement activity will also be recorded to inform the full consultation report.

In order that we can use your response to support our Design Principles activities, and in particular to help the Focus Group discussions, please send us your completed questionnaire by **Friday 31st May 2019.**

5 Stakeholder Questionnaire

5.1 Your Responses

The questions below are designed to help us understand the constraints that should be considered during the CAA CAP 1616 Design Principles step of the Define Stage (1). Please insert your responses below to each of the following questions; the size of the response box will expand as you type your response. Use as much space as you need, or alternatively attach additional sheets or documents making it clear which questions you are responding to. Save this and any other documents and return as described at paragraph 4.2 above. If any of the questions are not applicable or relevant, please say so against the appropriate question.

It should be noted that wherever possible, within the constraints that procedure designers are obliged to work to, designs will be developed to avoid built-up areas.

Please complete the following:

Representative Organisation:
for example: Airport Consultative Committee; Exeter City Council; Flybe etc.
General Aviation Alliance

Question
Q1 - Please list any altitude constraints, together with your reasons, that you feel Exeter Airport could consider when designing its new airspace structure?
Your Response: Exeter should not design controlled airspace any higher than is reasonably needed. Going to FL 65 to connect with the airway would be higher than is reasonably needed.
Q2 - Please inform us of the latest proposed timescales for any neighbouring airspace/procedure re-design projects?
Your Response: Not known
Q3 - Please advise us of any future requirements for improved coordination (particularly adjacent/contiguous routes) between Exeter Airport and adjacent ATC units that should be considered during the development of the new Exeter Airport airspace structure?

Your Response: Good coordination with Dunkeswell is essential. Any Exeter airspace should leave plenty of Class G airspace around Dunkeswell, and allow easy uncontrolled access from all directions
Q4 - Are there any current Air Transport Movement coordination arrangements with Exeter Airport that you would like to see remain or change as a result of Exeter Airport's new airspace design? Please provide a brief description.
Your Response: We appreciate that ATMs should not be held up by unknown GA traffic, but these movements are occasional and not continuous as say Heathrow is.
Q5 - Are there any aspects of the Future Airspace Strategy (FAS) (e.g. airway entry/exit points, existing planned or new handover points) that Exeter Airport should take into account in the design of the new airspace? Please provide details.
Your Response: N/A
Q6 - Are you aware of anything in the CAA Airspace Modernisation Strategy that presents a risk or opportunity to Exeter Airport airspace development? Please provide details.
Your Response: N/A
Q7 - Do you have an existing Letter of Agreement or Memorandum of Understanding or other agreement with Exeter Airport? If so, do you see this as: (a) An agreement you would like to see remain, preferably in its current form. (b) An opportunity to alter or extend this agreement – and how? (c) An agreement that is unfit for purpose (or may come to be as a result of the change).
Your Response: No
Q8 - Please let us know if there are any day time or night time constraints that you consider Exeter Airport could take into account when updating its airspace structure? Please provide details and reasons.

Your Response: Likely times of ATMs so as not to 'block' airspace at other times.
Q9 - Please tell us if there are there any other operational constraints that Exeter Airport will need to consider when planning its new airspace?
Your Response: You need to ensure the free transit ability of GA in the area without an Air Traffic Clearance. You should be thinking of Class E airspace as newly defined by the CAA, i.e. with listening squawk, rather than Class D airspace. This would give the known traffic environment you seek. Special arrangements for non transponder equipped aircraft (e.g. gliders and microlights) should be in place.
Q10 - Please inform us of who you consider to be the other key local aviation stakeholders that you believe Exeter Airport should engage with during the process of designing its new airspace? Please provide details and reasons.
Your Response: Dunkeswell and ourselves. We represent the broad spectrum of GA
Q11 - Please provide details of any constraints imposed by restricted operations in the area encompassed by Exeter Airport flight operations (e.g. military operations, danger areas, restricted areas, route crossings, transit corridors, training areas etc.)?
Your Response: Transit routes away from your extended runway centrelines, e.g. north and south of the airfield do not need to be contained in controlled airspace.
Q12 - Please indicate if you feel there is a requirement for improved coordination between Exeter Airport and adjacent Air Navigation Service Providers (ATC) units that should be considered during the development of the Design Principles, Design Options and when implementing the new Exeter Airport airspace structure?
Your Response: N/A
Q13 - Please provide details of any issues or constraints due to local helicopter operations that you believe may have an impact on Exeter Airport's new airspace design project?

Your Response: Your airspace should be as small as possible, optimised for ILS approaches, and not attempt to include rarely used NDB approaches.
Q14 - Please provide details of any issues or constraints due to local General Aviation operations, that you believe may have an impact on Exeter Airport's new airspace structure.
Your Response: GA traffic can be expected everywhere. Your airspace should be the minimum for everyday normal use, and not try to encompass large areas only rarely used, e.g. NDB approaches and holding. Please see the attached GAA Principals during ACP Engagement Document prepared by us. Please observe these.
Q15 - Please provide details of any constraints that may be occasioned by local gliding activities on the Exeter Airport's new airspace structure?
Your Response: See the email to you from the British Gliding Association dated May 26th
Q16 - Please provide details of any impacts on General Aviation flying that you feel may be occasioned by any new airspace proposed by Exeter Airport.
Your Response: Any Exeter airspace will create an impact. This could be minimised by having the smallest zone of Class E as possible, extending along your approaches, but not to the north and south, which would block transit routes
Q17 - When Exeter Airport designs new airspace, please list the facilities in your local area that you believe could be prioritised when considering aircraft noise (eg hospitals, schools, parks, hospices etc)?
Your Response: N/A
Q18 - Please tell us if multiple routes that disperse noise across a greater number of households are more of a priority for you than a single route that concentrates noise along a track above a smaller number of households.

Your Response: N/A
Q19 - Please identify any other areas, in adjacent council/borough areas, that in your opinion may be sensitive to either direct overflight or exposure to aircraft noise, including during the night-time period?
Your Response: N/A
Q20 - Do you believe aircraft conducting continuous climbs or descents to/from altitude (where this is safe to do so) may improve (lessen) exposure to noise in your local area?
Your Response: Yes
Q21 - Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to Areas of Outstanding Natural Beauty (AONB), Sites of Special Scientific Interest (SSSI) etc), that you feel aircraft could avoid?
Your Response: N/A
Q22 - Please state what principles you believe Exeter Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner exhaust fumes or pollution?
Your Response: N/A
Q23 - Please bring to our attention any recent or ongoing local environmental studies, you feel should be considered by Exeter Airport when designing the new airspace structure?

Your Response: N/A
Q24 - Are there any other local development projects, perhaps currently at the planning stage, that Exeter Airport should be aware of and consider when planning its new airspace structure?
Your Response: N/A
Q25 - Please list any other relevant local or national organisations that you believe Exeter Airport should ensure are involved in its formal consultation.
Your Response: Us – the General Aviation Alliance
Q26 - Please provide the location of any future planned facilities you are aware of in your local area that could be considered sensitive to the impact of aircraft noise; please state why you feel this is necessary?
Your Response: N/A
Q27 - Are there any areas that you feel will suffer more due to the impact of aircraft noise if the displacement of other aviation traffic were to occur due to the Exeter Airport airspace design project?
Your Response: N/A
Q28 - If you were flying as a passenger from Exeter Airport, we would be grateful for any views you may wish to express about how Exeter Airport should consider the needs of the local community?

Your Response: N/A
Q29 - Please advise us of any other issues or constraints you feel Exeter Airport could consider when designing its new airspace structure? Please provide details.
Your Response: The smallest area of Class E only

Table 1 – Stakeholder Questionnaire

Thank you for your cooperation in completing this questionnaire. Your comments will provide a valuable input to aid development of the Design Principles against which the options for the Exeter Airport airspace design can be developed.

Exeter Airport Airspace Change Proposal

Design Principles Questionnaire

Date: 29th April 2019
Revision: Issue 1
Osprey Ref: 71189 012

Document Details

Reference	Description
Document Title	Exeter Airport Airspace Change Proposal
	Design Principles Questionnaire
Document Ref	71189 012
Issue	Issue 1
Date	29th April 2019
Client Name	Exeter & Devon Airport Ltd
Classification	

Issue	Amendment	Date
Issue 1	Initial	29th April 2019

Approval Level	Authority	Name
Author	Osprey CSL	
Internal Approval	Osprey CSL	
External Approval	Exeter & Devon Airport Ltd	

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Glossary

Acronym	Meaning
aal	above aerodrome level
ACP	Airspace Change Proposal
ACAS	Airborne Collision Avoidance System
ANSP	Air Navigation Service Provider
AONB	Area of Outstanding National Beauty
ARP	Aerodrome Reference Point
ATC	Air Traffic Control
ATM	Air Transport Movement
ATS	Air Traffic Service
ATZ	Aerodrome Traffic Zone
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
CAS	Controlled Airspace
CAT	Commercial Air Transport
CTZ	Control Zone
CTR	Control Area
EDAL	Exeter & Devon Airport Ltd
FAS	Future Airspace Strategy
ft	feet
GA	General Aviation
GNSS	Global Navigation Satellite System
IAP	Instrument Approach Procedure
IFP	Instrument Flight Procedure
IFR	Instrument Flight Rules
nm	nautical mile
RA	Resolution Advisories
SID	Standard Instrument Departure
SSSI	Site of Special Scientific Interest
STAR	Standard Instrument Arrival
VFR	Visual Flight Rules

1. Introduction & Background

1.1. Context

The current UK current airspace system was designed many years ago; since then ever-increasing air traffic congestion has led to reduced airspace efficiency. Improvements in aircraft technology and performance now present an opportunity to modernise UK airspace and flight procedures. Such modernisation also allows the UK aviation community to exploit opportunities to enhance the overall environmental performance of the airspace system, where these exist.

Over the last few years, the majority of UK airports, including Exeter Airport, have been modernising their Instrument Flight Procedures (IFPs). IFPs is a term used to describe the published profiles aircraft fly over the ground, both in plan and elevation view when arriving at and departing from an airport. Modernisation will ensure that operations at UK airports can be conducted more efficiently for the benefit of both operators, fare-paying passengers and local communities.

Exeter & Devon Airport Ltd (EDAL) has identified a requirement to adapt the existing airspace structure surrounding the Airport to assist Air Traffic Control (ATC) in providing enhanced levels of information to aircraft operating in and out of Exeter Airport and to aircraft operating in the local area.

1.2. Background

This project concerns an entirely new submission of an Airspace Change Proposal (ACP) to the Civil Aviation Authority (CAA) to adapt the existing airspace structure at Exeter Airport.

EDAL plays a key part in the regional economy; therefore, it is essential that it continues to develop Exeter Airport to its full potential, while also respecting and supporting the needs of the local and transitory flight operations and aviation communities.

Despite continued economic pressures in Europe, passenger numbers at Exeter Airport have increased by 37% between 2012/13 and 2018/19 and with the introduction of new routes, EDAL anticipates that this will continue to increase in the coming years. EDAL considers that the increased volume of traffic warrants a greater level of protection for flight procedures for now and into the future. The improved protection will facilitate an additional layer of safety and improve the effective and efficient management of local air traffic.

Increased air traffic levels, changes in regulatory guidance, improved aircraft performance and enhanced navigational system accuracy and reliability have all contributed to the emerging need for a re-design of the airspace surrounding Exeter Airport. Although Exeter ATC handles the current operational issues safely and effectively on a tactical basis, the anticipated increase in traffic may result in overload situations as controllers try to accommodate more aircraft in a limited volume of airspace, particularly to the east of the Airport.

The principal area of concern regarding current operations at Exeter is one of limited protection currently afforded to commercial aircraft, including passenger-carrying airliners, operating near the airport.

In order to maintain levels of safety and enhance airspace efficiency, whilst causing minimal disruption to all aviation stakeholders, Exeter propose to

establish new airspace around the existing Exeter Airport Aerodrome Traffic Zone (ATZ) that will:

- Safeguard routinely utilised flights operating under Instrument Flight Rules (IFR) at Exeter Airport.
- Ensure safe separation between the IFR traffic and promote proactive coordination of traffic operating under Visual Flight Rules (VFR) near the Airport.
- Protect aircraft operating within the Visual Circuit at Exeter Airport that routinely need to extend beyond the boundary of the ATZ.
- Enhance efficiency by providing airspace that will reduce the instances of avoiding action.
- Reduce traffic delays on the ground and in the air.

The rules regarding the provision of an Air Traffic Service (ATS) to aircraft in Class G airspace are designed to minimise the risks to all aircraft. The ability of air traffic controllers to intervene with traffic avoidance instructions, given the rates of closure and climb/descent profiles, is limited. On initial departure and final approach commercial aircraft also have limited manoeuvrability and therefore a limited manoeuvrability response to warnings. The busy Class G airspace environment at Exeter Airport has led to a number of reportable safety events between unknown aircraft and aircraft arriving at and departing from Exeter Airport in recent years:

Three Air Proximity (AIRPROX)[1] events were recorded in 2016 and three in 2018, and the airport has logged 139 observations of unknown aircraft in 11 months since May 2018. Exeter ATC continue to intervene in potential safety events every week, delaying or halting departures, providing avoidance instructions and extending departure and arrival routes. The events have included:

- 12 aircraft broken off final approach;
- 7 aircraft given avoiding action;
- 2 aircraft electing to continue approach at own risk;
- 82 aircraft were given extended routing or delayed due to unknown aircraft.

These incidents create a significant increase in workload for pilots and distract ATC from the task of ATS provision. Additionally, the arrival and departure phase of flight is a particularly busy time on the flight deck, when unexpected ATC interventions (often at very short notice) add significantly to pilot workload. While current operations are tolerably safe, a disproportionate amount of controller capacity is consumed ensuring this is the case. There have also been occasions where the prevalence of unknown traffic operating within the vicinity of the Airport could easily lead to a degradation of safety margins.

Exeter Airport continues to monitor, record and analyse the frequency of ATC intervention, and is devising a campaign to raise awareness of the importance of reporting with all commercial and private operators based at the aerodrome.

Exeter Airport understands that some people may have concerns about any airspace change. We will therefore need to ensure that this planned change balances the requirement to provide enhanced levels of information to aircraft operating in and out of Exeter Airport and to aircraft operating in the local area with the requirements of local communities, whilst at the same time minimising the environmental impacts. Transparency and engagement with local

communities is at the heart of the new Civil Aviation Publication (CAP) 1616 process, and the questionnaire later in this document (Section 5) will help us to gather your views to assist in the development of Design Principles; these will serve as the framework against which the new airspace design options can be prepared. This will also help us to ensure that the new airspace is designed, wherever practicable, in accordance with the priorities of those people most likely to be affected by its introduction.

1.3. Governmental Guidance and the CAP 1616 Process

Under section 66 of the Transport Act 2000, the Secretary of State gave the CAA (the UK aviation independent regulator) a number of airspace-related functions, including: the duty to develop policy and strategy on the classification and use of airspace; to publish the UK airspace design; and to approve changes to it. Under section 70 of the Transport Act 2000, the CAA has a duty to take several factors into account when considering whether to agree to an airspace change proposal; this includes taking account of specific guidance on the environmental objectives contained within the current Air Navigation Guidance.

At the beginning of 2018 the CAA introduced a new process that the regulator and sponsors of airspace change proposals should follow when proposing any airspace change. This new process was developed to ensure a greater level of transparency and two-way engagement with local communities. The new process is described in the CAA publication (CAP) 1616, at the link below:

https://publicapps.caa.co.uk/docs/33/CAP1616E2interactive.pdf

The CAP 1616 Airspace Design process sets out the CAA's role to approve changes to airspace design[2], and to the law and policy which govern the CAA role. The guidance in CAP 1616 sets out the framework for the stages of the process and the activities that must be undertaken from the conception of the need for a change. It details what must be undertaken during the airspace re-design; the consulting and engagement requirements with those potentially impacted; how to assess the impacts of different design options from a safety, operational and environmental perspective; and ultimately how the regulatory decision will be made. If an airspace design change is approved by the CAA, the guidance also covers implementation and the subsequent Post-implementation Review[3] that assesses how the airspace change has performed since introduction and whether the anticipated impacts and benefits defined in the original proposal and decision have been delivered.

[2] Defined by CAP 1616 as: "Together, the airspace structure and flight procedures."

[3] Post Implementation Review (PIR), ideally conducted one year after implementation of the changes.

2. Exeter Airport Operations

2.1. Introduction

Exeter Airport is located within uncontrolled Class G airspace, where aircraft are not subject to mandatory compliance with ATC instructions and are only required to adhere to a small set of compulsory flight rules. Consequently, aircraft can enter, leave and transit the airspace without ATC permission. Exeter has an established Aerodrome Traffic Zone (ATZ), which is also classified as Class G airspace, of radius 2.5 nautical miles (nm) centred on the Exeter Airport Aerodrome Reference Point (ARP), expanding from ground level to 2,000 ft above aerodrome level (aal). The ATZ is the only airspace established to provide aircraft operating at Exeter Airport with any degree of protection. Pilots of aircraft within the ATZ, or requesting entry into the ATZ are required to make their presence known to Exeter ATC and comply with ATC instructions. Figure 1 provides an indication of the current airspace profile that surrounds Exeter Airport.

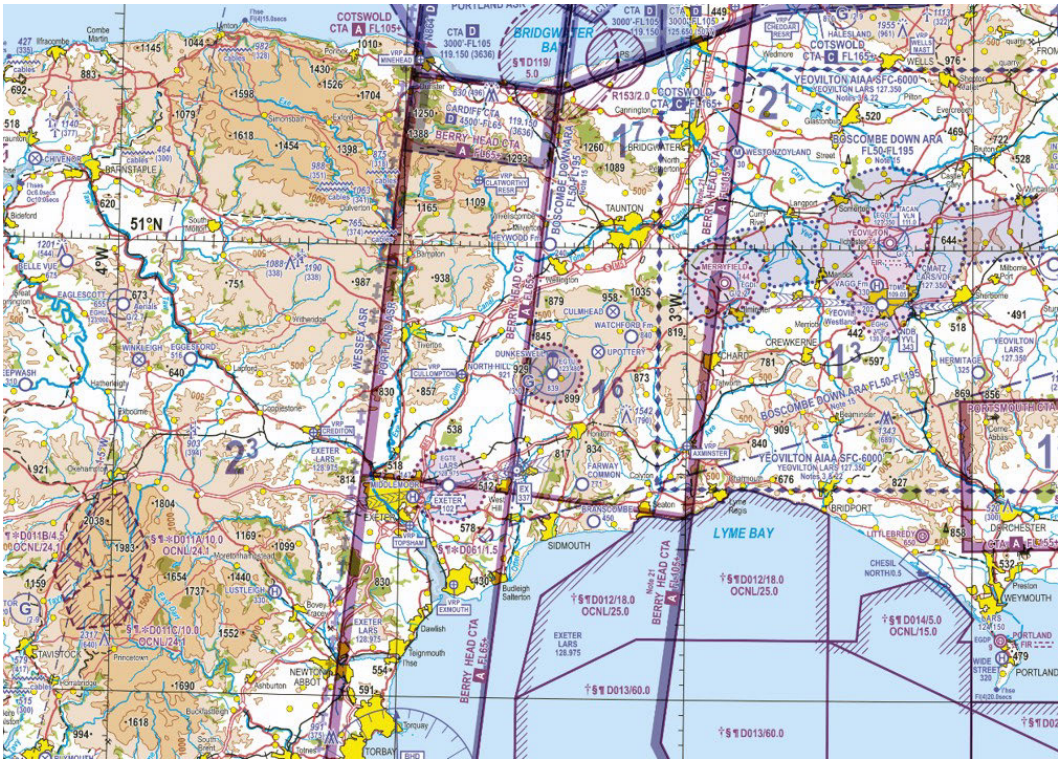

Figure 1 – Exeter Airport and the Current Surrounding Airspace

2.2. Current Operations

The majority of Commercial Air Transport (CAT) aircraft arrive via the N864 airway, which is Class A Controlled Airspace (CAS) (between the red parallel shaded lines that radiate from the bottom of the diagram, oriented, north-northeast over Exeter Airport in Figure 1 above) which offers protection to CAT

flying under Instrument Flight Rules (IFR)[4]. CAT is then vectored off, and below, this route into the Class G (uncontrolled airspace), to subsequently descend and make an approach to the Airport.

2.3. Airport Capacity

With the 37% increase in passenger numbers since 2012/13, , there is an associated growth in the number of CAT movements, projected to be 3% year on year growth for the next 5 years. Exeter Airport anticipates a projected increase in Air Transport Movements (ATM) of all types of aircraft (commercial, leisure, training, military etc.) in the near future. This detail is replicated from the Exeter Airport Management Business Plan is contained in Figure 2.

	FY17	FY18	FY19	FY20	FY21	FY22	FY23
Scheduled	11,509	11,675	11,889	13,612	15,766	17,302	18,692
IT Charter	1,280	1,279	1,287	1,358	1,296	1,388	1,382
Mail	499	500	495	508	506	506	508
General Aviation	9060	7874	8139	8,139	8,139	8,139	8,139
Corporate Aviation	2,050	1,948	1,793	2,110	2,215	2,326	2,442
Test & Training	11,949	11,429	12,628	11,952	11,952	11,952	11,952
Military & Official	400	716	650	661	661	661	661
Compass Swing	59	35	25	33	33	33	33
Engine Testing	180	184	212	192	192	192	192
Maintenance	401	463	504	519	519	519	519
Medical	11	8	4	3	3	3	3
Overshoots	1,128	1,258	1,303	1,298	1,298	1,298	1,298
Others	3,554	3,705	3,884	3,897	3,897	3,897	3,897
Total	42,080	41,074	42,748	44,282	46,477	48,216	49,718

Figure 2 – Projected Exeter Airport ATM

2.4. Why is a Change Required?

The current operations of commercial and passenger carrying aircraft operating in and out of Exeter Airport in Class G uncontrolled airspace requires recurrent ATC tactical intervention. This may include the re-routing of arriving aircraft or delaying the departure of commercial passenger traffic in order to ensure the safety of all airspace users. This practice inevitably brings CAT into potential conflict with local General Aviation (GA) and transitory air traffic operating in Class G airspace, often during the most critical stages of flight.

Given the speeds, rates of climb/descent, and manoeuvrability of the CAT, the ability of air traffic controllers to intervene with traffic avoidance instructions, or for airline pilots to respond to Airborne Collision Avoidance System (ACAS)

[4] The most important concept of IFR flying is that separation is maintained regardless of weather conditions.

warnings, or, as they are known, 'Resolution Advisories' (RA), is limited. This difficult environment has led to reportable safety events, between unknown aircraft and aircraft arriving and departing to/from Exeter Airport, resulting in 3 Air Proximity (AIRPROX)[5] in 2016 and over 600 recorded instances of controller intervention due to unknown aircraft over an 8-year period (2009 – 2016). These incidents create a significant increase in workload and distract ATC from the task of providing a service in Class G uncontrolled airspace. Additionally, the arrival and departure phase of flight is a busy time on the flight deck, unexpected ATC interventions (often at very short notice) add significantly to pilot workload too and adds uncertainty into CAT operations. While current operations are safe, there have been occasions where the prevalence of unknown traffic operating within the vicinity of the Airport could have potentially led to a degradation of safety margins.

The introduction of an alternative airspace arrangement would mean that the routing of CAT and transitory aircraft would be more predictable and regularised. This in turn would reduce airspace traffic interactions and flight deck workload as well as reducing ATC workload. Additional benefits would be the provision of a greater level of integrity and efficiency to all local airspace users and the implementation of a known air traffic environment. Altogether, Exeter ATC would be able to provide a greater level of protection to local and transiting aircraft.

[5] An AIRPROX is a situation in which, in the opinion of a pilot or air traffic services personnel, the distance between aircraft as well as their relative positions and speed have been such that the safety of the aircraft involved may have been compromised.

3. Points for Consideration

3.1. Introduction

This section provides some information and further explanation that you may wish to read before considering your responses to the questions at Section 5.

3.2. Airspace Structure

The airspace in the UK is a complex 'invisible infrastructure' that helps a diverse variety of airspace users, including commercial, cargo, military and leisure users, to operate safely in the sky. The airspace is divided into three-dimensional segments, each of which is assigned a specific class, as depicted in the example picture at Figure 3 below. The classification of the airspace determines the flight rules which apply to the aircraft flying within each particular area and also the minimum air traffic services which are to be provided. In the UK, there are currently five classes of airspace; A, C, D, E and G. Classes A, C, D and E are areas of CAS and Class G is uncontrolled airspace.

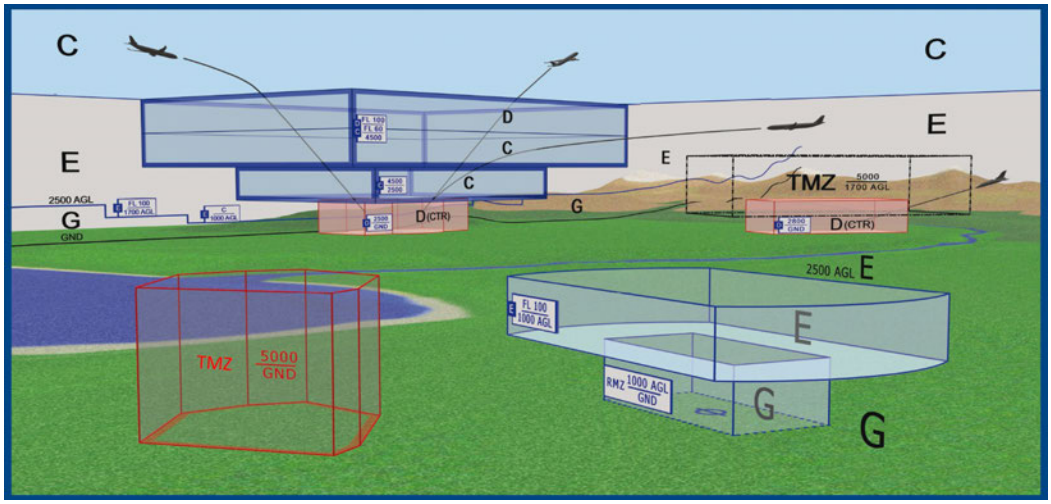

Figure 3 – Example Airspace Structure

CAS is provided primarily to protect its users, and as such, aircraft which fly within CAS must be equipped to a certain standard and their pilots must obtain clearance from ATC to enter such airspace and follow ATC instructions implicitly.

In addition to being given a class, CAS may be further defined by its type, depending on where it is and the function it describes.

- Control Zones (CTZ) – provides protection to aircraft in the immediate vicinity of an aerodrome, extending from the surface to a specified upper limit.
- Control Areas (CTR) – situated above the ATZ or CTZ and provides protection over a larger area from a specified lower limit (not necessarily the surface) to a specified upper limit.

3.3. Instrument Flight Procedures

Instrument Flight Procedures (IFPs) is a term used to describe the published profiles aircraft fly over the ground, both in plan and elevation view when arriving at and departing from an airport. There are 3 main types of IFPs; a

Standard Instrument Departure (SID) for aircraft departing an airport, a Standard Instrument Arrival (STAR) for airport arriving at an airport and an Instrument Approach Procedure (IAP) for aircraft making an approach to land.

Exeter Airport does not have, and is not intending to introduce SID or STAR procedures for aircraft operating at the airport. Routing to and from the en-route airways structure will be facilitated by tactical instructions from ATC, which currently leads to the natural dispersion of aircraft around the local area, depending on the routing the aircraft needs to take. When answering the questions below, please consider that the routes aircraft take may become more concentrated to remain within the new airspace structure.

An IAP is a series of pre-determined manoeuvres by reference to flight instruments which guide the aircraft, with specific protection from ground obstacles, to a point from where a successful landing can be completed or, if the landing is not completed, to an appropriate holding point. These procedures may be flown with reference to either conventional ground-based navigation aids or with reference to Global Navigation Satellite Systems (GNSS). GNSS is the standard generic term for satellite navigation systems that provide autonomous geo-spatial positioning with global coverage. This term includes, for example, the GPS (US), GLONASS (Russia), Galileo (European), BeiDou (China) and other regional systems.

IAPs will generally only affect the flight path of an aircraft when within approximately 15 miles of the airport. In order to execute a successful landing, aircraft will need to be aligned with the runway heading for approximately the final 8 miles of the approach, so regardless of the type of procedure flown, the heights and locations overflown at this stage of flight will be very similar for all types of approaches. Exeter Airport currently has IAPs that use both ground-based beacons and GNSS technology; Exeter Airport is not intending to change these procedures with this ACP and as a result, the tracks over the ground that aircraft fly are unlikely to change.

3.4. Urban and Rural Areas

You may wish to consider the advantages and disadvantages of designing airspace that may concentrate aircraft over either urban or rural areas. Flights over more sparsely populated areas may seem to be the best alternative. However, you may also wish to consider the levels of background noise when balancing the urban and rural alternatives. Aircraft flying over urban areas will pass over a larger number of people and residences. However, in urban areas the levels of background noise are likely to be much higher than in rural areas. Consequently, aircraft noise may be masked because of higher noise levels associated with traffic and many other background activities, common in urban locations.

3.5. Open Areas

In many urban locations you may feel it is important to protect quiet or open areas (e.g. parks) by designing airspace that avoids these areas. However, in large urban areas it may not be possible to avoid overflight of quiet areas and, at the same time, also avoid overflight of more densely populated areas. This may be because of the proximity of runways to urban areas or to the orientation of the runway itself.

3.6. Noise and Emissions

An aircraft flying a straight line directly from one location to another is the most efficient routing option because it represents the shortest distance and time between locations. When flying a longer route between the same locations (perhaps to minimise noise impacts in a sensitive area) the distance and time of the flight will increase, as will the fuel burn and associated emissions into the atmosphere. When answering the questions, please consider this balance between noise and emissions in general terms.

3.7. Time of Day or Different Operations on Different Days.

When responding to the questions, you may also wish to consider whether your comments are applicable by day or by night, or whether you feel that priorities should change over the 24-hr period, or day to day.

4. Engagement & How to Respond

4.1. Engagement

Exeter Airport has a relationship with its local communities and remains committed to involving local stakeholders who may wish to offer their views on any operational changes. It is important to Exeter Airport to conduct effective engagement in a transparent way, and in accordance with the guidance contained within Stage 1 (Define) of the CAA CAP 1616 process. We recognise the importance of capturing the views of both local aviation and non-aviation stakeholders who may wish to express their views concerning any future changes.

It is important to understand that at this stage of the process our initial engagement is limited to a selection of representative bodies and individuals who can offer views on behalf of their local organisations and communities. These views will help us to formulate some Design Principles, which you will have an opportunity to review. The Design Principles will themselves provide the framework against which Design Options for the new airspace can be evaluated. After the Design Options are drawn up, Exeter Airport will share these with the same representative bodies involved in developing the Design Principles. It is worth noting that the more detailed Design Options will be subject to a formal consultation exercise, currently planned to take place between March and July 2020.

4.2. How to Respond

As stated before, this document has been produced to help us ascertain the views of our local non-aviation and aviation stakeholders. We have developed the questions below in Section 5 and would encourage you to insert your responses in the enclosed table and return this to us as described below.

Please do not feel constrained in your response to any question. If you wish to highlight any other relevant local constraints or issues, then Exeter Airport would welcome any feedback you choose to contribute that will support the development of our Design Principles. Your responses may be operational or environmental in nature but should be those you feel are most important to you or your represented community.

Please save the file that includes your responses and attach to an email to the following address:

acpexeterenquries@exeter-airport.co.uk

In addition to the word file, we will accept scanned, hand-written responses or email responses as long as they are legible and clearly identify the question to which your response relates.

It is important that individual email responses clearly show your name and contact details; this will allow us to cross-refer to the emails we send out.

We will also accept legible postal responses to the following address within the timescales specified below:

Airspace Change Proposal
Exeter & Devon Airport Ltd

Clyst Honiton
Exeter
EX5 2BD

4.3. Focus Groups

In addition to the questionnaire attached, Exeter Airport is organising 2 Focus Groups with stakeholders, where any additional views from the discussions will be recorded. Following analysis of all the views articulated by the groups and in the individual responses to questionnaires, Exeter Airport will draft the Design Principles document, for further review and subsequent submission to the CAA.

Invitations for these Focus Groups will be sent out separately by EDAL.

4.4. Timescale for responses

As briefly mentioned in paragraph 4.1 it is anticipated that the formal consultation will be conducted between March and July 2020. Exeter Airport will ensure any views expressed through this earlier engagement activity will also be recorded to inform the full consultation report.

In order that we can use your response to support our Design Principles activities, and in particular to help the Focus Group discussions, please send us your completed questionnaire by **Friday 31st May 2019.**

5. Stakeholder Questionnaire

5.1. Your Responses

The questions below are designed to help us understand the constraints that should be considered during the CAA CAP 1616 Design Principles step of the Define Stage (1). Please insert your responses below to each of the following questions; the size of the response box will expand as you type your response. Use as much space as you need, or alternatively attach additional sheets or documents making it clear which questions you are responding to. Save this and any other documents and return as described at paragraph 4.2 above. If any of the questions are not applicable or relevant, please say so against the appropriate question.

It should be noted that wherever possible, within the constraints that procedure designers are obliged to work to, designs will be developed to avoid built-up areas.

Please complete the following:

Representative Organisation:
for example: Airport Consultative Committee; Exeter City Council; Flybe etc.
Local resident, GA pilot, not intending to be flipping but to be helpful and having discussed this with local airfields and non-flying residents.

Question
Q1 - Please list any altitude constraints, together with your reasons, that you feel Exeter Airport could consider when designing its new airspace structure?
Your Response: Why not have a control corridor? Particularly at the eastern end, this could be a pan handle like many other airfields. I would like to see the local fields of North Hill, Dunkeswell, Branscombe, Watchford and Farway be able to continue unrestricted upto 1500' above ground level. I appreciate gliders and parachutists will need more.
Q2 - Please inform us of the latest proposed timescales for any neighbouring airspace/ procedure re-design projects?
Your Response: Not currently aware of any.
Q3 - Please advise us of any future requirements for improved coordination (particularly adjacent/contiguous routes) between Exeter Airport and adjacent ATC units that should be considered during the development of the new Exeter Airport airspace structure?

Your Response: Yeovilton is the nearest airfield with air traffic control and clearly a link needs to be with them.
Q4 - Are there any current Air Transport Movement coordination arrangements with Exeter Airport that you would like to see remain or change as a result of Exeter Airport's new airspace design? Please provide a brief description.
Your Response: not aware of the actual arrangements, agreements with Dunkeswell and Northhill but the current ones appear successful as a casual GA pilot. I am aware that Farway and Branscombe need to be considerate of Exeter's needs and understand they are keen to do this but the majority of the traffic nearby and overhead these airfields is not from them.
Q5 - Are there any aspects of the Future Airspace Strategy (FAS) (e.g. airway entry/exit points, existing planned or new handover points) that Exeter Airport should take into account in the design of the new airspace? Please provide details.
Your Response: Having lived directly under the approach flight path overhead Ottery St Mary, I believe they should have some respite at night and therefore minimal noise through the main part of the night.
Q6 - Are you aware of anything in the CAA Airspace Modernisation Strategy that presents a risk or opportunity to Exeter Airport airspace development? Please provide details.
Your Response: the CAA Airspace Modernisation Strategy places an emphasis on minimal noise, please see my comments above.
Q7 - Do you have an existing Letter of Agreement or Memorandum of Understanding or other agreement with Exeter Airport? If so, do you see this as: (a) An agreement you would like to see remain, preferably in its current form. (b) An opportunity to alter or extend this agreement – and how? (c) An agreement that is unfit for purpose (or may come to be as a result of the change).
Your Response:
Q8 - Please let us know if there are any day time or night time constraints that you consider Exeter Airport could take into account when updating its airspace structure? Please provide details and reasons.

Your Response: Copied from my response above .. Having lived directly under the approach flight path overhead Ottery St Mary, I believe they should have some respite at night and therefore minimal noise through the main part of the night.
Q9 - Please tell us if there are there any other operational constraints that Exeter Airport will need to consider when planning its new airspace?
Your Response: Interested in the fact that FlyBe has been bought and what are it's future plans? The figures do seem excessive and believe this is because they contain many ground movements. How does this plan fit in with Devon County Council's future plans, including its transport and environmental plans.
Q10 - Please inform us of who you consider to be the other key local aviation stakeholders that you believe Exeter Airport should engage with during the process of designing its new airspace? Please provide details and reasons.
Your Response: Clearly Northhill and Dunkeswell as these will provide most of the GA traffic in the area. Also the local airfields of Farway, Branscombe and Watchford as between them they have a further 35 plus aircraft and a number of movements from visitors.
Q11 - Please provide details of any constraints imposed by restricted operations in the area encompassed by Exeter Airport flight operations (e.g. military operations, danger areas, restricted areas, route crossings, transit corridors, training areas etc.)?
Your Response:
Q12 - Please indicate if you feel there is a requirement for improved coordination between Exeter Airport and adjacent Air Navigation Service Providers (ATC) units that should be considered during the development of the Design Principles, Design Options and when implementing the new Exeter Airport airspace structure?
Your Response:
Q13 - Please provide details of any issues or constraints due to local helicopter operations that you believe may have an impact on Exeter Airport's new airspace design project?

Your Response:
Q14 - Please provide details of any issues or constraints due to local General Aviation operations, that you believe may have an impact on Exeter Airport's new airspace structure.
Your Response: Most of the responses have been from a GA perspective. Concerns are the impact on the local fields of Dunkeswell, Watchford, Farway and Branscombe. That proposals will become arrangements that are too complex and therefore lead to more infractions. That GA will be concentrated into tight corridors. That currently 'free aircraft' ie non radio and or non transponder aircraft will be prevented from flying from or to these local Devon fields or along the Devon coast.
Q15 - Please provide details of any constraints that may be occasioned by local gliding activities on the Exeter Airport's new airspace structure?
Your Response: Discuss with Northhill.
Q16 - Please provide details of any impacts on General Aviation flying that you feel may be occasioned by any new airspace proposed by Exeter Airport.
Your Response: Copy of response above Most of the responses have been from a GA perspective. Concerns are the impact on the local fields of Dunkeswell, Watchford, Farway and Branscombe. That proposals will become too complex and thus lead to more infractions. That GA will be concentrated into tight corridors. That currently 'free aircraft' ie non radio and or non transponder aircraft will be prevented from flying from or to these local Devon fields or along the Devon coast.
Q17 - When Exeter Airport designs new airspace, please list the facilities in your local area that you believe could be prioritised when considering aircraft noise (eg hospitals, schools, parks, hospices etc)?
Your Response: Commercial aircraft should be avoiding the Jurasic coast but we still get a few overhead Sidmouth.
Q18 - Please tell us if multiple routes that disperse noise across a greater number of households are more of a priority for you than a single route that concentrates noise along a track above a smaller number of households.

Your Response:

In your paper you say you will not be varying the approach routes!

> *IAPs will generally only affect the flight path of an aircraft when within approximately 15 miles of the airport. In order to execute a successful landing, aircraft will need to be aligned with the runway heading for approximately the final 8 miles of the approach, so regardless of the type of procedure flown, the heights and locations overflown at this stage of flight will be very similar for all types of approaches. Exeter Airport currently has IAPs that use both ground-based beacons and GNSS technology; Exeter Airport is not intending to change these procedures with this ACP and as a result, the tracks over the ground that aircraft fly are unlikely to change.*

Q19 - Please identify any other areas, in adjacent council/borough areas, that in your opinion may be sensitive to either direct overflight or exposure to aircraft noise, including during the night-time period?

Your Response:

Otter St Mary is very much under the approach flight path and ought to be given sone respite through the middle of the night.

Q20 - Do you believe aircraft conducting continuous climbs or descents to/from altitude (where this is safe to do so) may improve (lessen) exposure to noise in your local area?

Your Response:

Hard to answer that question without again sounding flippant ... Yes aircraft conducting continuous climbs or descents to/from altitude may lessen noise in my area but only if those aircraft conduct their continuous climbs or descents elsewhere.

Q21 - Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to Areas of Outstanding Natural Beauty (AONB), Sites of Special Scientific Interest (SSSI) etc), that you feel aircraft could avoid?

Your Response:

Budleigh Salterton, Sidmouth, Seaton the Jurasic Coast.

Q22 - Please state what principles you believe Exeter Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner exhaust fumes or pollution?

Your Response:

Again surely the only answer is minimise or avoid flying! At least until electric or hydrogen powered flight is viable...

Q23 - Please bring to our attention any recent or ongoing local environmental studies, you feel should be considered by Exeter Airport when designing the new airspace structure?
Your Response: No known local ones but does appear we all need to pay attention to the global studies. Devon appears to be one of the higher CO2 areas. Based on current news coverage this would seem to be due to the number of cows (?) and secondary major impact is transport, particularly commercial aircraft. So if Devon wishes to reduce its CO2 generation it will need to consider reducing transport and or cows. If given a choice between transportation and cow reduction in Devon, I would struggle to place my bet with commercial aircraft..
Q24 - Are there any other local development projects, perhaps currently at the planning stage, that Exeter Airport should be aware of and consider when planning its new airspace structure?
Your Response:
Q25 - Please list any other relevant local or national organisations that you believe Exeter Airport should ensure are involved in its formal consultation.
Your Response:
Q26 - Please provide the location of any future planned facilities you are aware of in your local area that could be considered sensitive to the impact of aircraft noise; please state why you feel this is necessary?
Your Response:
Q27 - Are there any areas that you feel will suffer more due to the impact of aircraft noise if the displacement of other aviation traffic were to occur due to the Exeter Airport airspace design project?
Your Response: A possible increase of GA along a coastal corridor. A possible increase in military training traffic in specific corridors, these aircraft can be loud.
Q28 - If you were flying as a passenger from Exeter Airport, we would be grateful for any views you may wish to express about how Exeter Airport should consider the needs of the local community?

Your Response:
Q29 - Please advise us of any other issues or constraints you feel Exeter Airport could consider when designing its new airspace structure? Please provide details.

Your Response:

No where to give a general response so have included it here.

I still see no clear reason why Exeter airport want what they want. What do they actually want, need? Another question, why not have SID or STAR or a standard approach procedure/track? The questions that have been put forward above are a strange range and include the generic to the leading - is this the Osprey influence..?
My final thoughts:
Why not have a slightly enlarged space and pan/double pan handle? What do pilots need and what would the CAA recommend? The paper' s comments reference IAPs come across as a standard approach procedure, so why not a controlled corridor, why the need to create a complex controlled map around the whole of Exeter? Your comments

> *IAPs will generally only affect the flight path of an aircraft when within approximately 15 miles of the airport. In order to execute a successful landing, aircraft will need to be aligned with the runway heading for approximately the final 8 miles of the approach, so regardless of the type of procedure flown, the heights and locations overflown at this stage of flight will be very similar for all types of approaches. Exeter Airport currently has IAPs that use both ground-based beacons and GNSS technology; Exeter Airport is not intending to change these procedures with this ACP and as a result, the tracks over the ground that aircraft fly are unlikely to change.*

What would an ATC expert etc.. actually advise?
What are the CAA recommendations?
The CAA turned down the last application so clearly they have an idea?
Which are the comparable airfields and what do they do?

Also I am struggling with the stats / figures.... are they really as high as portrayed and as serious as put forwards, if so, then surely the CAA would have intervened before now!?

The figures/tables are not helped by providing figures that can be misleading ie movements include: changing pan positions and have even included compass swings in that last table!

The paper appears to assume the continuing current FlyBe operations. Connect has stated that they will be expanding FlyBe operations at their own airfields of Southend and Carlisle - how will this affect Exeter? The ongoing growth also does not appear to take into account the probable future decline in air travel due to economic conditions and the necessary decline due to future environmental requirements.

A concern I and others have is that this is a first step to the approach that Bristol now has. One of ignoring GA, often not responding to calls, not usually allowing a transit. The whole Bristol controlled airspace becoming a no go zone for GA, which is now channeled into two relatively small spaces, on the west and east sides.

In future interactions with the general public I encourage you (in the principles of plain English) not to use acronyms but just write those out in full and consider a glossary that explains concepts that may not be obvious.

Table 1 – Stakeholder Questionnaire

Thank you for your cooperation in completing this questionnaire. Your comments will provide a valuable input to aid development of the Design Principles against which the options for the Exeter Airport airspace design can be developed.

Ministry of Defence

Defence Airspace Air Traffic Management
Floor 1E
Civil Aviation Authority, Aviation House
GATWICK AIRPORT SOUTH
West Sussex
RH6 0YR

Telephone: +44 (0)1293 768703

Email: DAATM-AirspaceConsultation@mod.gov.uk

30 May 2019

To whom it may concern

MOD RESPONSE TO STAGE 1B ENGAGEMENT FOR EXETER ACP

Thank you for the information regarding Stage 1B of the ACP process. Please see below the consolidated MOD response. For your ease, I have used the format provided in your engagement paper.

The moves quoted in your paper include MOD movements. For clarity, would you please confirm whether these are practise diversions or service given to military aircraft in the vicinity?

If you have any questions, please do not hesitate to contact the undersigned.

Question
Q1 - Please list any altitude constraints, together with your reasons, that you feel Exeter Airport could consider when designing its new airspace structure?
Your Response: Controlled Airspace should be no bigger than required to ensure safety is not compromised for all airspace users. It is assumed top level will coincide with N864. The MOD would be keen to ensure no aspect of N864, and the ability for MOD ATS providers to offer an airway crossing service, is compromised. If any of the existing airspace is delegated to Exeter, access rights for MOD would need to be preserved. In the Assessment Meeting Agenda, it was listed that D012 and D013 issues would need to be resolved. The MOD will need to maintain current usage as listed in ENR 5.1. RNAS Yeovilton's published instrument procedures should be considered to ensure that there is no reduction in safety. Namely TACAN Rwy 08 / TACAN Rwy 04 - inbound aircraft fly a holding pattern established around an Initial Approach Fix (IAF) before conducting an arc to the Final Approach Fix (FAF) at 15nm from Yeovilton up to FL 110.
Q2 - Please inform us of the latest proposed timescales for any neighbouring airspace/procedure re-design projects?
Your Response: Rationalisation of Plymouth and Portland Danger Areas pending, should be no factor.
Q3 - Please advise us of any future requirements for improved coordination (particularly adjacent/contiguous routes) between Exeter Airport and adjacent ATC units that should be considered during the development of the new Exeter Airport airspace structure?
Your Response: Ply Mil LARS works a great deal of military and civil traffic, both RW and FW, transiting from east to west and vice versa. We would like assurances that Exeter will continue to be able to provide a UK FIS to this traffic (as is currently the case). Potential LOAs with RNAS Yeovilton, MOD RW assets, RAF(U) Swanwick and Ply Mil need to be fully explored.

Q4 - Are there any current Air Transport Movement coordination arrangements with Exeter Airport that you would like to see remain or change as a result of Exeter Airport's new airspace design? Please provide a brief description.

Your Response:

If any of the existing airspace is delegated to Exeter, access rights for MOD would need to be preserved. Local coordination agreements with MOD units would need to be examined. The MOD (through DAATM) are keen to ensure liaison takes place at every stage of this process.

Q5 - Are there any aspects of the Future Airspace Strategy (FAS) (e.g. airway entry/exit points, existing planned or new handover points) that Exeter Airport should take into account in the design of the new airspace? Please provide details.

Your Response:

None that we are aware of.

Q6 - Are you aware of anything in the CAA Airspace Modernisation Strategy that presents a risk or opportunity to Exeter Airport airspace development? Please provide details.

Your Response:

For the purposes of the Exeter ACP, the MOD are aware of the following pillars of the AMS that may impact:

AFUA

The MOD would be keen for Exeter to thoroughly explore the potential for flexible use of airspace.

Review of FIS provision

Airspace classification review to optimise the integration of all classes of airspace

The MOD will, through DAATM provide a response to any CAA consultation/call for evidence required. Of significant importance to this ACP will be any impact on RNAS Yeovilton.

Deployment of electronic surveillance solutions

Pending the findings of the CAA call for evidence on electronic conspicuity, the MOD would be keen to see assumed interoperable electronic conspicuity as part of Stage 2 of the ACP.

FASI-S

If Exeter are required to become part of FASI-S, the MOD are represented through the DAATM.

Q7 - Do you have an existing Letter of Agreement or Memorandum of Understanding or other agreement with Exeter Airport? If so, do you see this as:

(a) An agreement you would like to see remain, preferably in its current form.
(b) An opportunity to alter or extend this agreement – and how?
(c) An agreement that is unfit for purpose (or may come to be as a result of the change).

Your Response:

None that DAATM have been made aware of. However, if it transpires that there are LOAs, they would need to be taken in to account.

Q8 - Please let us know if there are any day time or night time constraints that you consider Exeter Airport could take into account when updating its airspace structure? Please provide details and reasons.

Your Response:

Flexible Use of Airspace is a vital concept to accommodate the increasing demand in UK Airspace. Only having airspace activated in accordance with requirements is encouraged.

Q9 - Please tell us if there are there any other operational constraints that Exeter Airport will need to consider when planning its new airspace?

Your Response:

Pending airspace design as per Stage 2 and 3 of the ACP process, the MOD are keen to ensure that transit for VFR/IFR traffic, potentially in the form of a crossing service, is continually offered by the airspace operating authority. Local safety altitude for IFR flights will have to be considered as this is a key operational requirement for MOD assets.

VFR transits (mostly for RW assets) are routine, access to any CTR/CTZ via a crossing service will have to be guaranteed.

The RNAS Yeovilton MACF procedures to Rwy 08 require aircraft to climb on Rwy track to 3000' QFE.

Yeovilton's AIAA/Instrument Flying Areas extend towards Exeter SFC-6000. Military aircraft conduct practice emergency procedures with rapid changes of level and heading. The area is shared with GA, gliders, fast jet and rotary wing aircraft. See UK AIP ENR 5.2-17

Q10 - Please inform us of who you consider to be the other key local aviation stakeholders that you believe Exeter Airport should engage with during the process of designing its new airspace? Please provide details and reasons.

Your Response:

It is noted that neither RAF(U) Swanwick or Plymouth Mil were listed as adjacent users on your Assessment Meeting presentation. MOD request that consideration is made as part of your design options and that Stage 2 engagement and Stage 3 consultation will be conducted via the DAATM.

RNAS Yeovilton (Including RNAS Merryfield), RNAS Culdrose, RAF(U) Swanwick and Plymouth Mil.

Q11 - Please provide details of any constraints imposed by restricted operations in the area encompassed by Exeter Airport flight operations (e.g. military operations, danger areas, restricted areas, route crossings, transit corridors, training areas etc.)?

Your Response:

Covered in other questions.

Q12 - Please indicate if you feel there is a requirement for improved coordination between Exeter Airport and adjacent Air Navigation Service Providers (ATC) units that should be considered during the development of the Design Principles, Design Options and when implementing the new Exeter Airport airspace structure?

Your Response:

A Letter of Agreement would be required to capture interunit interactions to ensure efficient handover prior to CAS entry and CAS crossing procedures.

Further detail to Q1. As an Autonomous Radar Unit, Yeovilton ATC provides an Airways Crossing Service of N864 up to FL245 between BERRY HEAD (BHD) and BRECON (BCN). Design should consider how changes might affect this agreement with LAC and Cardiff.

Q13 - Please provide details of any issues or constraints due to local helicopter operations that you believe may have an impact on Exeter Airport's new airspace design project?
Your Response: CTCRM Lympstone and Woodbury Common lie to the south of Exeter Airport and are routinely used by MOD RW assets. If the lateral dimensions of the proposed airspace encompass these sites the MOD would need to understand how access is maintained, whilst considering the nuances and limitations of the operational requirements at these sites. Furthermore, two-way comms may not be established until after take-off from these sites. Any environmental change in route required as a result of this ACP will need to be considered. Specific detail as follows: Wildcat Maritime Force RW aircraft routinely conduct VFR low-level sorties on the south coast for essential maritime training purposes. Commando Helicopter Force RW aircraft based at RNAS Yeovilton routinely operate over Dartmoor Army Reconnaissance Force RW aircraft based at RNAS Yeovilton routinely operate in the Salisbury Plain Areas. MOD would be keen to ensure that access to these essential training areas should be unhindered by any proposed design.
Q14 - Please provide details of any issues or constraints due to local General Aviation operations, that you believe may have an impact on Exeter Airport's new airspace structure.
Your Response: MOD have no comment.
Q15 - Please provide details of any constraints that may be occasioned by local gliding activities on the Exeter Airport's new airspace structure?
Your Response: MOD have no comment.
Q16 - Please provide details of any impacts on General Aviation flying that you feel may be occasioned by any new airspace proposed by Exeter Airport.
Your Response: MOD have no comment.
Q17 - When Exeter Airport designs new airspace, please list the facilities in your local area that you believe could be prioritised when considering aircraft noise (eg hospitals, schools, parks, hospices etc)?
Your Response: MOD have no comment.
Q18 - Please tell us if multiple routes that disperse noise across a greater number of households are more of a priority for you than a single route that concentrates noise along a track above a smaller number of households.
Your Response: MOD have no comment.

Q19 - Please identify any other areas, in adjacent council/borough areas, that in your opinion may be sensitive to either direct overflight or exposure to aircraft noise, including during the night-time period?
Your Response: MOD have no comment.
Q20 - Do you believe aircraft conducting continuous climbs or descents to/from altitude (where this is safe to do so) may improve (lessen) exposure to noise in your local area?
Your Response: MOD have no comment.
Q21 - Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to Areas of Outstanding Natural Beauty (AONB), Sites of Special Scientific Interest (SSSI) etc), that you feel aircraft could avoid?
Your Response: MOD have no comment.
Q22 - Please state what principles you believe Exeter Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner exhaust fumes or pollution?
Your Response: MOD have no comment.
Q23 - Please bring to our attention any recent or ongoing local environmental studies, you feel should be considered by Exeter Airport when designing the new airspace structure?
Your Response: MOD have no comment.
Q24 - Are there any other local development projects, perhaps currently at the planning stage, that Exeter Airport should be aware of and consider when planning its new airspace structure?
Your Response: MOD have no comment.
Q25 - Please list any other relevant local or national organisations that you believe Exeter Airport should ensure are involved in its formal consultation.
Your Response: Exeter are requested to continue MOD liaison via the DAATM in the first instance. Requirements for LoAs and specific local arrangements may be devolved as required.
Q26 - Please provide the location of any future planned facilities you are aware of in your local area that could be considered sensitive to the impact of aircraft noise; please state why you feel this is necessary?
Your Response: MOD have no comment.
Q27 - Are there any areas that you feel will suffer more due to the impact of aircraft noise if the displacement of other aviation traffic were to occur due to the Exeter Airport airspace design project?
Your Response: MOD have no comment.
Q28 - If you were flying as a passenger from Exeter Airport, we would be grateful for any views you may wish to express about how Exeter Airport should consider the needs of the local community?
Your Response: MOD have no comment.

Q29 - Please advise us of any other issues or constraints you feel Exeter Airport could consider when designing its new airspace structure? Please provide details.
Your Response: Safety for all users should be priority. Potential for funnelling of traffic within Class G airspace may have an impact on RNAS Yeovilton's IFR operations. Therefore, the MOD would request that Class E airspace/RMZ/TMZ for some/all elements of any CTZ is fully considered.

Kind regards,

[redacted]
Squadron Leader
SO2 Airspace Operations

Exeter Airport – Airspace Change Project **31 May 2019**

National Trust Stakeholder response to consultation

[redacted] **(Planning Adviser) MRTPI**

Q17 – When Exeter Airport designed new airspace, please list the facilities in your local area that you believe could be prioritised when considering aircraft noise (e.g. hospitals, schools, parks, hospices etc)?

The potentially affected area as set out on the Exeter Airport controlled airspace website (https://airspacechange.caa.co.uk/PublicProposalArea?pID=62), extends over an area which includes important National Trust estates in several locations. The National Trust owned land which falls within the potentially affected area, is most notably Killerton, Parke and Castle Drogo estates, and Teign Valley woods, as set out on the map attached (airspace expansion NT ownership).

The National Trust was founded in 1895 by Octavia Hill, Sir Robert Hunter and Hardwicke Rawnsley on the simple and enduring idea that people need historic, beautiful and natural places. They offer us perspective, escape, relaxation and a sense of identity. They believed in the importance of our nation's heritage, beauty and natural places and wanted to look after them for everyone to enjoy. More than 125 years later the same values are at the heart of the National Trust.

The estates at Killerton, Parke and Castle Drogo are visited by a significant number of people and are valued as an important green space for nature and wildlife, by visitors seeking to retreat to natural and peaceful surroundings, away from urban environments. These estates are irreplaceable resources, providing opportunities for space for activity and quiet reflection, which should be protected from the impacts of urbanisation, including increased aviation traffic and resultant noise. Extending the Exeter Airspace above these estates and any resultant increase in aviation traffic would negatively impact these tranquil environments and degrade the visitor experience in these highly valued estates. Therefore, the Trust request that these estates are prioritised when considering aircraft noise. Further details of each of these estates is set out below;

Killerton - The Killerton Estate is a 2590-hectare estate which benefits from 60 miles of footpaths; it includes including Ashclyst Forest which is the largest single area of woodland in the Trust's care, contributing to the total 1000 acres of woodland within the estate. Killerton is the Trust's most popular

house and garden, and with some 50,000 new homes planned in greater Exeter, in the next ten years it is expected that visitor numbers could rise to over half a million visitors per year. The Killerton estate is located in close proximity to Exeter Airport and is particularly vulnerable to the adverse impacts of increased aviation traffic.

Parke – The Park Estate extends to 104 hectares and is enjoyed by an estimated 250,000 visitors each year. It is well used by the local community for dog walking, walks, and cycling (there is a cycle route along an old railway line through the estate)

Castle Drogo and Teign Valley Woods – The Castle Drogo Estate extends to 330 hectares and Teign Valley woods a further 228 hectares. Castle Drogo Currently welcomes approximately 100,000 visitors a year to visit the house & garden, and this is expected this to increase in the next few years to up to 150,000 visitors, following completion of major building project. In addition, over 200,000 people are estimated to visit the estate each year to enjoy the views and walking. Most will come to gain the benefits of being in the outdoors, enjoy the scenery, and the quiet walking in wildness along the river or using footpaths which make easy access for families.

Q21 – Please tell is the locations of any particularly sensitive wildlife habitats, not already notified (linked to Areas of Outstanding Natural Beauty (AONB), Sites of Special Scientific Interest (SSSI) etc), that you feel aircraft should avoid?

The National Trust was set up to protect places of natural beauty, and we plan to create and restore 'priority' wildlife habitats on 10 per cent of our land. They include habitats like chalk grassland and arable field margins - hand-picked by government as threatened and in need of help. By 2025 our ambition is that at least 50 per cent of our farmland will be 'nature-friendly', with protected hedgerows, field margins, ponds, woodland and other habitats allowing plants and animals to thrive. Supporting sustainable farming will be crucial for the plans to succeed. Many of our 1,500 farm tenants are already farming in a way which benefits wildlife and we will continue to work in partnership with our farmers.

As part of this ambition, in 2017 - 2019 the National Trust undertook a project to map priority habitats on land within its ownership in the south west of England. Please see attached to this email maps showing the locations of priority habitats identified on National Trust owned land within the extent of the potentially affected area of airspace (airspace expansion habitats map), along with a map of the

priority habitats within the Killerton at a larger scale (killerton habitats map). The priority habitat at the Killerton estate is predominantly made up of woodland, floodplain grazing marsh and parkland. The mapping will be used as a new baseline against which quantifiable future changes in habitat extent and quality will be assessed to inform future management and assist in delivery of the long-term strategic aim to improve the contribution the National Trust's land makes to nature conservation.

The National Trust consider that aircraft should avoid airspace above these priority habitat areas, as noise disturbance associated with the aircraft would not be consistent with National Trust objectives to improve the contribution these areas make to nature conservation.

Q27 – Are there any areas that you feel will suffer more due to the impact of aircraft noise if the displacement of other aviation traffic were to occur due to the Exeter Airport airspace design project?

For the reasons set out under question 17 and 21 above, the National Trust strongly consider that the estates of Killerton, Parke and Castle Drogo are valuable resources which provide important green spaces for green space for nature and wildlife, and for a significant number of visitors to appreciate historic and natural environments, away from urbanised environments; important for physical and mental health well-being. As such, these estates are particularly vulnerable to impacts of urbanisation at its boundaries and increased noise in the surrounding airspace.

The proposals have the potential to result in a noticeable and intrusive increase in noise levels at these valuable open spaces, in particular the Killerton estate, which is within close proximity of the airport.

It is considered that quality of wildlife habitats and the experience of tranquillity enjoyed by visitors, at the above mentioned estates, would be adversely impacted by aircraft noise, if the displacement of other aviation traffic were to occur due to the Exeter Airport airspace design project, and that these spaces would suffer more than other areas in more built up/ urbanised environments where a higher level of noise is generally accepted.

Exeter Airport Airspace Change Proposal

Design Principles Questionnaire

Document Details

Reference	Description
Document Title	Exeter Airport Airspace Change Proposal
	Design Principles Questionnaire
Document Ref	71189 012
Issue	Issue 1
Date	29th April 2019
Client Name	Exeter & Devon Airport Ltd
Classification	

Issue	Amendment	Date
Issue 1	Initial	29th April 2019

Approval Level	Authority	Name
Author	Osprey CSL	
Internal Approval	Osprey CSL	
External Approval	Exeter & Devon Airport Ltd	

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Glossary

Acronym	Meaning
aal	above aerodrome level
ACP	Airspace Change Proposal
ACAS	Airborne Collision Avoidance System
ANSP	Air Navigation Service Provider
AONB	Area of Outstanding National Beauty
ARP	Aerodrome Reference Point
ATC	Air Traffic Control
ATM	Air Transport Movement
ATS	Air Traffic Service
ATZ	Aerodrome Traffic Zone
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
CAS	Controlled Airspace
CAT	Commercial Air Transport
CTZ	Control Zone
CTR	Control Area
EDAL	Exeter & Devon Airport Ltd
FAS	Future Airspace Strategy
ft	feet
GA	General Aviation
GNSS	Global Navigation Satellite System
IAP	Instrument Approach Procedure

Acronym	Meaning
IFP	Instrument Flight Procedure
IFR	Instrument Flight Rules
nm	nautical mile
RA	Resolution Advisories
SID	Standard Instrument Departure
SSSI	Site of Special Scientific Interest
STAR	Standard Instrument Arrival
VFR	Visual Flight Rules

1 Introduction & Background

1.1 Context

The current UK current airspace system was designed many years ago; since then ever-increasing air traffic congestion has led to reduced airspace efficiency. Improvements in aircraft technology and performance now present an opportunity to modernise UK airspace and flight procedures. Such modernisation also allows the UK aviation community to exploit opportunities to enhance the overall environmental performance of the airspace system, where these exist.

Over the last few years, the majority of UK airports, including Exeter Airport, have been modernising their Instrument Flight Procedures (IFPs). IFPs is a term used to describe the published profiles aircraft fly over the ground, both in plan and elevation view when arriving at and departing from an airport. Modernisation will ensure that operations at UK airports can be conducted more efficiently for the benefit of both operators, fare-paying passengers and local communities.

Exeter & Devon Airport Ltd (EDAL) has identified a requirement to adapt the existing airspace structure surrounding the Airport to assist Air Traffic Control (ATC) in providing enhanced levels of information to aircraft operating in and out of Exeter Airport and to aircraft operating in the local area.

1.2 Background

This project concerns an entirely new submission of an Airspace Change Proposal (ACP) to the Civil Aviation Authority (CAA) to adapt the existing airspace structure at Exeter Airport.

EDAL plays a key part in the regional economy; therefore, it is essential that it continues to develop Exeter Airport to its full potential, while also respecting and supporting the needs of the local and transitory flight operations and aviation communities.

Despite continued economic pressures in Europe, passenger numbers at Exeter Airport have increased by 37% between 2012/13 and 2018/19 and with the introduction of new routes, EDAL anticipates that this will continue to increase in the coming years. EDAL considers that the increased volume of traffic warrants a greater level of protection for flight procedures for now and into the future. The improved protection will facilitate an additional layer of safety and improve the effective and efficient management of local air traffic.

Increased air traffic levels, changes in regulatory guidance, improved aircraft performance and enhanced navigational system accuracy and reliability have all contributed to the emerging need for a re-design of the airspace surrounding Exeter Airport. Although Exeter ATC handles the current operational issues safely and effectively on a tactical basis, the anticipated increase in traffic may result in overload situations as controllers try to accommodate more aircraft in a limited volume of airspace, particularly to the east of the Airport.

The principal area of concern regarding current operations at Exeter is one of limited protection currently afforded to commercial aircraft, including passenger-carrying airliners, operating near the airport.

In order to maintain levels of safety and enhance airspace efficiency, whilst causing minimal disruption to all aviation stakeholders, Exeter propose to establish new airspace around the existing Exeter Airport Aerodrome Traffic Zone (ATZ) that will:

- Safeguard routinely utilised flights operating under Instrument Flight Rules (IFR) at Exeter Airport.
- Ensure safe separation between the IFR traffic and promote proactive coordination of traffic operating under Visual Flight Rules (VFR) near the Airport.
- Protect aircraft operating within the Visual Circuit at Exeter Airport that routinely need to extend beyond the boundary of the ATZ.
- Enhance efficiency by providing airspace that will reduce the instances of avoiding action.
- Reduce traffic delays on the ground and in the air.

The rules regarding the provision of an Air Traffic Service (ATS) to aircraft in Class G airspace are designed to minimise the risks to all aircraft. The ability of air traffic controllers to intervene with traffic avoidance instructions, given the rates of closure and climb/descent profiles, is limited. On initial departure and final approach commercial aircraft also have limited manoeuvrability and therefore a limited manoeuvrability response to warnings. The busy Class G airspace environment at Exeter Airport has led to a number of reportable safety events between unknown aircraft and aircraft arriving at and departing from Exeter Airport in recent years:

Three Air Proximity (AIRPROX)[1] events were recorded in 2016 and three in 2018, and the airport has logged 139 observations of unknown aircraft in 11 months since May 2018. Exeter ATC continue to intervene in potential safety events every week, delaying or halting departures, providing avoidance instructions and extending departure and arrival routes. The events have included:

- 12 aircraft broken off final approach;
- 7 aircraft given avoiding action;
- 2 aircraft electing to continue approach at own risk;
- 82 aircraft were given extended routing or delayed due to unknown aircraft.

These incidents create a significant increase in workload for pilots and distract ATC from the task of ATS provision. Additionally, the arrival and departure phase of flight is a particularly busy time on the flight deck, when unexpected ATC interventions (often at very short notice) add significantly to pilot workload. While current operations are tolerably safe, a disproportionate amount of controller capacity is consumed ensuring this is the case. There have also been occasions where the prevalence of unknown traffic operating within the vicinity of the Airport could easily lead to a degradation of safety margins.

Exeter Airport continues to monitor, record and analyse the frequency of ATC intervention, and is devising a campaign to raise awareness of the importance of reporting with all commercial and private operators based at the aerodrome.

Exeter Airport understands that some people may have concerns about any airspace change. We will therefore need to ensure that this planned change balances the requirement to provide enhanced levels of information to aircraft operating in and out of Exeter Airport and to aircraft operating in the local area with the requirements of local communities, whilst at the same time minimising the environmental impacts. Transparency and engagement with local communities is at the heart of the new Civil Aviation Publication (CAP) 1616 process, and the questionnaire later in this document (Section 5) will help us to gather your views to assist in the development of Design Principles; these will serve as the framework against which the new airspace design options can be prepared. This will also help us to ensure that the new airspace is designed, wherever practicable, in accordance with the priorities of those people most likely to be affected by its introduction.

1.3 Governmental Guidance and the CAP 1616 Process

Under section 66 of the Transport Act 2000, the Secretary of State gave the CAA (the UK aviation independent regulator) a number of airspace-related functions, including: the duty to develop policy and strategy on the classification and use of airspace; to publish the UK airspace design; and to approve changes to it. Under section 70 of the Transport Act 2000, the CAA has a duty to take several factors into account when considering whether to agree to an airspace change proposal; this includes taking account of specific guidance on the environmental objectives contained within the current Air Navigation Guidance.

At the beginning of 2018 the CAA introduced a new process that the regulator and sponsors of airspace change proposals should follow when proposing any airspace change. This new process was developed to ensure a greater level of transparency and two-way engagement with local communities. The new process is described in the CAA publication (CAP) 1616, at the link below:

https://publicapps.caa.co.uk/docs/33/CAP1616E2interactive.pdf

The CAP 1616 Airspace Design process sets out the CAA's role to approve changes to airspace design[2], and to the law and policy which govern the CAA role. The guidance in CAP 1616 sets out the framework for the stages of the process and the activities that must be undertaken from the conception of the need for a change. It details what must be undertaken during the airspace re-design; the consulting and engagement requirements with those potentially impacted; how to assess the impacts of different design options from a safety, operational and environmental perspective; and ultimately how the regulatory decision will be made. If an airspace design change is approved by the CAA, the guidance also covers implementation and the subsequent Post-implementation Review[3] that assesses how the airspace change has performed since introduction and whether the anticipated impacts and benefits defined in the original proposal and decision have been delivered.

[2] *Defined by CAP 1616 as: "Together, the airspace structure and flight procedures."*
[3] *Post Implementation Review (PIR), ideally conducted one year after implementation of the changes.*

2 Exeter Airport Operations

2.1 Introduction

Exeter Airport is located within uncontrolled Class G airspace, where aircraft are not subject to mandatory compliance with ATC instructions and are only required to adhere to a small set of compulsory flight rules. Consequently, aircraft can enter, leave and transit the airspace without ATC permission. Exeter has an established Aerodrome Traffic Zone (ATZ), which is also classified as Class G airspace, of radius 2.5 nautical miles (nm) centred on the Exeter Airport Aerodrome Reference Point (ARP), expanding from ground level to 2,000 ft above aerodrome level (aal). The ATZ is the only airspace established to provide aircraft operating at Exeter Airport with any degree of protection. Pilots of aircraft within the ATZ, or requesting entry into the ATZ are required to make their presence known to Exeter ATC and comply with ATC instructions. Figure 1 provides an indication of the current airspace profile that surrounds Exeter Airport.

Figure 1 – Exeter Airport and the Current Surrounding Airspace

2.2 Current Operations

The majority of Commercial Air Transport (CAT) aircraft arrive via the N864 airway, which is Class A Controlled Airspace (CAS) (between the red parallel shaded lines that radiate from the bottom of the diagram, oriented, north-northeast over Exeter Airport in Figure 1 above)

which offers protection to CAT flying under Instrument Flight Rules (IFR)[4]. CAT is then vectored off, and below, this route into the Class G (uncontrolled airspace), to subsequently descend and make an approach to the Airport.

2.3 Airport Capacity

With the 37% increase in passenger numbers since 2012/13, , there is an associated growth in the number of CAT movements, projected to be 3% year on year growth for the next 5 years. Exeter Airport anticipates a projected increase in Air Transport Movements (ATM) of all types of aircraft (commercial, leisure, training, military etc.) in the near future. This detail is replicated from the Exeter Airport Management Business Plan is contained in Figure 2.

	FY17	FY18	FY19	FY20	FY21	FY22	FY23
Scheduled	11,509	11,675	11,889	13,612	15,766	17,302	18,692
IT Charter	1,280	1,279	1,287	1,358	1,296	1,388	1,382
Mail	499	500	495	508	506	506	508
General Aviation	9060	7874	8139	8,139	8,139	8,139	8,139
Corporate Aviation	2,050	1,948	1,793	2,110	2,215	2,326	2,442
Test & Training	11,949	11,429	12,628	11,952	11,952	11,952	11,952
Military & Official	400	716	650	661	661	661	661
Compass Swing	59	35	25	33	33	33	33
Engine Testing	180	184	212	192	192	192	192
Maintenance	401	463	504	519	519	519	519
Medical	11	8	4	3	3	3	3
Overshoots	1,128	1,258	1,303	1,298	1,298	1,298	1,298
Others	3,554	3,705	3,884	3,897	3,897	3,897	3,897
Total	42,080	41,074	42,748	44,282	46,477	48,216	49,718

Figure 2 – Projected Exeter Airport ATM

[4] *The most important concept of IFR flying is that separation is maintained regardless of weather conditions.*

2.4 Why is a Change Required?

The current operations of commercial and passenger carrying aircraft operating in and out of Exeter Airport in Class G uncontrolled airspace requires recurrent ATC tactical intervention. This may include the re-routing of arriving aircraft or delaying the departure of commercial passenger traffic in order to ensure the safety of all airspace users. This practice inevitably brings CAT into potential conflict with local General Aviation (GA) and transitory air traffic operating in Class G airspace, often during the most critical stages of flight.

Given the speeds, rates of climb/descent, and manoeuvrability of the CAT, the ability of air traffic controllers to intervene with traffic avoidance instructions, or for airline pilots to respond to Airborne Collision Avoidance System (ACAS) warnings, or, as they are known, 'Resolution Advisories' (RA), is limited. This difficult environment has led to reportable safety events, between unknown aircraft and aircraft arriving and departing to/from Exeter Airport, resulting in 3 Air Proximity (AIRPROX)[5] in 2016 and over 600 recorded instances of controller intervention due to unknown aircraft over an 8-year period (2009 – 2016). These incidents create a significant increase in workload and distract ATC from the task of providing a service in Class G uncontrolled airspace. Additionally, the arrival and departure phase of flight is a busy time on the flight deck, unexpected ATC interventions (often at very short notice) add significantly to pilot workload too and adds uncertainty into CAT operations. While current operations are safe, there have been occasions where the prevalence of unknown traffic operating within the vicinity of the Airport could have potentially led to a degradation of safety margins.

The introduction of an alternative airspace arrangement would mean that the routing of CAT and transitory aircraft would be more predictable and regularised. This in turn would reduce airspace traffic interactions and flight deck workload as well as reducing ATC workload. Additional benefits would be the provision of a greater level of integrity and efficiency to all local airspace users and the implementation of a known air traffic environment. Altogether, Exeter ATC would be able to provide a greater level of protection to local and transiting aircraft.

[5] *An AIRPROX is a situation in which, in the opinion of a pilot or air traffic services personnel, the distance between aircraft as well as their relative positions and speed have been such that the safety of the aircraft involved may have been compromised.*

3 Points for Consideration

3.1 Introduction

This section provides some information and further explanation that you may wish to read before considering your responses to the questions at Section 5.

3.2 Airspace Structure

The airspace in the UK is a complex 'invisible infrastructure' that helps a diverse variety of airspace users, including commercial, cargo, military and leisure users, to operate safely in the sky. The airspace is divided into three-dimensional segments, each of which is assigned a specific class, as depicted in the example picture at Figure 3 below. The classification of the airspace determines the flight rules which apply to the aircraft flying within each particular area and also the minimum air traffic services which are to be provided. In the UK, there are currently five classes of airspace; A, C, D, E and G. Classes A, C, D and E are areas of CAS and Class G is uncontrolled airspace.

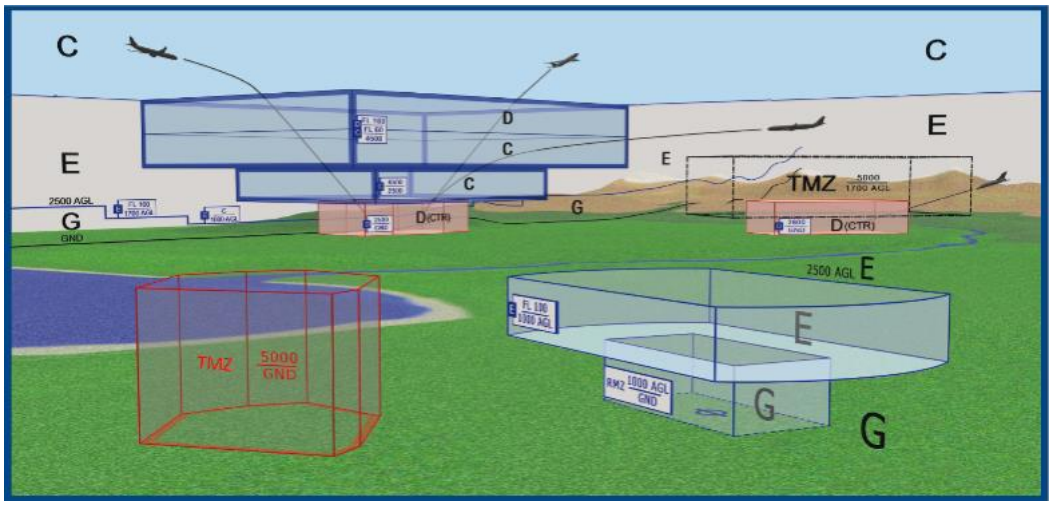

Figure 3 – Example Airspace Structure

CAS is provided primarily to protect its users, and as such, aircraft which fly within CAS must be equipped to a certain standard and their pilots must obtain clearance from ATC to enter such airspace and follow ATC instructions implicitly.

In addition to being given a class, CAS may be further defined by its type, depending on where it is and the function it describes.

- Control Zones (CTZ) – provides protection to aircraft in the immediate vicinity of an aerodrome, extending from the surface to a specified upper limit.
- Control Areas (CTR) – situated above the ATZ or CTZ and provides protection over a larger area from a specified lower limit (not necessarily the surface) to a specified upper limit.

3.3 Instrument Flight Procedures

Instrument Flight Procedures (IFPs) is a term used to describe the published profiles aircraft fly over the ground, both in plan and elevation view when arriving at and departing from an airport. There are 3 main types of IFPs; a Standard Instrument Departure (SID) for aircraft departing an airport, a Standard Instrument Arrival (STAR) for airport arriving at an airport and an Instrument Approach Procedure (IAP) for aircraft making an approach to land.

Exeter Airport does not have, and is not intending to introduce SID or STAR procedures for aircraft operating at the airport. Routing to and from the en-route airways structure will be facilitated by tactical instructions from ATC, which currently leads to the natural dispersion of aircraft around the local area, depending on the routing the aircraft needs to take. When answering the questions below, please consider that the routes aircraft take may become more concentrated to remain within the new airspace structure.

An IAP is a series of pre-determined manoeuvres by reference to flight instruments which guide the aircraft, with specific protection from ground obstacles, to a point from where a successful landing can be completed or, if the landing is not completed, to an appropriate holding point. These procedures may be flown with reference to either conventional ground-based navigation aids or with reference to Global Navigation Satellite Systems (GNSS). GNSS is the standard generic term for satellite navigation systems that provide autonomous geo-spatial positioning with global coverage. This term includes, for example, the GPS (US), GLONASS (Russia), Galileo (European), BeiDou (China) and other regional systems.

IAPs will generally only affect the flight path of an aircraft when within approximately 15 miles of the airport. In order to execute a successful landing, aircraft will need to be aligned with the runway heading for approximately the final 8 miles of the approach, so regardless of the type of procedure flown, the heights and locations overflown at this stage of flight will be very similar for all types of approaches. Exeter Airport currently has IAPs that use both ground-based beacons and GNSS technology; Exeter Airport is not intending to change these procedures with this ACP and as a result, the tracks over the ground that aircraft fly are unlikely to change.

3.4 Urban and Rural Areas

You may wish to consider the advantages and disadvantages of designing airspace that may concentrate aircraft over either urban or rural areas. Flights over more sparsely populated areas may seem to be the best alternative. However, you may also wish to consider the levels of background noise when balancing the urban and rural alternatives. Aircraft flying over urban areas will pass over a larger number of people and residences. However, in urban areas the levels of background noise are likely to be much higher than in rural areas. Consequently, aircraft noise may be masked because of higher noise levels associated with traffic and many other background activities, common in urban locations.

3.5 Open Areas

In many urban locations you may feel it is important to protect quiet or open areas (e.g. parks) by designing airspace that avoids these areas. However, in large urban areas it may

not be possible to avoid overflight of quiet areas and, at the same time, also avoid overflight of more densely populated areas. This may be because of the proximity of runways to urban areas or to the orientation of the runway itself.

3.6 Noise and Emissions

An aircraft flying a straight line directly from one location to another is the most efficient routing option because it represents the shortest distance and time between locations. When flying a longer route between the same locations (perhaps to minimise noise impacts in a sensitive area) the distance and time of the flight will increase, as will the fuel burn and associated emissions into the atmosphere. When answering the questions, please consider this balance between noise and emissions in general terms.

3.7 Time of Day or Different Operations on Different Days.

When responding to the questions, you may also wish to consider whether your comments are applicable by day or by night, or whether you feel that priorities should change over the 24-hr period, or day to day.

4 Engagement & How to Respond

4.1 Engagement

Exeter Airport has a relationship with its local communities and remains committed to involving local stakeholders who may wish to offer their views on any operational changes. It is important to Exeter Airport to conduct effective engagement in a transparent way, and in accordance with the guidance contained within Stage 1 (Define) of the CAA CAP 1616 process. We recognise the importance of capturing the views of both local aviation and non-aviation stakeholders who may wish to express their views concerning any future changes.

It is important to understand that at this stage of the process our initial engagement is limited to a selection of representative bodies and individuals who can offer views on behalf of their local organisations and communities. These views will help us to formulate some Design Principles, which you will have an opportunity to review. The Design Principles will themselves provide the framework against which Design Options for the new airspace can be evaluated. After the Design Options are drawn up, Exeter Airport will share these with the same representative bodies involved in developing the Design Principles. It is worth noting that the more detailed Design Options will be subject to a formal consultation exercise, currently planned to take place between March and July 2020.

4.2 How to Respond

As stated before, this document has been produced to help us ascertain the views of our local non-aviation and aviation stakeholders. We have developed the questions below in Section 5 and would encourage you to insert your responses in the enclosed table and return this to us as described below.

Please do not feel constrained in your response to any question. If you wish to highlight any other relevant local constraints or issues, then Exeter Airport would welcome any feedback you choose to contribute that will support the development of our Design Principles. Your responses may be operational or environmental in nature but should be those you feel are most important to you or your represented community.

Please save the file that includes your responses and attach to an email to the following address:

acpexeterenquries@exeter-airport.co.uk

In addition to the word file, we will accept scanned, hand-written responses or email responses as long as they are legible and clearly identify the question to which your response relates.

It is important that individual email responses clearly show your name and contact details; this will allow us to cross-refer to the emails we send out.

We will also accept legible postal responses to the following address within the timescales specified below:

Airspace Change Proposal
Exeter & Devon Airport Ltd
Clyst Honiton
Exeter
EX5 2BD

4.3 Focus Groups

In addition to the questionnaire attached, Exeter Airport is organising 2 Focus Groups with stakeholders, where any additional views from the discussions will be recorded. Following analysis of all the views articulated by the groups and in the individual responses to questionnaires, Exeter Airport will draft the Design Principles document, for further review and subsequent submission to the CAA.

Invitations for these Focus Groups will be sent out separately by EDAL.

4.4 Timescale for responses

As briefly mentioned in paragraph 4.1 it is anticipated that the formal consultation will be conducted between March and July 2020. Exeter Airport will ensure any views expressed through this earlier engagement activity will also be recorded to inform the full consultation report.

In order that we can use your response to support our Design Principles activities, and in particular to help the Focus Group discussions, please send us your completed questionnaire by **Friday 31st May 2019.**

5 Stakeholder Questionnaire

5.1 Your Responses

The questions below are designed to help us understand the constraints that should be considered during the CAA CAP 1616 Design Principles step of the Define Stage (1). Please insert your responses below to each of the following questions; the size of the response box will expand as you type your response. Use as much space as you need, or alternatively attach additional sheets or documents making it clear which questions you are responding to. Save this and any other documents and return as described at paragraph 4.2 above. If any of the questions are not applicable or relevant, please say so against the appropriate question.

It should be noted that wherever possible, within the constraints that procedure designers are obliged to work to, designs will be developed to avoid built-up areas.

Please complete the following:

Representative Organisation:
for example: Airport Consultative Committee; Exeter City Council; Flybe etc.
NATS (including Cardiff & Bristol airports ATC)

Question
Q1 - Please list any altitude constraints, together with your reasons, that you feel Exeter Airport could consider when designing its new airspace structure?
Your Response: NATS do not believe that altitude constraints should be part of the design principles, but the principles should consider the impact on the network as a whole. This should be for consideration in the design phase of the work and allow for options to be considered then.
Q2 - Please inform us of the latest proposed timescales for any neighbouring airspace/procedure re-design projects?
Your Response: NATS, through NERL, are designing the network airspace for deployment in the period of 2024/25. Cardiff and Bristol Airports are participants in the wider FASI-S programme that LAMP is part of.
Q3 - Please advise us of any future requirements for improved coordination (particularly adjacent/contiguous routes) between Exeter Airport and adjacent ATC units that should be considered during the development of the new Exeter Airport airspace structure?

Your Response: NATS believe that Exeter Airport should take account of the role and function that Cardiff ATC perform in relation to airway N864 & surrounding airspace (the Delegated Function) when designing their airspace.
Q4 - Are there any current Air Transport Movement coordination arrangements with Exeter Airport that you would like to see remain or change as a result of Exeter Airport's new airspace design? Please provide a brief description.
Your Response: As per Q3
Q5 - Are there any aspects of the Future Airspace Strategy (FAS) (e.g. airway entry/exit points, existing planned or new handover points) that Exeter Airport should take into account in the design of the new airspace? Please provide details.
Your Response: NATS would expect Exeter Airport to provide indicative letterbox positions to the LAMP project in order to assist in the design of the airspace network which will link to the airport designs.
Q6 - Are you aware of anything in the CAA Airspace Modernisation Strategy that presents a risk or opportunity to Exeter Airport airspace development? Please provide details.
Your Response: NATS firmly supports the CAA AMS and believes that it provides many opportunities for all participants in the programmes outlined within it.
Q7 - Do you have an existing Letter of Agreement or Memorandum of Understanding or other agreement with Exeter Airport? If so, do you see this as: (a) An agreement you would like to see remain, preferably in its current form. (b) An opportunity to alter or extend this agreement – and how? (c) An agreement that is unfit for purpose (or may come to be as a result of the change).
Your Response: NATS Swanwick, Bristol and Cardiff are all signatories with Exeter Airport for the LoA known as the "Severn Group" detailing procedures for handling of traffic between the above units and Gloucestershire Airport. Depending on the Airspace Design this LoA may well need altering.
Q8 - Please let us know if there are any day time or night time constraints that you consider Exeter Airport could take into account when updating its airspace structure? Please provide details and reasons.

Your Response: NATS supports Exeter in their engagement with local communities for this work, but have no particular comment to make on this question
Q9 - Please tell us if there are there any other operational constraints that Exeter Airport will need to consider when planning its new airspace?
Your Response: As per EC Implementing Rule 2018/1048 and other regulations NATS believes that Exeter should consider the benefits of utilising Performance Based Navigation within their design phase, particularly in relation to the environmental considerations and operational efficiency.
Q10 - Please inform us of who you consider to be the other key local aviation stakeholders that you believe Exeter Airport should engage with during the process of designing its new airspace? Please provide details and reasons.
Your Response: NATS would expect that Exeter Airport would consider the MoD, General Aviation communities and adjacent airfields as key stakeholders alongside councils (County, Borough, Parish) and community groups.
Q11 - Please provide details of any constraints imposed by restricted operations in the area encompassed by Exeter Airport flight operations (e.g. military operations, danger areas, restricted areas, route crossings, transit corridors, training areas etc.)?
Your Response: Refer to Q3
Q12 - Please indicate if you feel there is a requirement for improved coordination between Exeter Airport and adjacent Air Navigation Service Providers (ATC) units that should be considered during the development of the Design Principles, Design Options and when implementing the new Exeter Airport airspace structure?
Your Response: NATS would expect to maintain current levels of coordination but would welcome opportunities to explore improved efficiencies at the interface
Q13 - Please provide details of any issues or constraints due to local helicopter operations that you believe may have an impact on Exeter Airport's new airspace design project?

Your Response: NATS have no comment on this
Q14 - Please provide details of any issues or constraints due to local General Aviation operations, that you believe may have an impact on Exeter Airport's new airspace structure.
Your Response: NATS have no comment on this
Q15 - Please provide details of any constraints that may be occasioned by local gliding activities on the Exeter Airport's new airspace structure?
Your Response: NATS have no comment on this
Q16 - Please provide details of any impacts on General Aviation flying that you feel may be occasioned by any new airspace proposed by Exeter Airport.
Your Response: NATS have no comment on this
Q17 - When Exeter Airport designs new airspace, please list the facilities in your local area that you believe could be prioritised when considering aircraft noise (eg hospitals, schools, parks, hospices etc)?
Your Response: NATS have no comment on this
Q18 - Please tell us if multiple routes that disperse noise across a greater number of households are more of a priority for you than a single route that concentrates noise along a track above a smaller number of households.

Your Response: NATS would suggest that all options are considered during the Design Options phase, but understands that Exeter Airport stakeholders may express a preference for inclusion in a Design Principle against which they will be judged later in the process
Q19 - Please identify any other areas, in adjacent council/borough areas, that in your opinion may be sensitive to either direct overflight or exposure to aircraft noise, including during the night-time period?
Your Response: NATS have no comment on this
Q20 - Do you believe aircraft conducting continuous climbs or descents to/from altitude (where this is safe to do so) may improve (lessen) exposure to noise in your local area?
Your Response: NATS believes that the environmental and flight efficiency benefits of CCO/CDO are well documented and support the inclusion of a Design Principle with this in mind.
Q21 - Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to Areas of Outstanding Natural Beauty (AONB), Sites of Special Scientific Interest (SSSI) etc), that you feel aircraft could avoid?
Your Response: NATS have no comment on this
Q22 - Please state what principles you believe Exeter Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner exhaust fumes or pollution?
Your Response: See Q20
Q23 - Please bring to our attention any recent or ongoing local environmental studies, you feel should be considered by Exeter Airport when designing the new airspace structure?

Your Response: NATS have no comment on this
Q24 - Are there any other local development projects, perhaps currently at the planning stage, that Exeter Airport should be aware of and consider when planning its new airspace structure?
Your Response: NATS have no comment on this
Q25 - Please list any other relevant local or national organisations that you believe Exeter Airport should ensure are involved in its formal consultation.
Your Response: NATS have no comment on this
Q26 - Please provide the location of any future planned facilities you are aware of in your local area that could be considered sensitive to the impact of aircraft noise; please state why you feel this is necessary?
Your Response: NATS have no comment on this
Q27 - Are there any areas that you feel will suffer more due to the impact of aircraft noise if the displacement of other aviation traffic were to occur due to the Exeter Airport airspace design project?
Your Response: NATS have no comment on this
Q28 - If you were flying as a passenger from Exeter Airport, we would be grateful for any views you may wish to express about how Exeter Airport should consider the needs of the local community?

Your Response: NATS have no comment on this
Q29 - Please advise us of any other issues or constraints you feel Exeter Airport could consider when designing its new airspace structure? Please provide details.
Your Response: Bristol and Cardiff Airports have both submitted statements of need in accordance with the CAP 1616 process as part of the FASI-S programme.

Table 1 – Stakeholder Questionnaire

Thank you for your cooperation in completing this questionnaire. Your comments will provide a valuable input to aid development of the Design Principles against which the options for the Exeter Airport airspace design can be developed.

7 February 2011

Our ref: 10/11-054

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City Road
Peterborough
PE1 1XN

T 0300 060 3856
F 0300 060 3888

Policy Coordinator
Directorate of Airspace Policy
CAA House
45-59 Kingsway
London
WC2B 6TE

e-mail: fas@caa.co.uk

Dear Sir/Madam

Consultation on the Future Airspace Strategy (Civil Aviation Authority)

Please find attached Natural England's response to the above consultation. If you have further questions regarding our response to this consultation, please contact [redacted] Senior Specialist on [redacted] r at [redacted]

[redacted]
Director Strategy and Environmental Futures

Consultation on the Future Airspace Strategy
Natural England response, February 2011

Introduction

Natural England has been charged with the responsibility to ensure that England's unique natural environment including its flora and fauna, land and seascapes, geology and soils are protected and improved. Natural England's purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

We welcome the opportunity to respond to this consultation on the Civil Aviation's Future Airspace Strategy 2030 (FAS).

Summary of our comments

Airspace change and management can impact on the natural environment, and on people's experience of the natural environment, through:

- The loss of tranquillity in designated landscapes,
- Air pollution affecting designated sites,
- Constraints on wetland creation and disturbance to bird populations,
- Greenhouse gas emissions contributing to climate change impacts on the natural environment.

We therefore welcome the recognition in the FAS of the environmental impact of air travel on emissions, local air quality, noise and tranquillity, and the weight given to the environment in the Strategy's vision:

"Safe, efficient airspace, that has the capacity to meet reasonable demand, balances the needs of all users and mitigates the impact of aviation on the environment."

In responding to the environment as a key strategic driver for modernising the current airspace system, the FAS should consider the possibility that future airspace management could exacerbate these impacts, and seek to mitigate them. To enable this to happen, the FAS should set out clear policies for environmental protection and enhancement and the resulting action plan should include the key delivery mechanisms for these policies. Where conflicts between the delivery of different elements of the FAS arise, these should be recognised and the process for resolving them set out.

Response to consultation questions

Q6.5.1 How would you assess the current emphasis on environmental matters within the Future Airspace Strategy in relation to safety and capacity?

The FAS acknowledges the impacts that aviation can have on the environment but we would welcome some additional detail in the discussion of tranquillity, and also on the issues of air quality, bird disturbance and wetland creation.

Tranquillity
With regard to tranquillity, CPRE's tranquillity maps show[1] it to be a scant resource across England. Tranquillity is an essential element of many of our nationally protected landscapes, one that makes a significant contribution to people's experience and enjoyment of these landscapes. It is recognised as one of the 'cultural ecosystems services' provided by these landscapes; these include the *non-material benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation and aesthetic experiences*[2]. It is therefore a resource in urgent need of preservation. The FAS acknowledges the relevance of tranquillity and the Government's guidance to the CAA to pursue policies that preserve the tranquillity of the countryside. However, we would recommend that the FAS also refers to the purposes and duties relating to National Parks & Areas of Outstanding Natural Beauty (AONBs) as these provide the context for preserving tranquillity in these areas and identify the authorities responsible.

[1] http://www.cpre.org.uk/campaigns/landscape/tranquillity/national-and-regional-tranquillity-maps
[2] Ecosystem Services website, http://www.ecosystemservices.org.uk/ecoserv.htm

National Parks and AONBs have been confirmed by the Government as having the highest status of protection in relation to landscape and scenic beauty, which includes the concept of tranquility. Each of these designated areas has specific statutory purposes which help to ensure their continued protection. The statutory purpose of AONBs is to conserve and enhance the natural beauty of their area. The statutory purposes of National Park Authorities are to conserve and enhance the wildlife, cultural heritage and natural beauty of National Parks, and to promote opportunities for public enjoyment and understanding of their special qualities. Tranquility is a particularly important aspect for enjoyment and understanding in National Parks.

The statutory duties are provided in Section 11A(2) of the National Parks and Access to the Countryside Act 1949 (National Parks) & Section 85 of the Countryside and Rights of Way Act (CROW) 2000 (AONBs). For National Park and AONB duties the Civil Aviation Authority (under s.19 of, and Schedule 2 to the Civil Aviation Act 1982), is regarded as a statutory undertaker.

Overflying of designated landscapes could increase significantly during the lifetime of the FAS, so there is an urgent need for a suitable methodology that can distinguish the impact of overflying of designated landscapes on their tranquillity. The discussion in appendix 4 of the FAS of potential metrics for assessing impacts on tranquillity is therefore welcome, and the development of a methodology should be part of any subsequent work package or action plan developed for the FAS. To give some indication of the scale of the problem, recent air space changes by NATS to accommodate increased numbers of flights will lead to increased overflying of the New Forest National Park, the North Wessex Downs, the Cotswolds, the Mendips, the Quantock Hills, the Blackdown Hills, the Shropshire Hills and the East Devon AONBs, whilst the consultation on air space changes to the northern area (currently on hold) proposed increased overflying of the Chilterns AONB.

Air quality and the natural environment
The FAS identifies local air quality as one of the environmental issues relating to aviation but provides little detail on its impacts or ways in which the FAS might address these impacts.

Aircraft emit a wide variety of pollutants including oxides of nitrogen (NOx), volatile organic compounds (VOCs), heavy metals, particulates and ammonia. The main emissions of concern for the natural environment are NOx and VOCs. Elevated concentrations of NOx are toxic to vegetation. Emissions of NOx, and the secondary compounds formed from these, also contribute to nitrogen deposition, which can cause nutrient enrichment and acidification which can be detrimental to sensitive habitats. Critical loads for acidity and/or the fertilising effects of nitrogen are exceeded in over half the UK's natural and semi-natural habitats.

The FAS should acknowledge that air pollution impacts on the natural environment as well as on local populations living near airports. The treatment of air quality in any subsequent action plan for the FAS should make this distinction and explore the possibilities for mitigation to ensure the FAS contributes to the Government's objectives on air quality and European limits.

Bird disturbance and wetland creation
Aviation has other impacts on the natural environment that are not included in the FAS. There is evidence that overflying at low altitudes causes disturbance to bird populations[3]. In addition, the safeguarding measures taken to address the risk of bird strike are a significant factor [4] influencing the delivery of new wetland creation schemes and mitigation following aggregate extraction. Whilst the FAS may not be the appropriate document for discussion of these impacts, it would be useful to have a scoping section that acknowledges aviation's other impacts on the natural environment and highlights the mechanisms and strategies that are in place to respond to them.

Q6.5.2 How should the Future Airspace Strategy address the trade-off between different types of environmental impacts as set out in the document?

There is a need for further analysis of the trade-offs that may be required between environmental considerations, and other safety and capacity considerations, relating to future airspace management. We

[3] Bird activity and avoidance of bird str ke risk, NATS, 2007
Disturbance effects of aircraft on birds, Drewitt, A (English Nature), 1999
[4] Safeguarding, Aerodromes, Technical Sites and Military Explosives Storage Areas, DfT Circular, 2003

support the need for further formal guidance to the CAA on how to strike the balance on these trade-offs, particularly for GHG emissions and aircraft noise.

Concluding comments

The FAS states that it is not designed to provide a blueprint for the future of the UK's air space structure, rather that the final Strategy will *set the direction for future detailed pieces of work to be progressed.* As many of the environmental elements of the FAS require further research and guidance before they can be addressed satisfactorily (and could therefore take a long time to realise), there is a need for a clear statement in the FAS that explains how the FAS will be implemented, the work packages required and the likely contributors.

Natural England
February 2011

Exeter Airport Airspace Change Proposal

Design Principles Questionnaire

Document Details

Reference	Description
Document Title	Exeter Airport Airspace Change Proposal
	Design Principles Questionnaire
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Issue	Issue 1
Date	29th April 2019
Client Name	Exeter & Devon Airport Ltd
Classification	

Issue	Amendment	Date
Issue 1	Initial	29th April 2019

Approval Level	Authority	Name
Author	Osprey CSL	
Internal Approval	Osprey CSL	
External Approval	Exeter & Devon Airport Ltd	

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Glossary

Acronym	Meaning
aal	above aerodrome level
ACP	Airspace Change Proposal
ACAS	Airborne Collision Avoidance System
ANSP	Air Navigation Service Provider
AONB	Area of Outstanding National Beauty
ARP	Aerodrome Reference Point
ATC	Air Traffic Control
ATM	Air Transport Movement
ATS	Air Traffic Service
ATZ	Aerodrome Traffic Zone
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
CAS	Controlled Airspace
CAT	Commercial Air Transport
CTZ	Control Zone
CTR	Control Area
EDAL	Exeter & Devon Airport Ltd
FAS	Future Airspace Strategy
ft	feet
GA	General Aviation
GNSS	Global Navigation Satellite System
IAP	Instrument Approach Procedure

Acronym	Meaning
IFP	Instrument Flight Procedure
IFR	Instrument Flight Rules
nm	nautical mile
RA	Resolution Advisories
SID	Standard Instrument Departure
SSSI	Site of Special Scientific Interest
STAR	Standard Instrument Arrival
VFR	Visual Flight Rules

1 Introduction & Background

1.1 Context

The current UK current airspace system was designed many years ago; since then ever-increasing air traffic congestion has led to reduced airspace efficiency. Improvements in aircraft technology and performance now present an opportunity to modernise UK airspace and flight procedures. Such modernisation also allows the UK aviation community to exploit opportunities to enhance the overall environmental performance of the airspace system, where these exist.

Over the last few years, the majority of UK airports, including Exeter Airport, have been modernising their Instrument Flight Procedures (IFPs). IFPs is a term used to describe the published profiles aircraft fly over the ground, both in plan and elevation view when arriving at and departing from an airport. Modernisation will ensure that operations at UK airports can be conducted more efficiently for the benefit of both operators, fare-paying passengers and local communities.

Exeter & Devon Airport Ltd (EDAL) has identified a requirement to adapt the existing airspace structure surrounding the Airport to assist Air Traffic Control (ATC) in providing enhanced levels of information to aircraft operating in and out of Exeter Airport and to aircraft operating in the local area.

1.2 Background

This project concerns an entirely new submission of an Airspace Change Proposal (ACP) to the Civil Aviation Authority (CAA) to adapt the existing airspace structure at Exeter Airport.

EDAL plays a key part in the regional economy; therefore, it is essential that it continues to develop Exeter Airport to its full potential, while also respecting and supporting the needs of the local and transitory flight operations and aviation communities.

Despite continued economic pressures in Europe, passenger numbers at Exeter Airport have increased by 37% between 2012/13 and 2018/19 and with the introduction of new routes, EDAL anticipates that this will continue to increase in the coming years. EDAL considers that the increased volume of traffic warrants a greater level of protection for flight procedures for now and into the future. The improved protection will facilitate an additional layer of safety and improve the effective and efficient management of local air traffic.

Increased air traffic levels, changes in regulatory guidance, improved aircraft performance and enhanced navigational system accuracy and reliability have all contributed to the emerging need for a re-design of the airspace surrounding Exeter Airport. Although Exeter ATC handles the current operational issues safely and effectively on a tactical basis, the anticipated increase in traffic may result in overload situations as controllers try to accommodate more aircraft in a limited volume of airspace, particularly to the east of the Airport.

The principal area of concern regarding current operations at Exeter is one of limited protection currently afforded to commercial aircraft, including passenger-carrying airliners, operating near the airport.

In order to maintain levels of safety and enhance airspace efficiency, whilst causing minimal disruption to all aviation stakeholders, Exeter propose to establish new airspace around the existing Exeter Airport Aerodrome Traffic Zone (ATZ) that will:

- Safeguard routinely utilised flights operating under Instrument Flight Rules (IFR) at Exeter Airport.
- Ensure safe separation between the IFR traffic and promote proactive coordination of traffic operating under Visual Flight Rules (VFR) near the Airport.
- Protect aircraft operating within the Visual Circuit at Exeter Airport that routinely need to extend beyond the boundary of the ATZ.
- Enhance efficiency by providing airspace that will reduce the instances of avoiding action.
- Reduce traffic delays on the ground and in the air.

The rules regarding the provision of an Air Traffic Service (ATS) to aircraft in Class G airspace are designed to minimise the risks to all aircraft. The ability of air traffic controllers to intervene with traffic avoidance instructions, given the rates of closure and climb/descent profiles, is limited. On initial departure and final approach commercial aircraft also have limited manoeuvrability and therefore a limited manoeuvrability response to warnings. The busy Class G airspace environment at Exeter Airport has led to a number of reportable safety events between unknown aircraft and aircraft arriving at and departing from Exeter Airport in recent years:

Three Air Proximity (AIRPROX)[1] events were recorded in 2016 and three in 2018, and the airport has logged 139 observations of unknown aircraft in 11 months since May 2018. Exeter ATC continue to intervene in potential safety events every week, delaying or halting departures, providing avoidance instructions and extending departure and arrival routes. The events have included:

- 12 aircraft broken off final approach;
- 7 aircraft given avoiding action;
- 2 aircraft electing to continue approach at own risk;
- 82 aircraft were given extended routing or delayed due to unknown aircraft.

These incidents create a significant increase in workload for pilots and distract ATC from the task of ATS provision. Additionally, the arrival and departure phase of flight is a particularly busy time on the flight deck, when unexpected ATC interventions (often at very short notice) add significantly to pilot workload. While current operations are tolerably safe, a disproportionate amount of controller capacity is consumed ensuring this is the case. There have also been occasions where the prevalence of unknown traffic operating within the vicinity of the Airport could easily lead to a degradation of safety margins.

Exeter Airport continues to monitor, record and analyse the frequency of ATC intervention, and is devising a campaign to raise awareness of the importance of reporting with all commercial and private operators based at the aerodrome.

Exeter Airport understands that some people may have concerns about any airspace change. We will therefore need to ensure that this planned change balances the requirement to provide enhanced levels of information to aircraft operating in and out of Exeter Airport and to aircraft operating in the local area with the requirements of local communities, whilst at the same time minimising the environmental impacts. Transparency and engagement with local communities is at the heart of the new Civil Aviation Publication (CAP) 1616 process, and the questionnaire later in this document (Section 5) will help us to gather your views to assist in the development of Design Principles; these will serve as the framework against which the new airspace design options can be prepared. This will also help us to ensure that the new airspace is designed, wherever practicable, in accordance with the priorities of those people most likely to be affected by its introduction.

1.3 Governmental Guidance and the CAP 1616 Process

Under section 66 of the Transport Act 2000, the Secretary of State gave the CAA (the UK aviation independent regulator) a number of airspace-related functions, including: the duty to develop policy and strategy on the classification and use of airspace; to publish the UK airspace design; and to approve changes to it. Under section 70 of the Transport Act 2000, the CAA has a duty to take several factors into account when considering whether to agree to an airspace change proposal; this includes taking account of specific guidance on the environmental objectives contained within the current Air Navigation Guidance.

At the beginning of 2018 the CAA introduced a new process that the regulator and sponsors of airspace change proposals should follow when proposing any airspace change. This new process was developed to ensure a greater level of transparency and two-way engagement with local communities. The new process is described in the CAA publication (CAP) 1616, at the link below:

https://publicapps.caa.co.uk/docs/33/CAP1616E2interactive.pdf

The CAP 1616 Airspace Design process sets out the CAA's role to approve changes to airspace design[2], and to the law and policy which govern the CAA role. The guidance in CAP 1616 sets out the framework for the stages of the process and the activities that must be undertaken from the conception of the need for a change. It details what must be undertaken during the airspace re-design; the consulting and engagement requirements with those potentially impacted; how to assess the impacts of different design options from a safety, operational and environmental perspective; and ultimately how the regulatory decision will be made. If an airspace design change is approved by the CAA, the guidance also covers implementation and the subsequent Post-implementation Review[3] that assesses how the airspace change has performed since introduction and whether the anticipated impacts and benefits defined in the original proposal and decision have been delivered.

[2] Defined by CAP 1616 as: "Together, the airspace structure and flight procedures."
[3] Post Implementation Review (PIR), ideally conducted one year after implementation of the changes.

2 Exeter Airport Operations

2.1 Introduction

Exeter Airport is located within uncontrolled Class G airspace, where aircraft are not subject to mandatory compliance with ATC instructions and are only required to adhere to a small set of compulsory flight rules. Consequently, aircraft can enter, leave and transit the airspace without ATC permission. Exeter has an established Aerodrome Traffic Zone (ATZ), which is also classified as Class G airspace, of radius 2.5 nautical miles (nm) centred on the Exeter Airport Aerodrome Reference Point (ARP), expanding from ground level to 2,000 ft above aerodrome level (aal). The ATZ is the only airspace established to provide aircraft operating at Exeter Airport with any degree of protection. Pilots of aircraft within the ATZ, or requesting entry into the ATZ are required to make their presence known to Exeter ATC and comply with ATC instructions. Figure 1 provides an indication of the current airspace profile that surrounds Exeter Airport.

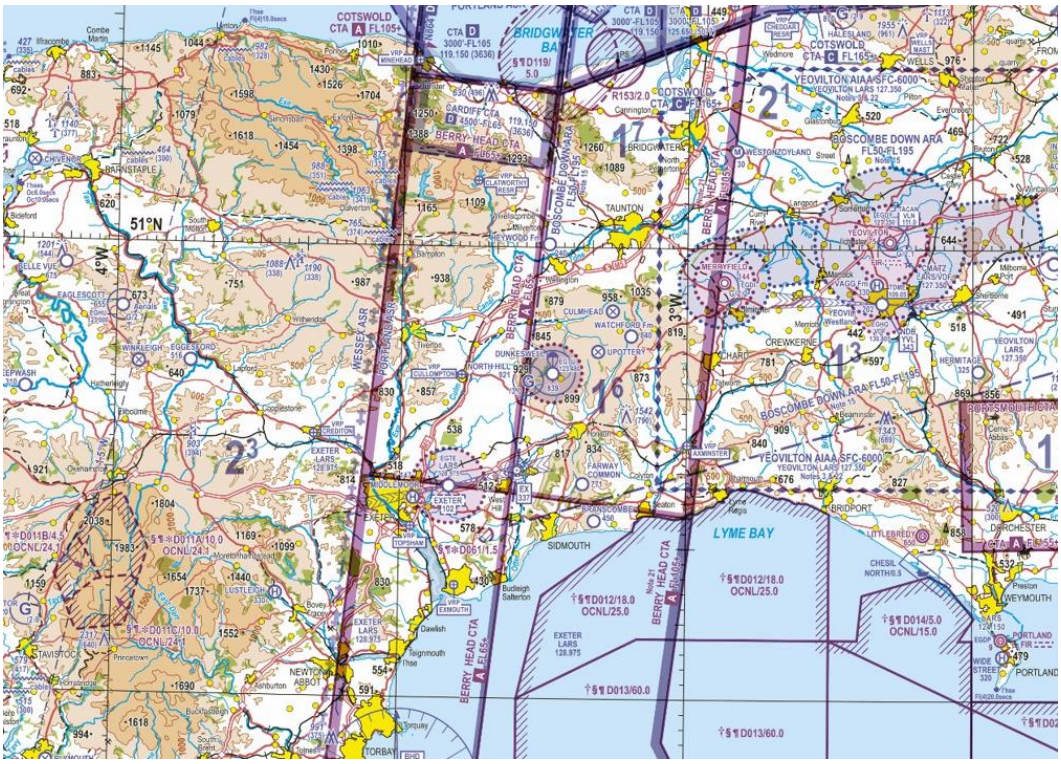

Figure 1 – Exeter Airport and the Current Surrounding Airspace

2.2 Current Operations

The majority of Commercial Air Transport (CAT) aircraft arrive via the N864 airway, which is Class A Controlled Airspace (CAS) (between the red parallel shaded lines that radiate from the bottom of the diagram, oriented, north-northeast over Exeter Airport in Figure 1 above)

which offers protection to CAT flying under Instrument Flight Rules (IFR)[4]. CAT is then vectored off, and below, this route into the Class G (uncontrolled airspace), to subsequently descend and make an approach to the Airport.

2.3 Airport Capacity

With the 37% increase in passenger numbers since 2012/13, , there is an associated growth in the number of CAT movements, projected to be 3% year on year growth for the next 5 years. Exeter Airport anticipates a projected increase in Air Transport Movements (ATM) of all types of aircraft (commercial, leisure, training, military etc.) in the near future. This detail is replicated from the Exeter Airport Management Business Plan is contained in Figure 2.

	FY17	FY18	FY19	FY20	FY21	FY22	FY23
Scheduled	11,509	11,675	11,889	13,612	15,766	17,302	18,692
IT Charter	1,280	1,279	1,287	1,358	1,296	1,388	1,382
Mail	499	500	495	508	506	506	508
General Aviation	9060	7874	8139	8,139	8,139	8,139	8,139
Corporate Aviation	2,050	1,948	1,793	2,110	2,215	2,326	2,442
Test & Training	11,949	11,429	12,628	11,952	11,952	11,952	11,952
Military & Official	400	716	650	661	661	661	661
Compass Swing	59	35	25	33	33	33	33
Engine Testing	180	184	212	192	192	192	192
Maintenance	401	463	504	519	519	519	519
Medical	11	8	4	3	3	3	3
Overshoots	1,128	1,258	1,303	1,298	1,298	1,298	1,298
Others	3,554	3,705	3,884	3,897	3,897	3,897	3,897
Total	42,080	41,074	42,748	44,282	46,477	48,216	49,718

Figure 2 – Projected Exeter Airport ATM

2.4 Why is a Change Required?

The current operations of commercial and passenger carrying aircraft operating in and out of Exeter Airport in Class G uncontrolled airspace requires recurrent ATC tactical

[4] The most important concept of IFR flying is that separation is maintained regardless of weather conditions.

intervention. This may include the re-routing of arriving aircraft or delaying the departure of commercial passenger traffic in order to ensure the safety of all airspace users. This practice inevitably brings CAT into potential conflict with local General Aviation (GA) and transitory air traffic operating in Class G airspace, often during the most critical stages of flight.

Given the speeds, rates of climb/descent, and manoeuvrability of the CAT, the ability of air traffic controllers to intervene with traffic avoidance instructions, or for airline pilots to respond to Airborne Collision Avoidance System (ACAS) warnings, or, as they are known, 'Resolution Advisories' (RA), is limited. This difficult environment has led to reportable safety events, between unknown aircraft and aircraft arriving and departing to/from Exeter Airport, resulting in 3 Air Proximity (AIRPROX)[5] in 2016 and over 600 recorded instances of controller intervention due to unknown aircraft over an 8-year period (2009 – 2016). These incidents create a significant increase in workload and distract ATC from the task of providing a service in Class G uncontrolled airspace. Additionally, the arrival and departure phase of flight is a busy time on the flight deck, unexpected ATC interventions (often at very short notice) add significantly to pilot workload too and adds uncertainty into CAT operations. While current operations are safe, there have been occasions where the prevalence of unknown traffic operating within the vicinity of the Airport could have potentially led to a degradation of safety margins.

The introduction of an alternative airspace arrangement would mean that the routing of CAT and transitory aircraft would be more predictable and regularised. This in turn would reduce airspace traffic interactions and flight deck workload as well as reducing ATC workload. Additional benefits would be the provision of a greater level of integrity and efficiency to all local airspace users and the implementation of a known air traffic environment. Altogether, Exeter ATC would be able to provide a greater level of protection to local and transiting aircraft.

[5] An AIRPROX is a situation in which, in the opinion of a pilot or air traffic services personnel, the distance between aircraft as well as their relative positions and speed have been such that the safety of the aircraft involved may have been compromised.

3 Points for Consideration

3.1 Introduction

This section provides some information and further explanation that you may wish to read before considering your responses to the questions at Section 5.

3.2 Airspace Structure

The airspace in the UK is a complex 'invisible infrastructure' that helps a diverse variety of airspace users, including commercial, cargo, military and leisure users, to operate safely in the sky. The airspace is divided into three-dimensional segments, each of which is assigned a specific class, as depicted in the example picture at Figure 3 below. The classification of the airspace determines the flight rules which apply to the aircraft flying within each particular area and also the minimum air traffic services which are to be provided. In the UK, there are currently five classes of airspace; A, C, D, E and G. Classes A, C, D and E are areas of CAS and Class G is uncontrolled airspace.

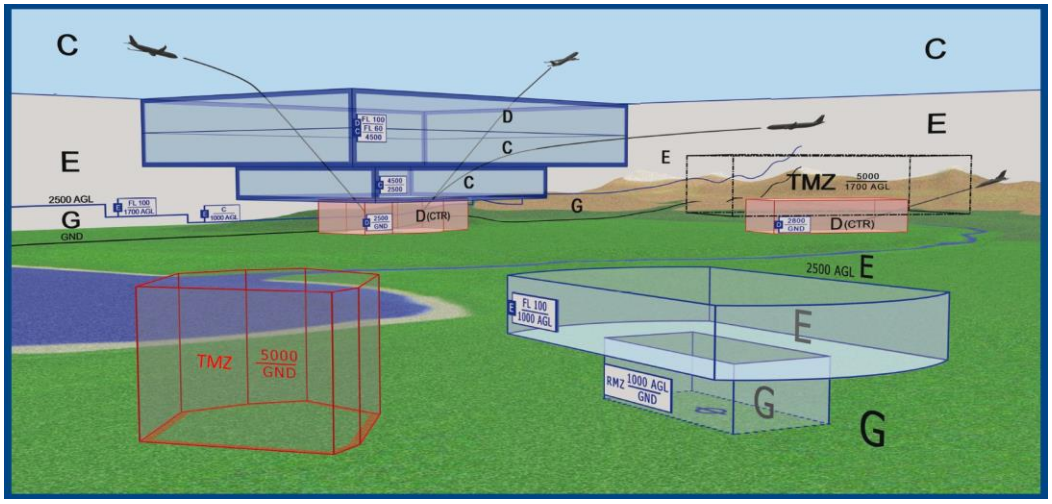

Figure 3 – Example Airspace Structure

CAS is provided primarily to protect its users, and as such, aircraft which fly within CAS must be equipped to a certain standard and their pilots must obtain clearance from ATC to enter such airspace and follow ATC instructions implicitly.

In addition to being given a class, CAS may be further defined by its type, depending on where it is and the function it describes.

- Control Zones (CTZ) – provides protection to aircraft in the immediate vicinity of an aerodrome, extending from the surface to a specified upper limit.
- Control Areas (CTR) – situated above the ATZ or CTZ and provides protection over a larger area from a specified lower limit (not necessarily the surface) to a specified upper limit.

3.3 Instrument Flight Procedures

Instrument Flight Procedures (IFPs) is a term used to describe the published profiles aircraft fly over the ground, both in plan and elevation view when arriving at and departing from an airport. There are 3 main types of IFPs; a Standard Instrument Departure (SID) for aircraft departing an airport, a Standard Instrument Arrival (STAR) for airport arriving at an airport and an Instrument Approach Procedure (IAP) for aircraft making an approach to land.

Exeter Airport does not have, and is not intending to introduce SID or STAR procedures for aircraft operating at the airport. Routing to and from the en-route airways structure will be facilitated by tactical instructions from ATC, which currently leads to the natural dispersion of aircraft around the local area, depending on the routing the aircraft needs to take. When answering the questions below, please consider that the routes aircraft take may become more concentrated to remain within the new airspace structure.

An IAP is a series of pre-determined manoeuvres by reference to flight instruments which guide the aircraft, with specific protection from ground obstacles, to a point from where a successful landing can be completed or, if the landing is not completed, to an appropriate holding point. These procedures may be flown with reference to either conventional ground-based navigation aids or with reference to Global Navigation Satellite Systems (GNSS). GNSS is the standard generic term for satellite navigation systems that provide autonomous geo-spatial positioning with global coverage. This term includes, for example, the GPS (US), GLONASS (Russia), Galileo (European), BeiDou (China) and other regional systems.

IAPs will generally only affect the flight path of an aircraft when within approximately 15 miles of the airport. In order to execute a successful landing, aircraft will need to be aligned with the runway heading for approximately the final 8 miles of the approach, so regardless of the type of procedure flown, the heights and locations overflown at this stage of flight will be very similar for all types of approaches. Exeter Airport currently has IAPs that use both ground-based beacons and GNSS technology; Exeter Airport is not intending to change these procedures with this ACP and as a result, the tracks over the ground that aircraft fly are unlikely to change.

3.4 Urban and Rural Areas

You may wish to consider the advantages and disadvantages of designing airspace that may concentrate aircraft over either urban or rural areas. Flights over more sparsely populated areas may seem to be the best alternative. However, you may also wish to consider the levels of background noise when balancing the urban and rural alternatives. Aircraft flying over urban areas will pass over a larger number of people and residences. However, in urban areas the levels of background noise are likely to be much higher than in rural areas. Consequently, aircraft noise may be masked because of higher noise levels associated with traffic and many other background activities, common in urban locations.

3.5 Open Areas

In many urban locations you may feel it is important to protect quiet or open areas (e.g. parks) by designing airspace that avoids these areas. However, in large urban areas it may

not be possible to avoid overflight of quiet areas and, at the same time, also avoid overflight of more densely populated areas. This may be because of the proximity of runways to urban areas or to the orientation of the runway itself.

3.6 Noise and Emissions

An aircraft flying a straight line directly from one location to another is the most efficient routing option because it represents the shortest distance and time between locations. When flying a longer route between the same locations (perhaps to minimise noise impacts in a sensitive area) the distance and time of the flight will increase, as will the fuel burn and associated emissions into the atmosphere. When answering the questions, please consider this balance between noise and emissions in general terms.

3.7 Time of Day or Different Operations on Different Days.

When responding to the questions, you may also wish to consider whether your comments are applicable by day or by night, or whether you feel that priorities should change over the 24-hr period, or day to day.

4 Engagement & How to Respond

4.1 Engagement

Exeter Airport has a relationship with its local communities and remains committed to involving local stakeholders who may wish to offer their views on any operational changes. It is important to Exeter Airport to conduct effective engagement in a transparent way, and in accordance with the guidance contained within Stage 1 (Define) of the CAA CAP 1616 process. We recognise the importance of capturing the views of both local aviation and non-aviation stakeholders who may wish to express their views concerning any future changes.

It is important to understand that at this stage of the process our initial engagement is limited to a selection of representative bodies and individuals who can offer views on behalf of their local organisations and communities. These views will help us to formulate some Design Principles, which you will have an opportunity to review. The Design Principles will themselves provide the framework against which Design Options for the new airspace can be evaluated. After the Design Options are drawn up, Exeter Airport will share these with the same representative bodies involved in developing the Design Principles. It is worth noting that the more detailed Design Options will be subject to a formal consultation exercise, currently planned to take place between March and July 2020.

4.2 How to Respond

As stated before, this document has been produced to help us ascertain the views of our local non-aviation and aviation stakeholders. We have developed the questions below in Section 5 and would encourage you to insert your responses in the enclosed table and return this to us as described below.

Please do not feel constrained in your response to any question. If you wish to highlight any other relevant local constraints or issues, then Exeter Airport would welcome any feedback you choose to contribute that will support the development of our Design Principles. Your responses may be operational or environmental in nature but should be those you feel are most important to you or your represented community.

Please save the file that includes your responses and attach to an email to the following address:

acpexeterenquries@exeter-airport.co.uk

In addition to the word file, we will accept scanned, hand-written responses or email responses as long as they are legible and clearly identify the question to which your response relates.

It is important that individual email responses clearly show your name and contact details; this will allow us to cross-refer to the emails we send out.

We will also accept legible postal responses to the following address within the timescales specified below:

Airspace Change Proposal
Exeter & Devon Airport Ltd
Clyst Honiton
Exeter
EX5 2BD

4.3 Focus Groups

In addition to the questionnaire attached, Exeter Airport is organising 2 Focus Groups with stakeholders, where any additional views from the discussions will be recorded. Following analysis of all the views articulated by the groups and in the individual responses to questionnaires, Exeter Airport will draft the Design Principles document, for further review and subsequent submission to the CAA.

Invitations for these Focus Groups will be sent out separately by EDAL.

4.4 Timescale for responses

As briefly mentioned in paragraph 4.1 it is anticipated that the formal consultation will be conducted between March and July 2020. Exeter Airport will ensure any views expressed through this earlier engagement activity will also be recorded to inform the full consultation report.

In order that we can use your response to support our Design Principles activities, and in particular to help the Focus Group discussions, please send us your completed questionnaire by **Friday 31st May 2019.**

5 Stakeholder Questionnaire

5.1 Your Responses

The questions below are designed to help us understand the constraints that should be considered during the CAA CAP 1616 Design Principles step of the Define Stage (1). Please insert your responses below to each of the following questions; the size of the response box will expand as you type your response. Use as much space as you need, or alternatively attach additional sheets or documents making it clear which questions you are responding to. Save this and any other documents and return as described at paragraph 4.2 above. If any of the questions are not applicable or relevant, please say so against the appropriate question.

It should be noted that wherever possible, within the constraints that procedure designers are obliged to work to, designs will be developed to avoid built-up areas.

Please complete the following:

Representative Organisation:
for example: Airport Consultative Committee; Exeter City Council; Flybe etc.
Exeter Flying School, Robin Flying Group

Question
Q1 - Please list any altitude constraints, together with your reasons, that you feel Exeter Airport could consider when designing its new airspace structure?
The base of any CTA should be sufficiently high to allow aircraft beneath it to pass over high terrain in the area without causing "bottlenecks".
Q2 - Please inform us of the latest proposed timescales for any neighbouring airspace/procedure re-design projects?
Your Response: Not aware of any such plans.
Q3 - Please advise us of any future requirements for improved coordination (particularly adjacent/contiguous routes) between Exeter Airport and adjacent ATC units that should be considered during the development of the new Exeter Airport airspace structure?

Your Response: Perhaps better integration with Plymouth Military re danger area EGD012. It would be helpful if the northern boundary of D012 could be moved southwards.
Q4 - Are there any current Air Transport Movement coordination arrangements with Exeter Airport that you would like to see remain or change as a result of Exeter Airport's new airspace design? Please provide a brief description.
Your Response: In general current arrangements appear to work well.
Q5 - Are there any aspects of the Future Airspace Strategy (FAS) (e.g. airway entry/exit points, existing planned or new handover points) that Exeter Airport should take into account in the design of the new airspace? Please provide details.
Your Response: Not relevant to our activities
Q6 - Are you aware of anything in the CAA Airspace Modernisation Strategy that presents a risk or opportunity to Exeter Airport airspace development? Please provide details.
Your Response: Not aware
Q7 - Do you have an existing Letter of Agreement or Memorandum of Understanding or other agreement with Exeter Airport? If so, do you see this as: (a) An agreement you would like to see remain, preferably in its current form. (b) An opportunity to alter or extend this agreement – and how? (c) An agreement that is unfit for purpose (or may come to be as a result of the change).
Your Response: No agreement held, but current informal working arrangements generally effective
Q8 - Please let us know if there are any day time or night time constraints that you consider Exeter Airport could take into account when updating its airspace structure? Please provide details and reasons.

Your Response: Airfield opening hours could be improved as a spin-off development from updating.
Q9 - Please tell us if there are there any other operational constraints that Exeter Airport will need to consider when planning its new airspace?
Your Response: The danger areas and terrain (see above).
Q10 - Please inform us of who you consider to be the other key local aviation stakeholders that you believe Exeter Airport should engage with during the process of designing its new airspace? Please provide details and reasons.
All operators at EGTE including but not limited to: Airlines, charter operators, Police/Air ambulance, Flying clubs/schools/groups, based private operators. Details should be known to you and reasons should be obvious! Owners/representatives of neighbouring airfields: e.g. Branscombe, Dunkeswell, Farway Common, North Hill, Wathchford Farm. Bodies representing individuals or organisations likely to be affected: e.g. AOPA, LAA, BGA, BMAA, BHA, BPA, BMFA, Devon Strut
Q11 - Please provide details of any constraints imposed by restricted operations in the area encompassed by Exeter Airport flight operations (e.g. military operations, danger areas, restricted areas, route crossings, transit corridors, training areas etc.)?
Your Response : Non-notammed military low flying, close and potentially constricting proximity of EGD012
Q12 - Please indicate if you feel there is a requirement for improved coordination between Exeter Airport and adjacent Air Navigation Service Providers (ATC) units that should be considered during the development of the Design Principles, Design Options and when implementing the new Exeter Airport airspace structure?
Your Response:
Q13 - Please provide details of any issues or constraints due to local helicopter operations that you believe may have an impact on Exeter Airport's new airspace design project?

Your Response: Suggest consult local helicopter operators and BHA
Q14 - Please provide details of any issues or constraints due to local General Aviation operations, that you believe may have an impact on Exeter Airport's new airspace structure.
Your Response: Unable to comment realistically without further knowledge of what is proposed
Q15 - Please provide details of any constraints that may be occasioned by local gliding activities on the Exeter Airport's new airspace structure?
Your Response: Suggest consult local gliding organisations and BHA
Q16 - Please provide details of any impacts on General Aviation flying that you feel may be occasioned by any new airspace proposed by Exeter Airport.
Your Response: Unable to comment realistically without further knowledge of what is proposed
Q17 - When Exeter Airport designs new airspace, please list the facilities in your local area that you believe could be prioritised when considering aircraft noise (eg hospitals, schools, parks, hospices etc)?
Your Response:
Q18 - Please tell us if multiple routes that disperse noise across a greater number of households are more of a priority for you than a single route that concentrates noise along a track above a smaller number of households.

Your Response:
Q19 - Please identify any other areas, in adjacent council/borough areas, that in your opinion may be sensitive to either direct overflight or exposure to aircraft noise, including during the night-time period?
Your Response:
Q20 - Do you believe aircraft conducting continuous climbs or descents to/from altitude (where this is safe to do so) may improve (lessen) exposure to noise in your local area?
Your Response: Steep climbs and descents might be presumed to limit noise impact.
Q21 - Please tell us the locations of any particularly sensitive wildlife habitats, not already notified (linked to Areas of Outstanding Natural Beauty (AONB), Sites of Special Scientific Interest (SSSI) etc), that you feel aircraft could avoid?
Your Response:
Q22 - Please state what principles you believe Exeter Airport may adopt to mitigate (in full or in part) any concerns you may have regarding the impact of airliner exhaust fumes or pollution?
Your Response:
Q23 - Please bring to our attention any recent or ongoing local environmental studies, you feel should be considered by Exeter Airport when designing the new airspace structure?

Your Response:
Q24 - Are there any other local development projects, perhaps currently at the planning stage, that Exeter Airport should be aware of and consider when planning its new airspace structure?
Your Response:
Q25 - Please list any other relevant local or national organisations that you believe Exeter Airport should ensure are involved in its formal consultation.
Your Response: AOPA, LAA, BGA, BMAA, BHA, BPA, BMFA, Devon Strut
Q26 - Please provide the location of any future planned facilities you are aware of in your local area that could be considered sensitive to the impact of aircraft noise; please state why you feel this is necessary?
Your Response:
Q27 - Are there any areas that you feel will suffer more due to the impact of aircraft noise if the displacement of other aviation traffic were to occur due to the Exeter Airport airspace design project?
Your Response: Depends on proposed airspace, but considerable risk of concentration of traffic/noise by aircraft avoiding restrictive airspace.
Q28 - If you were flying as a passenger from Exeter Airport, we would be grateful for any views you may wish to express about how Exeter Airport should consider the needs of the local community?

Your Response:
Q29 - Please advise us of any other issues or constraints you feel Exeter Airport could consider when designing its new airspace structure? Please provide details.
Your Response: It might have been strategically prudent for the airport management first to have discussed with its operators what airspace it wants and to get them "onside" before engaging consultants to send out a questionnaire like this.

Table 1 – Stakeholder Questionnaire

Thank you for your cooperation in completing this questionnaire. Your comments will provide a valuable input to aid development of the Design Principles against which the options for the Exeter Airport airspace design can be developed.