Snowdonia Aerospace Airspace Change Proposal Design Principles (Stage 1B), ACP-2019-58 Llanbedr Aerodrome Danger Area (DA)

Annex 1 - Supporting Evidence

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Document Details

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Executive Summary

This document provides supporting evidence as an annex to the "Stage 1B Design Principles" element of the Snowdonia Aerospace LLP submission for an Airspace Change Proposal, Reference: ACP-2019-58, Llanbedr Danger Area (DA), under the Civil Aviation Authority (CAA) CAP1616 Airspace Change Process.

Snowdonia Aerospace LLP is continuing to progress and further develop a number of complementary business opportunities at Llanbedr Aerodrome relating to aerospace Research, Development, Test and Evaluation (RDT&E) and military aircraft training. To support these operations (and others) action is required to upgrade and formalise the current airspace around the Aerodrome as the present provision is insufficient to meet the identified future need and risks restricting opportunities that are in the strategic economic interest of the UK and Welsh governments and required to sustain long term employment in the region. Snowdonia Aerospace LLP (hereafter also referred to as the Change Sponsor) is therefore developing two Airspace Change Proposals (ACPs) to underpin these activities:

- ACP-2019-58, Llanbedr Danger Area (DA), which can be accessed online via: https://airspacechange.caa.co.uk/PublicProposalArea?pID=193
- ACP-2020-02, Llanbedr Aerodrome Traffic Zone (ATZ), which can be accessed online via: https://airspacechange.caa.co.uk/PublicProposalArea?pID=211

This document relates to the former application, ACP-2019-58, with a view to creating a permanent Danger Area that will enable Llanbedr Aerodrome to increase support to the RDT&E for next-generation UK aerospace - *e.g.* drones (particularly non-military "drones for good"), electric aircraft, urban/regional air mobility vehicles, balloons, airships, near-space testing *etc.*

The CAA Civil Aviation Publication CAP1616 defines a six-stage process through to implementation of a permanent airspace change, some of which have more than one step. This document addresses the requirements for Stage 1B: Design Principles.

The design principles encompass the safety, environmental and operational criteria and strategic policy objectives that the Change Sponsor aims for in developing the airspace change proposal. Key to the process is a two-way conversation with relevant stakeholders and interested parties that provides an opportunity to combine local context with technical, operational and safety considerations. The desired outcome is a shortlist of principles to inform the development of airspace design options and against which they can be qualitatively evaluated.

The engagement strategy has been dictated very strongly by the impact of the Covid-19 pandemic, the need to avoid face-to-face meetings and to move all communication to email and video/phone conferencing. This introduced a slight hiatus in the immediate aftermath of the UK-wide lockdown on 23rd March 2020, but the breadth and scope of the engagement has not been unduly affected.

Snowdonia Aerospace (SAC) has undertaken a number of stakeholder engagement activities to help shape the DA design principles. In addition to a number of targeted stakeholder meetings, a questionnaire was also sent out to over 200 stakeholders and interested parties and 36 responses were received. This document details the minutes of the stakeholder meetings and the completed questionnaires as an annex to the Stage 1B Design Principles report.

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1. Minutes of stakeholder meetings

We adopted a two-stage engagement process, initially seeking the opinion of the two communities that are most likely to be impacted by the proposed airspace change, namely the current airspace user community directly associated with operations at RAF Valley and the residential and land owner community local to Llanbedr via Gwynedd County Council and local community councillors. The initial airspace user community engagement proceeded as planned via teleconference on 26th March 2020, but the local community engagement event that had been scheduled for 15th April 2020 had to be rearranged to 12th May via videoconference and this was arranged by Gwynedd Council. A further video conference was also held with the local MP on 15th May 2020.

The minutes of the meetings are included here as supporting evidence.

1.1. Minutes of meeting with RAF Valley, Thursday 26th March 2020

MINUTES OF LLANBEDR CONSULTATIVE AIRSPACE MEETING
Llanbedr Aerodrome Danger Area (DA) ACP-2019-58
With RAF Valley by telephone conference held on Thursday March 26th 2020

10th April 2020

Present **Appointment**

Snowdonia Aerospace LLP (SA)

[redacted]

RAF Valley

[redacted]

22 Group

[redacted]

MOD DAATM*

[redacted] Airspace Operations, DAATM

QinetiQ

[redacted]

**DAATM – Defence Airspace Air Traffic Management*

**STANAT – Standards and Training*

AGENDA ACP-2019-58 DA

1 Background to Danger Area ACP - Snowdonia Aerospace (DA slides 8-11)
2 Round table discussion of Design Principles - ALL
3 General Q&A and identify actions for focussed follow-up (30 minutes)

All information will ultimately be recorded on the CAA portal which can be found here:
https://airspacechange.caa.co.uk/search/?search=Llanbedr

The full CAP1616 guidance can be found here:
https://publicapps.caa.co.uk/docs/33/CAP1616_Airspace%20Change_Ed_3_Jan2020_interactive.pdf

Note: *Due to the CAA policy of redaction once minutes are agreed most references in the minutes will be 'Valley said', 'SA said' etc.*

[redacted] asked SA to make their presentation.

Item 1 – Background to Danger Area ACP

SA referred to the slides 1, 2 and 3. The latter giving an overview of Llanbedr with which everyone was familiar. Slides 4 – 7 photographs. Moving to slide 8, Opportunity to be addressed, relates to the motivation for use of the airfield to support research development testing and evaluation of novel aviation systems' We have obviously had a Temporary Danger are that we have been able to put in place for five years to support drone testing from Llanbedr.

SA said they are seeing Increasing levels of demand, which ties in very closely with the Government industrial strategy on aerospace that is looking to encourage more activity in the drone market, electric aircraft and urban air mobility. Llanbedr is seen as a national asset in that context, probably alongside Cranfield, as the two main test centres within the U.K. for the development of such aviation systems.

We are not necessarily going to see huge amounts of traffic associated with a new Danger Area, traffic requiring this is negligible in relation to what we expect for Hawk T2s. Typically we make an application once a quarter but what we are seeing is a level of increase in applications to use the airfield and facilities that are coming within the 90 days' notice period the CAA requires for a Temporary Danger Area. We see this as the trigger which justifies an airspace application to support these sorts of activities.

Slide 9

SA referred to the Statement of need which relates to an application for a Permanent Airspace Change that will enable Llanbedr Airfield to increase support to next-generation UK aerospace RDT&E. The Statement was read out.

To provide an environment for safe operation of all ongoing aerospace-related Research, Development, Test and Evaluation (RDT&E) activities in the vicinity of Llanbedr Airfield (EGFD) and the ability for associated aircraft to transit safely to/from Danger Area D201 to undertake extended range/endurance/altitude testing (in accordance with extant D201 procedures) without concern for other air traffic

Also the last paragraph on the slide was read:

The proposal is very much in support of national strategy, the Airspace Modernisation Strategy in that it will create a permanent test zone in which to explore the airspace integration issues that are currently identified as unknowns in the CAA CAP 1711 document.

Slide 10 illustrated the Temporary Danger Area designed in partnership with QinetiQ dating back to 2014 – 2015 and resulted in the identification of an area of airspace as shown in this slide that could be implemented as a TDA.

SA described the breakdown of this design adding that the distance through areas B and C was the shortest distance, 14nm, to the existing D201. Also that 10nm, the width of the corridor was seen to be an appropriate distance as it is the same as the standard width of an air corridor. SA described the relative heights and the 'tunnel' created under area C to provide access principally for Valley to and from training areas. They said that while encouraged by CAA to start with a completely clean sheet of paper this TDA had been in place for a number of years and worked well and we think it an appropriate start point for discussion for the future and design options.

Item 2 – Round table discussion of Design Principles

(Note: we jumped to this agenda item)

DAATM jumped in to say this is very much process, this is not a design principle. For a design principle you have a requirement for the flying of RPAS BVLOS and that is your requirement and then you design options based on your requirement and those options are presented. They added that the size of the airspace should relate to the size of the UAV and how it is was contained within that airspace. They were concerned at how the TDA sat in the process when it might be a Restricted Area or a block of Controlled airspace and really SA were presenting a solution.

SA said this is still about Statement of Need and was just a start point to looking at design principles. We are at an early stage and we are looking to discuss with stakeholders to capture information that can inform that process. We are not presenting design principles here we are presenting background and need and using that to shape those principles and options.

DAATM said that principles and options were shaped by requirement and without pre-empting their response while MOD would be forward leaning to the ATZ application in support of visual circuits this application was very different and the two applications must be presented as completely separate things.

SA said they had separated out the presentations, which was the recommendation from CAA, as while commonality existed in the background the requirements and timelines would be different.

Referring to the types and size of drones SA said they ranged from a 2m span drone at 5kg, to the most recent at 3.5m and 20kg. We have also had the Vertical Aerospace urban air taxi at several hundred kg and future concepts will be larger still. We have had HALE (high altitude, long endurance) so it could be anything and we need to shape the design options to take account of all those different type of vehicle.

Valley said they had been involved with this over years and had been told the TDA design was largely predicated on a Reaper size drone. SA said they thought the original analysis was done around Watchkeeper.

SA said the HALE drone mentioned was 27m span but they were also talking to a company that wanted to fly a drone experimentally from Llanbedr which was the size of a Hawk and another the size of a Cessna that needs this space in order to build flight time, not at particularly high altitude but certainly using the space like that of Area A and B. SA said thus far only Area A had been promulgated for use and within that only ever what was needed which had been to a maximum altitude of 2,000ft, but the requirement is going to be for testing all types of vehicle and the design will need to reflect this.

DAATM agreed on future proofing but said the design principle needs to say the airspace will be suitable for task, so a 2m drone one week with airspace reflective of the need for that drone and then a mechanism in place to activate a larger portion of airspace for a larger drone on another week. DAATM said the TDA looked huge and the airspace needed to be accurate to tasking and not all or nothing and warned against trying to 'solutionise'.

SA agreed and emphasised that the TDA is partitioned and has only ever been implemented via NOTAM and made appropriate and suitable to task and that is absolutely the way we would intend to continue.

SA added in terms of the requirement 5nm is not excessive for a small drone. We have seen several requirements for small drones to be able to fly to use the full extent of that area to test their mission systems flying significantly beyond visual line of sight.

SA said we are not putting this forward as a solution but as the starting point for a discussion to help us identify a solution. We are saying we have experience with this, we understand how it works, we understand issues associated with scaling it to make it suitable for task and we see that as a useful jumping off point for a discussion as to what then we put in place as a permanent Danger Area in the future.

DAATM said SA were applying a process DAATM were quite familiar with and SA must start with the design principles

SA said there were three key areas that need to be addressed within the design principles. Understanding how we are going to manage experimental traffic within the DA itself, managing of air traffic that may wish to move north south, particularly military, but we will also talk to the GA community, and managing that traffic that would need to move NE SW in order to move to and from the DA 201. This discussion is really useful aimed to stimulate comments from others that will help us shape things.

Group said the concept of appropriate scalable airspace that can be turned on / off when needed is absolutely spot on. From an operating perspective the scalability should allow it to be as small as possible but made larger if needed, an onion ringing type approach perhaps so in relation to use you can build an airspace that we can scale in and out. Aside from the position of supporting / not supporting the biggest concern would be if areas are activated when they are not absolutely needed. So, having a small footprint for normal small drone stuff and activating it only when needed, likewise infrequent activation of airspace for the big drones is really important. There should also be a clear and concise way of communicating when those times are going to be in advance.

QinetiQ said they understood the process having been involved in a number of airspace change proposals and they were involved in the original TDA design. For the record they are not involved with this application although their experience and expertise could be brought in. To clarify they said the TDA illustrated abuts up to D201 and a discussion is needed to ensure that operations may be safely contained and not break the boundaries. Safeguarding should be to MOD standards and operations into D201 from Llanbedr would require procedures and agreements.

SA said they totally understood that TDA area C would not normally be used unless to transit to D201 so that effectively is a buffer zone.

QinetiQ said that adjacent airspace operators would need to set up LOA or means of potentially working together.

DAATM pointed out that MOD was the airspace authority for D201 and SA should have a conversation though MOD not QinetiQ. They recommended SA have a conversation with the DA Manger asap.

STANAT said they were familiar with this proposal and had some good engagement over the last 4 or 5 years and how it had developed had involved Valley and they thanked the team for that. However, their opinion had not changed. Downsides were highlighted in their original response to the TDA proposal are still the same because the area was used for general handling and expressed a concern that DA incursions will happen. However, it is class G airspace and they would ask that use is flexible. Activation and de-activation through a good working relationship including direct comms with Valley ATC, such as Valley have with Aberporth, would be especially important so as Valley are not compressed unnecessarily. They like the idea of varying sizes so flexibility on sizing and not using more than you need and I would suggest no higher than you need. The base height for Texan's is 4,000ft and base height for Hawk is 5,000ft. The top height of 6,000ft as with the TDA would be awkward for us.

DAATM said they couldn't offer opinions until they had the design options. They would then give you our requirements within the airspace which hopefully can be incorporated as a part of your design. When two parties disagree it then goes to the Civil Aviation Authority to make a decision and it is so important to get the facts over.

SA said the discussion we have actually had is really brilliant. For certain operations we can probably justify the TDA that QinetiQ deigned, we were involved too, but we possibly do need to break it down more and we will start looking at it again. They continued that we may have come to you all a bit early, you may not have seen what you were hoping to see at this point but getting the engagement started as early as possible and getting this extremely useful feedback this afternoon is extraordinary valuable to us and we see this as just the start of the engagement that we need to undertake to support the process that leads us along the timeline over the coming months. A big thankyou to everyone, particularly DAATM, for the feedback to date.

Valley asked if there was anything SA wanted to raise in respect of the last slides in the presentation.

Item 3 – General Q&A and identify actions for focussed follow-up

SA said they felt everything had come out naturally in the discussion and issues around design principles will be shaped by concerns around mid-air collisions, incursions into the training area, into the Danger Area and the crossing service from Class G into the Danger Area so they are all thigs we aware of that have been strongly reinforced today and that has been extremely useful and that we will use to help shape things as we move forward. They also reiterated that the attachments were there to provide as much background information as possible and to help frame and shape and trigger the discussion.

SA thanked [redacted] and everyone for taking the time out for what had been a very important discussion which was much appreciated and had given SA more to think about.

ACTIONS: SA to provide minutes of the meeting

SA will develop design principles based on the requirement but also on the feedback from this meeting.

SA to engage with the DA Manager

Presentation material for meeting with RAF Valley, Thursday 26th March 2020

Snowdonia Aerospace Airspace Change Proposal
Design Principles, ACP-2019-58
Llanbedr Danger Area (DA)

March 2020

[redacted]

Snowdonia Aerospace

1

Presentation Overview

1. Overview of Llanbedr Airfield and current situation
2. Overview of opportunity to be addressed
3. Statement of need
4. Design principles

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Overview of Llanbedr Airfield

- Llanbedr Airfield is sited at the north end of Cardigan Bay at an elevation of 8m above mean sea level with over-water approaches to the main runway (17/35) and with two additional runways 15/33 and 05/23. Post licensing runway lengths will be 2,188m, 1,199 and 799m respectively
- Llanbedr has a long history of research, development, test and evaluation (RDT&E), particularly associated with the use of target drones, and also as a secondary operating site for RAF Valley
- An Aerodrome Traffic Zone (ATZ) + original Danger Area D202 supported activities prior to initial closure in 2004, along with extant Danger Area D201, the closest edge of which is 25km south-west
- The airfield currently supports a mix of small (<20kg) and light (<150kg) drone RDT&E and General Aviation (GA) with additional activity associated with visiting military aircraft and search and rescue (SAR) helo from Caernarfon. There are ops most days with an average of 100-200 movements/month
- Airspace is Class G. A Flight Information Service (FIS) has been provided to support day-to-day ops and a Temporary Danger Area has been consulted on and implemented to support RDT&E activities
- The airfield has also been designated as one of the candidate sites for a UK Spaceport and Snowdonia Aerospace LLP has received a grant award to create a Horizontal Spaceport Development Plan

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Overview of Llanbedr Airfield (cont.)

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Opportunity to be addressed

- Snowdonia Aerospace LLP is pursuing a number of complementary business opportunities at Llanbedr Airfield relating to aerospace RDT&E and military aircraft training
- UK Government Aerospace Industrial Strategy, 2018, states that:

  'Environmentally-friendly aircraft will increasingly incorporate electric technologies, and we anticipate more aircraft operating autonomously in the future. New markets for drones and Urban Air Mobility vehicles will be developed. We want the UK to be at the cutting edge of these exciting developments'
- Llanbedr is a national asset for aerospace RDT&E in the UK and there has been increased demand in recent years given its ideal location for Beyond Visual Line-of-Sight (BVLOS) drone testing and electric aircraft testing. These activities have been satisfied to date by use of a Temporary Danger Area, but demand is now such that an application for a Permanent Airspace Change is warranted
- The combination of safety, operational, technical and environmental factors already pertaining to low volume RDT&E activities is not expected to change. It is also envisaged that the average number of aircraft movements during any given trial will remain low, typically 5 to 10 movements per week, but that the number of trial activities will increase to 20+ per annum

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Statement of need

- This Statement of Need relates to an application for a Permanent Airspace Change that will enable Llanbedr Airfield to increase support to next-generation UK aerospace RDT&E
- The objective of the application for a Permanent Airspace Change at Llanbedr is:

  To provide an environment for safe operation of all ongoing aerospace-related Research, Development, Test and Evaluation (RDT&E) activities in the vicinity of Llanbedr Airfield (EGFD) and the ability for associated aircraft to transit safely to/from Danger Area D201 to undertake extended range/endurance/altitude testing (in accordance with extant D201 procedures) without concern for other air traffic
- The proposal explicitly supports the Airspace Modernisation Strategy (CAP1711) by creating a permanent test zone in which to explore the airspace integration issues associated with new airspace users such as drones that are currently identified as "unknowns" in Chapter 5 of CAP1711

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Statement of need (continued)

- The airspace design previously consulted upon in support of Temporary Danger Area, Ref: QINETIQ/MS/AD/LET1404197, 15th September 2014, is considered sufficient to meet this need
- Area A is 5 nautical mile radius, centred on Llanbedr Aerodrome runway 17/35 at 524818N 0040739W

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Design principles - objectives

- A two-way conversation with relevant stakeholders that provides an opportunity to combine local context with technical/operational/safety considerations
- Topics for discussion:

Technical/operational/safety considerations	Local/environmental considerations (see environmental metrics & assessment reqts.)
• the operational aim of the proposal • safety constraints or opportunities • operational constraints or opportunities • technical constraints or opportunities • ANSP constraints or opportunities • the policy and regulatory framework with which the proposal must comply	• Noise – Nx contours – proposed flight profiles, traffic patterns – frequency, respite • CO2 • Air quality • Access for General Aviation

- Safety/operational considerations are likely to be priority for Danger Area design principles
  - Danger Area ops versus transit to/from Mid-Wales Military Training Area
  - Danger Area ops versus transit to/from D201

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Design principles - desired outcomes

- A shortlist of principles to inform the development of airspace design options and against which they can be qualitatively evaluated
- A record of any other design principles that were suggested by stakeholders, but not shortlisted
- CAA will expect to receive the following output from this activity:
  - a list of those stakeholders engaged
  - the methodology applied to identify them
  - an explanation of the engagement methods employed
  - a chronology of the engagement activity
  - an explanation of the issues raised during the engagement process and of how stakeholder feedback influenced the final set of principles
  - evidence of a two-way conversation - i.e. copies of all correspondence between the change sponsor and stakeholders
  - the design principles chosen
  - the rationale behind the decision to adopt those principles including evidence

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1.2. Minutes of meeting with Gwynedd Council, Tuesday 12th May 2020

Snowdonia Aerospace Airspace Change Proposal (ACP) ACP-2019-58
Llanbedr Aerodrome Traffic Zone (DA) Engagement Meeting

Tuesday 12th May 2020

Following questions from Gwynedd Council on the Engagement Questionnaire for the above ACP a virtual engagement meeting was arranged with the following:

Representatives from Snowdonia Aerospace (SAC)

[redacted]

Representatives from Gwynedd Council

[redacted]

Representative from Snowdonia Enterprise Zone

[redacted]

Representative from Snowdonia National Park Authority

[redacted]

Representative Grŵp Llandrillo Menai

[redacted]

Representatives from Welsh Government

[redacted]

Apologies received:

[redacted]

There was insufficient time to run this discussion as a separate meeting and everyone in the room was much more aware, because of working with SA on development plans, of the value of the DA.

The following points from minutes of the previous ACP-2020-02 meeting were noted.

[redacted] suggested the need to paint a picture of what things could look like in ten years' time. [redacted] accepted SAC's second Airspace application (the DA) covered electric testing and other exciting stuff for the 21st cent and it would have a positive momentum but creating apprenticeship opportunities is a key hope for the future. Linking in with positive exciting stuff the Enterprise Board would be happy to support.

[redacted] said that we had come so far on this journey for more novel applications and creating high value jobs and people needed to see where the RAF fits in to the wider picture and that it does not take away from the more novel stuff but adds to it.

[redacted] said that the letter about the Airspace change for the Danger Area to support the novel aircraft development due out shortly would contain images of some of the aircraft that have flown at Llanbedr which would help colour that in a little.

[redacted] said we are in a changing and novel market place and it is difficult to put exact timelines on things as it was the nature of the sector that it takes time, but a lot was happening including as an example the newly released £125m Future Flight programme which we are strongly involved with and this has a strong focus in the novel aviation, future flight options, technology and innovation area.

[redacted] reiterated [redacted] comment that the RAF have a need for an ATZ and FISO and Fire Cover and that all those elements are the backbone and catalyst for the other activity. Without the income from any RAF contract we won't be in a position to provide permanent full time jobs without the other novel aerospace being at such a level of activity and that activity is very sporadic and what was needed was permanent regular activity to create income from which other things can springboard. The RAF contract was critical in that respect.

[redacted] said he wanted to see the airfield succeed and along with everything else going on, if that meant the RAF coming in for a small amount of time every day fair enough but progressing was all about the art of communication and how to communicate this broad picture of the future in order to bring people along. This was not just important to the people living in Llanbedr and Dyffryn and Harlech but in the wider community in the whole of Gwynedd where it will have an effect. [redacted] said SAC need to paint a picture of the benefits, a picture of the possibilities and the benefits for the local community of the development of the airfield.

[redacted] said the UK Space Agency had appointed Techniquest to undertake an extensive community engagement plan to illustrate the benefits a Spaceport can provide in the community. This was due to be presented to the community over a 4 to 6 month period starting in April or May but had now been put back to whenever that was achievable. The community engagement plan that is being prepared does set out a ten-year roadmap associated with spaceport, novel flight, buildings investment, detailed work on ecology, transport impact, visual impact and so on; it is a very large piece of work. Details around this would have already been shared as part of the community engagement if not for the lockdown. This is still planned to take place.

[redacted] asked if that referenced the RAF and if not suggested that it would be beneficial if it could to thereby illustrate how that would fit in it with the larger scale / plans and thereby could close the loop. [redacted] said SAC could look to add extra slides etc to illustrate that.

[redacted] confirmed there was a meeting with the Community Councils planned for the 16th April and suggested that more people would get on board if we could have another meeting when possible.

[redacted] said they would definitely have another meeting. [redacted] suggested that certainly concept drawings, visual impact drawings could be produced. It was the next stage and there was no intention to submit planning applications for the ten-year roadmap until the engagement programme had taken place.

[redacted] said that everyone would be in a better position if they could see the plan for ten years, what is likely to happen in the future. People could say at the moment there is nothing happening at the airfield and the new road is a waste of money.

[redacted] said that certainly there was a lot of material, design concepts, landscaping concepts, a full ecology survey had already been undertaken and all issues are being considered as a part of a large widescale development ground infrastructure assessment. But, air infrastructure ie airspace was critical to support the airfield activity. The air infrastructure had to be there to support it.

[redacted] said he felt there would be value in some sort of prospectus that would show some visuals and a broad route map, and this could be done in short order to illustrate all that is going on – it needs pulling together.

[redacted] said it was a very reasonable point, but we are at a very early stage in this 18-month minimum process and that the design principles are relatively straightforward. The second airspace change document would help give perspective. There would be plenty of time after this first stage to get material out there.

[redacted] said today's session had been invaluable to understand what is happening and the urgency of a response to the consultation documents. However, [redacted] suggested a relatively short power point presentation outlining how things could develop over the next ten years and when key consultations would come up in the next 6, 12 and 24 months. A broad outline of the direction of travel he said would help us as individuals talking to other stakeholders.

SAC said they took that message on board and would see what could be done.

[redacted] asked if there were any further questions. [redacted] thanked everyone for attending.

1.3. Minutes of meeting with local Member of Parliament, Friday 15th May 2020

Snowdonia Aerospace Airspace Change Proposal (ACP) ACP-2020-02
Llanbedr Aerodrome Traffic Zone (ATZ) Engagement Meeting

10:00 Friday 15th May 2020

This Zoom meeting was held at the request of MP [redacted] following circulation of the Engagement Questionnaire for the above ACP.

Representatives from Snowdonia Aerospace (SA)

[redacted]

Also in attendance

[redacted]

[redacted]

Meeting Minutes

This meeting was predominated by ACP-2020-02 and due time constraint ACP-2019-58 was not debated separately.

So as not to misrepresent the minutes published for ACP-20-02 are re-printed in entirety. Novel aviation and spaceport are mentioned as is the value to the local economy of the wider development for which the DA is critical.

[redacted] ran through the ACP process and the timeline for the consultation strategy which included illustrating that a full public consultation in relation to the application was proposed to be undertaken in August 2020.

[redacted] asked if [redacted] was correct in assuming this was all associated with bringing the RAF Hawk and Texan to Llanbedr.

[redacted] said it was in the first instance, but it is also a part of the portfolio of interests that also encompass novel aviation and spaceport.

[redacted] raised concerns about Covid-19 and the impact of that on the ability of people to respond in the timelines proposed. [redacted] also mentioned there was a lot of concern about noise from the Texan and the AM and MP on Anglesey had written to the MOD about this. [redacted] asked if SAC had consulted as widely as possible and what would be the effect on other businesses already at the airfield.

[redacted] said that there was no attempt to short cut the process, this is an informal engagement at the moment to gather as many opinions as we can to shape the document that will form the basis for the widespread Consultation strategy, including the public consultation which will be conducted in the Autumn in exactly the same way as all public consultations are conducted.

[redacted] pointed out this was against a background of extreme anxiety within the tourism sector. People were taking about a three-winter scenario, they have been through one bad winter, this summer being the second winter, in the sense of no income, and then into winter again. This is the context in which we will be operating.

[redacted] acknowledged the difficulties for hotels but suggested it may be possible for the airfield to conduct trials in terms of space and social distancing. [redacted] mentioned a balloon trial in June as an example.

On the RAF [redacted] said the fact was Hawks were training at Llanbedr right up to 2004, with an average of 9,000 movements a year. It's been a very busy airfield in the past employing over 350 people and the aspiration was to create a significant number of jobs again with a massive effect on the economy longer term. A projected £19.5m annually into the local economy in five to ten years so that is really important.

Many of the local people will be familiar with the scale and types of activity at Llanbedr airfield in the past. At the moment there is not really sufficient number of movements of aircraft at the airfield, namely civilian small aircraft, to justify getting the ATZ application through this process, so the fact that the RAF would like to do some more training at Llanbedr provides a bit of a catalyst to get things going. The aerodrome would also have to be licensed for the RAF and that would drive further employment.

[redacted] asked why the RAF want to come to Llanbedr and [redacted] explained the safety reasons associated with this and SAC's understanding that as Llanbedr was so close to Valley there would be huge savings on fuel, and emissions, compared to going elsewhere.

[redacted] mentioned an issue [redacted] was aware of that meant the Texan could not train over the sea and also the noise which was a buzzing sound.

[redacted] referred to the advantages of Llanbedr with approaches, circuits and departures all over the sea. Also, that during August 2017 when the Hawks trained at Llanbedr due to the Eisteddfod on Anglesey that local people described the Hawks being back as 'music to our ears'.

[redacted] took the discussion back to Llanbedr Community Council and said they still felt there should be an adjournment or something to give more time.

After considerable further discussion about the issues and the process, the balance of different interests in the Community and the tight time scale for responses, [redacted] suggested that if SAC could extend the deadline for responses it would be seen that we had tried to help.

[redacted] did point out that SAC had followed the CAA process to the letter and the email was sent out to 165 different people and organisations and that was a reasonably wide net at this stage. That circulation would get wider as we move forward through June and August and in the public consultation absolutely anyone can respond.

[redacted] suggested that the CAA regulations were not designed with a pandemic in mind! [redacted] felt SAC should make a hard push over the coming next weekend on communication. After further discussion SAC agreed that another week would be acceptable and [redacted] would contact the Community Council Chairman after this meeting.

[redacted] asked questions about what employment the ATZ and the RAF traffic would bring.

[redacted] said there would be at least another air traffic person and four fire crew. It was possible the fire service would be contracted out to another company, but they would employ locally and there were a number of firemen in the area, including retained fire fighters, who would be interested.

[redacted] mentioned BBC interest and [redacted] said he had done a press statement which he would copy to [redacted]

[redacted] said that so far, the majority of responses are very supportive. While that might be expected from the aviation community there was no doubt that local people were pleased to understand some of the considerations expressed in the proposed design principles. For example, the RAF would not fly east of the runway or close to the village, and that there would likely be restrictions on movement numbers and times of operation.

[redacted] pointed out that there was a possibility due to the time delays that the RAF may wish to start operating before the approval of a permanent airspace change in August 2021 and in which case they may make their own application for a Temporary ATZ in order to start flying earlier in 2021. It was simply an option we are aware they may wish to pursue.

[redacted] said it was important to realise the tourist industry was facing an entirely unpredictable period, however it was as important as ever to enable the potential of the airfield to be realised. [redacted] recommended in taking other stakeholders with us as it was important to avoid the possibility of disagreements further down the road.

[redacted] did advise that in the initial distribution all the immediate landowners and the farming industry had all been included.

[redacted] asked if the meeting originally scheduled for the 15th April could be rearranged as she felt it would help get the community councils on board as well.

[redacted] suggested it might be possible to use the hangar at the airfield with a good PA system and there would be plenty of space.

[redacted] thanked [redacted] for being extremely helpful and SAC would take her advice and put out a general circulation to all the 165 stakeholders and interested parties that we would extend the deadline for another week. [redacted] said he would also contact the Chairman of the Llanbedr Community Council immediately after the meeting.

2. Completed Stakeholder Questionnaires

Stage two of the engagement process was to send out a questionnaire document via email to as wide a network of potential stakeholders and interested parties as possible. We drew up a list of additional stakeholders and interested parties based on our existing network of contacts, but also taking into account suggestions made by the user and local communities' representatives. The questionnaire was based on the draft design principles, but re-cast as questions with additional detail on the associated business opportunity in order to be as open as possible with the stakeholder community and to better solicit opinion. The questionnaires were distributed on 13th May with a requested return date of 29th May, although responses received after this date have still been considered.

The completed stakeholder questionnaires are included here as supporting evidence.

Index to responses:

1. BMAA
2. Dyffryn Ardudwy and Talybont Ward
3. Rolls Royce Flight test
4. Bristow SAR Caernarfon
5. Rolls Royce Heritage Flight
6. Barmouth Council
7. Farmers Union Wales
8. North Wales Fire and Rescue
9. ARCC HM Coastguard Search and Rescue
10. Talybont and Peniarth Airfields
11. Liverpool John Lennon Airport
12. Snowdonia Skysports
13. Microlight and Paraglider pilot
14. Cameron Balloons
15. Cyclops Air Ltd
16. National Trust
17. Mona Flying Club
18. NATS
19. BAE Systems Flight Test
20. Snowdonia Enterprise Zone Advisory Board
21. Ultra Electronics Ltd – EWST
22. Newton Launch Systems
23. Herefordshire Gliding Club and BGA
24. Space Forge
25. MOD
26. Whizzard Helicopters
27. Skydive Snowdonia
28. Snowdonia Flight School
29. Gwynedd Council
30. ARPAS UK
31. Vertical Aerospace
32. Dronamics Global Ltd
33. Windhorse Aerospace Ltd
34. Auriga
35. AveAlto
36. Manchester University

1) BMAA

British Microlight Aircraft Association
Policy for Design Principles during ACP engagement

Introduction

The following text describes the underlying principles that the British Microlight Aircraft Association (BMAA) believes must be followed by applicants for airspace change proposals.

Consultation

1. The BMAA 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 BMAA 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 BMAA 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. Where Class E is proposed, without a TMZ or RMZ should be considered as the default 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.

2) [redacted] Dyffryn Ardudwy and Talybont ward

I have NO Objections to your plans and agree with your three questionnaires.

My reasons are that involvement of RAF Valley would help create jobs.
And help RAF Valley.
And the drones project is the first step in the development of Llanbedr Airfield for drones.

[redacted]

3) Rolls-Royce plc Flight Test

QUESTIONNAIRE IN RELATION TO: Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation: Rolls-Royce plc Flight Test

(Please insert details of the Organisation you are replying on behalf of)

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	**Agree Yes**	**Disagree**
Other comment: **The existence of a permanent danger area would help ensure safe separation of trials aircraft and other airspace users in an area in which it is not generally possible to receive a radar service. This is a significant enhancement to flight safety, and would permit trials activity that requires flight above 250 knots below 10,000ft.** **In general the UK suffers with respect to its competitors in having a lack of suitable airspace for flight test activities. Any additional airspace suitable for flight testing will be of considerable benefit to the UK aerospace industry especially if it is able to be activated at short notice and is available at low cost.** **Additionally an expansion of the proposed area above 6,000ft amsl would expand the usefulness of the proposed area although it is acknowledged that this would compromise the Valley Aerial Tactics Area.**		
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	**Agree Yes**	**Disagree**
Other comment:		

3. The design must minimize the impact to other airspace users by activation only when required based on need.		
Your response:	**Agree Yes**	**Disagree**
Other comment: It should be acknowledged that when compared with other similar facilities in the UK the level of use of this airspace is minimal.		
4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)		
Your response:	**Agree Yes**	**Disagree**
Other comment:		
5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)		
Your response	**Agree Yes**	**Disagree**
Other comment:		
6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.		
Your response **None**		
7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design		
Your response **None**		

8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.
Your response **None**
9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?
Your response **None**
10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.
Your response please provide details. **None**

4) **Bristow Search and Rescue, Caernarfon.**

QUESTIONNAIRE IN RELATION TO:
Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation: Organisation you are replying on behalf of)

Bristow Search and Rescue, Caernarfon

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	**Agree**	**Disagree**
Other comment:		
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	**Agree**	**Disagree**
Other comment: Agree that sub-division allows flexible use, although it does make it more difficult for others to plot / assess on flight planning software. A slicker solution might be to have a large DA with a crossing service?		
3. The design must minimize the impact to other airspace users by activation only when required based on need.		
Your response:	**Agree**	**Disagree**
Other comment:		
4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)		
Your response:	**Agree**	**Disagree**

Other comment: Please see my comment on Section 2. A DACS would be my preference, although I do understand that this does not 'free up' airspace but, given that much of the proposed DA is overwater, I'd imagine that GA traffic wouldn't be looking to loiter anyway. From a SAR perspective, unless tasked to an operation in the area, we would generally be looking to transit rather than operate within.		
5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)		
Your response	**Agree**	**Disagree**
Other comment: Strongly agree. The 'weekend flyer' community is already struggling with TMZs, RMZs etc and I think a new classification would not be well received.		
6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.		
Your response		
7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design		
Your response		
8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.		
Your response		
9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?		
Your response		

10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.
Your response please provide details.

5) **Rolls-Royce Heritage Flight Operations**

QUESTIONNAIRE IN RELATION TO: Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation: Rolls-Royce plc Flight Test

(Please insert details of the Organisation you are replying on behalf of)

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	**Agree Yes**	**Disagree**
Other comment: **The existence of a permanent danger area would help ensure safe separation of trials aircraft and other airspace users in an area in which it is not generally possible to receive a radar service. This is a significant enhancement to flight safety, and would permit trials activity that requires flight above 250 knots below 10,000ft.** **In general the UK suffers with respect to its competitors in having a lack of suitable airspace for flight test activities. Any additional airspace suitable for flight testing will be of considerable benefit to the UK aerospace industry especially if it is able to be activated at short notice and is available at low cost.** **Additionally an expansion of the proposed area above 6,000ft amsl would expand the usefulness of the proposed area although it is acknowledged that this would compromise the Valley Aerial Tactics Area.**		
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	**Agree Yes**	**Disagree**
Other comment:		
3. The design must minimize the impact to other airspace users by activation only when required based on need.		

Your response:	**Agree Yes**	**Disagree**
Other comment: It should be acknowledged that when compared with other similar facilities in the UK the level of use of this airspace is minimal.		
4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)		
Your response:	**Agree Yes**	**Disagree**
Other comment:		
5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)		
Your response	**Agree Yes**	**Disagree**
Other comment:		
6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.		
Your response **None**		
7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design		
Your response **None**		
8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.		

Your response **None**
9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?
Your response **None**
10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.
Your response please provide details. **None**

6 Barmouth Council

Dear Sir or Madam,

This email is our response to your request for our views and observations about your plans for the change of Airspace at Llanbedr Airfield.
We have no objections to any of your plans and support your application.

We hope that the addition of RAF Valley will create more opportunities of work for some of the locals .

Any increase of activity at the Airfield could be a platform for future projects that will help the whole community .

This extra space will be beneficial to RAF Valley in their working capacity .

regards

[redacted]

[redacted]

7 Farmers Union Wales

Dear Sirs

Please find below some brief comments;

The FUW believes that the extent of consultation and short period given for responses to this correspondence is insufficient - not least given (1) the current lockdown, which significantly restricts the ability of local communities to discuss the proposals and the FUW's ability to discuss the proposals with its hundreds of members which farm within a twenty mile radius of the development, and (2) the location of the proposed development in an area which is primarily reliant on livestock farming and tourism.

It must also be noted that the agricultural industry is on the cusp of a revolution whereby the use of drones in the management of crops and livestock is becoming increasingly important - with drone technology already being used to great effect in horticultural and arable farming areas to allow targeted fertilisation and pest control in a way which significantly reduces pollution while maximising crop production.

As the use of such technology gradually moves into more marginal farming areas, such as those around the proposed development, it is anticipated that significant economic and environmental benefits will be realised. Any restrictions on such technological advancements based on drone technology in the area would therefore be objected to by the FUW.

It must also be noted that the FUW has previously dealt with numerous cases of damage to livestock - for example, abortions - caused by aircraft, and this is also a major concern as regards the development.

Thankyou for the opportunity to express some initial comments

[redacted]

FUW
UNDEB AMAETHWYR CYMRU

8 North Wales Fire and Rescue Service

QUESTIONNAIRE IN RELATION TO:
Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation:

(Please insert details of the Organisation you are replying on behalf of)

North Wales Fire & Rescue Service

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	Agree	
Other comment:		
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	Agree	
Other comment:		
3. The design must minimize the impact to other airspace users by activation only when required based on need.		
Your response:	Agree	
Other comment:		
4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)		
Your response:	Agree	

Other comment:		
5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)		
Your response	Agree	
Other comment:		
6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.		
Your response N/A		
7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design		
Your response N/A		
8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.		
Your response N/A		
9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?		
Your response N/A		
10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.		
Your response please provide details. N/A		

9 ARCC HM Coastguard

Dear Sirs

Thank you for your email with regards to changes of Airspace at Llanbedr Airfield. The Aeronautical Rescue Coordination Centre (ARCC) has reviewed the proposed changes and the proposals to look at the establishment of a Temporary Danger Area and have confirmed that they are content with the proposals which should not interfere with the operation of our search and rescue aircraft.
Best regards

HM Coastguard
Search and Rescue
[redacted]

10 Talybont and Peniarth Airfields

QUESTIONNAIRE IN RELATION TO: Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation:

(Please insert details of the Organisation you are replying on behalf of)

Peniarth Estate

Tywyn LL369UD

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	**Agree** ✓	**Disagree**
Other comment: ✓		
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	**Agree** ✓	**Disagree**
Other comment: ✓		
3. The design must minimize the impact to other airspace users by activation only when required based on need.		

Your response:	**Agree** ✓	**Disagree**
Other comment: ✓		
4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)		
Your response:	**Agree** ✓	**Disagree**
Other comment: ✓		
5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)		
Your response	**Agree** ✓	**Disagree**
Other comment: ✓		
6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.		
Response - these constraints have already been mentioned as drone flying, and light aviation operating out of Talybont and Peniarth airfields 12 miles to the South		

7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design
Response - these constraints have already been mentioned as drone flying, and light aviation operating out of Talybont and Peniarth airfields 12 miles to the South
8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.
response - these constraints have already been mentioned as drone flying, and light aviation operating out of Talybont and Peniarth airfields 12 miles to the South
9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?
The usual schools, hospitals and nursing homes one finds in the countryside
10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.
response these constraints have already been mentioned as drone flying, and light aviation operating out of Talybont and Peniarth airfields 12 miles to the South **There is also the problem for light aircraft transitting to the West of the proposed ATZ who are seldom transponder equipped and oftern only have handheld radios**

11 Liverpool John Lennon Airport

Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation: **Liverpool John Lennon Airport**

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	**Agree** Yes	**Disagree**
Other comment: LJLA & ATCSL support the enhancement of the safety in the area around Llanbedr for all airspace users.		
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	**Agree** Yes	**Disagree**
Other comment: The primary purpose of the ACP should be to facilitate the continued operation of the range facility, whilst seeking to improve access to the wider aviation community in a safe controlled manner.		
3. The design must minimize the impact to other airspace users by activation only when required based on need.		
Your response:	**Agree** Yes	**Disagree**
Other comment:		

The impact of both local and en-route airspace users' needs to be taken into consideration and kept to a minimum. As the ACP develops the design needs to seek to improve co-ordination and integration of traffic to make the overall use of the airspace as efficient and safe as practical.

4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)

Your response:	**Agree** Yes	**Disagree**

Other comment: Safe access for all airspace users in a flexible manner is to be encouraged, when the range is not in use.

5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)

Your response	**Agree** Yes	**Disagree**

Other comment: As a minimum ICAO, EASA and CAA guidance must be a prerequisite for the designation and design of the Llanbedr airspace change proposal as it progresses

6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.

Your response The timing/scheduling of the Llanbedr operations are unlikely to have an impact on the LJLA operation; therefore, we have not further comments.

7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design
Your response: This is more of a local issue and if the airspace change proposal does not have an impact on the commercial operation from LJLA, the comments of local airspace users may be more appropriate.
8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.
Your response This is more of a local issue and if the airspace change proposal does not have an impact on the commercial operation from LJLA, the comments of local airspace users may be more appropriate.
9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?
Your response The LJLA ACP Stage 3 formal public consultation has been completed, please be cognitive of the proposed changes as the Llanbedr design is developed.
10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.
Your response please provide details. The LJLA ACP Stage 3 formal public consultation has been completed, please be cognitive of the proposed changes as the Llanbedr design is developed.

12 Snowdonia Sky Sports

QUESTIONNAIRE IN RELATION TO: Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation:

(Please insert details of the Organisation you are replying on behalf of)

Snowdonia Sky Sports – www.snowdoniaskysports.co.uk (also on FaceBook together with Fly Harlech and North Wales)

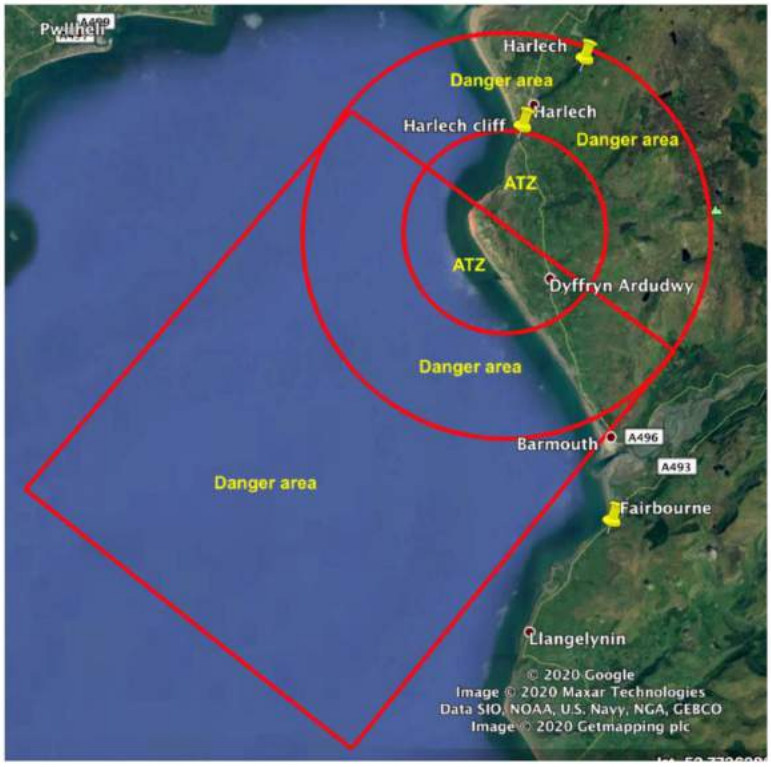
1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	**Agree Yes**	**Disagree**
Other comment:		
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	**Agree Yes**	**Disagree**
Other comment:		
3. The design must minimize the impact to other airspace users by activation only when required based on need.		
Your response:	**Agree Yes**	**Disagree**
Other comment:		

4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)		
Your response:	**Agree Yes**	**Disagree**
Other comment:		
5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)		
Your response	**Agree**	**Disagree Yes**
Other comment: **See comments under point 8 as there are existing established paragliding and /or hang-gliding activities that take place**		
6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.		
Your response **No night time paragliding activities. For day time constraints please see point 8**		
7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design		
Your response **See point 8, below**		
8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.		
Your response **Snowdonia Sky Sports's (SSS) comment on the proposal ACP-2019-58 re Hang-gliding and paragliding.**		

SSS is a local club affiliated to the British Hang gliding and Paragliding Association (BHPA) that acts as an information source for local and visiting pilots and coordinates relations between pilots and the landowners of the areas where paragliding takes place.

Introduction

The attached map shows the position of three hang gliding & paragliding sites (yellow pins on the map) that would be made unavailable by the proposed new danger area centered on LLanbedr airfield ref. ACP-2019-58 . Particularly, the proposed danger area would prevent take off and soaring flight from Harlech main take-off, Harlech Cliff take-off, and the dunes that extend north along the shoreline from the town of Harlech.



Also the proposed new danger area would limit and possibly prevent the use of Fairbourne take-off for hang gliding & paragliding as the danger area extends very close to the shore just in front of the main hill take-off for Hang-gliders/paragliders at Fairbourne.

Impact

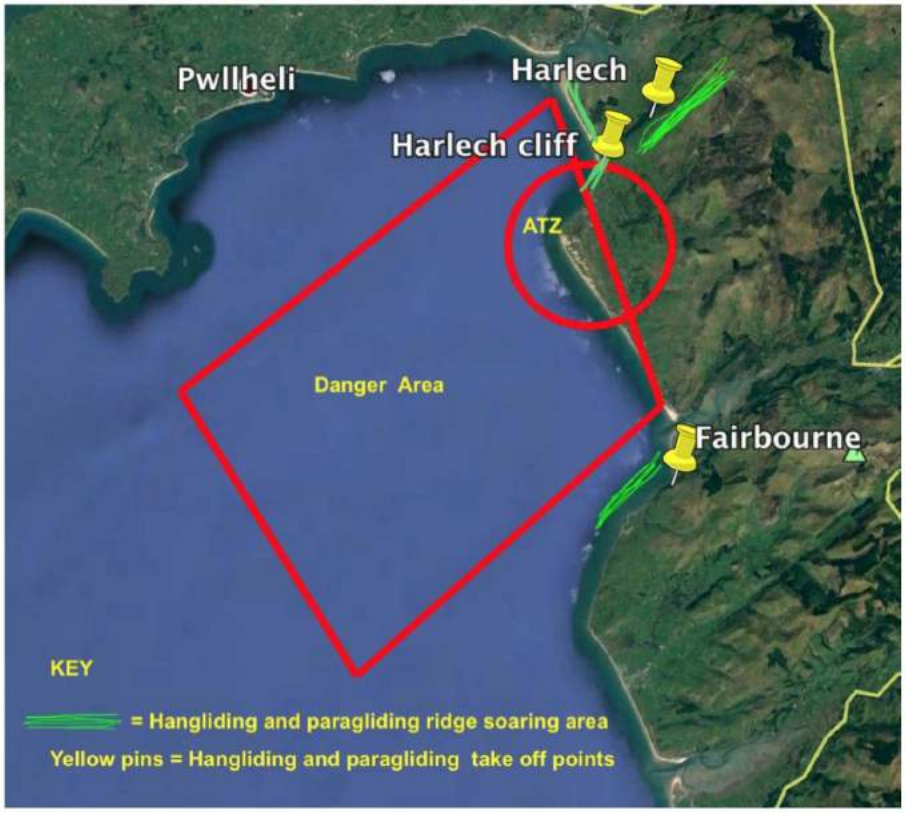
Hang-gliding and paragliding *has been recorded* at these sites for over 30 years. Losing these launch points and the open airspace above them would be a significant loss for the local hang-gliding & paragliding community, and negatively impact tourism by making

Harlech and Fairbourne less attractive to visit for holiday-makers wanting to include paragliding/hang-gliding as part of their activities. For example, national level paragliding competitions are held at Harlech and the Rhinogs. These have made a significant contribution to tourism and farm diversification as local farmers hosted the competitions and provided camping accommodation and food facilities. In addition, other competitors booked their accommodation in Harlech town and environs. Fairbourne is currently used as an acrobatics training site for paragliders where pilots fly out over the sea to perform their maneuvers. This activity could also be prevented by the proposed danger area.

Proposed Solution.

From what we can glean as to the use of the proposed new airspace, it seems traffic would mostly approach the airfield from over the sea from the NW, W and SW and leave by similar trajectories. There appears therefore, to be little justification for extending the danger area (described by a circle of radius 5NM beyond the midpoint of longest runway) towards the NNE NE, E and SE. This, in our opinion, is excessive. Proposal ACP-2019-58 appears to put the whole of the Rhinog summits out of bounds for paragliding as well as stopping the continued use of Harlech main ridge as a hang-gliding and paragliding site for take-off and soaring. This hang-gliding & paragliding site has been enjoyed by locals and visitors for the past 30 year or so.

The proposed danger area is circular with a stub protruding to the south west. There is no particular necessity for this geometry other than simplicity as a starting point for the proposed airspace consultation. We suggest changes to the proposed shape of the airspace, particularly the NE sector, that if implemented, would allow hang-gliders & paragliders to continue to fly at Harlech and Fairbourne in the manner they have been used to for the past 30 years. The proposed more limited eastwards extent of the danger area is outlined in the attached image.



9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?

Your response

Don't know, not with SSS.

10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.

Your response please provide details.

Only as indicated in point 8 response.

13 Microlight / Paraglider Pilot

Hello
I have been informed of a proposal to create a New danger area which is in a location that I currently use to fly both my microlight and paramotor on a regular basis , therefore I am extremely concerned about the impact that this change will cause to my enjoyment and freedom to navigate within this area .
Can I be assured that this proposed danger area will not be active at all times, and that outside any active times Access will be allowed to other air traffic wishing to use this airspace

Yours sincerely. [redacted]

Sent from my iPhone

14 Cameron Balloons

QUESTIONNAIRE IN RELATION TO: Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation: Cameron Balloons Ltd.

Cameron Balloons Ltd is the worlds largest manufacturer of hot-air balloons, and has almost 50 years' experience in the industry. The company has also been involved in a number of high altitude and experimental gas balloon project. Recently, projects have involved UAVs and automated payloads.

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	**Agree**	~~**Disagree**~~
Other comment:		
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	**Agree**	~~**Disagree**~~
Other comment: When launching high altitude balloons, they will ascent until reaching buoyancy altitude. During this time the balloon will also travel downrange. The radius of the airspace should accommodate an area to confirm a balloon's successful arrival at altitude.		
3. The design must minimize the impact to other airspace users by activation only when required based on need.		
Your response:	**Agree**	~~**Disagree**~~
Other comment:		

4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)		
Your response:	**Agree**	~~**Disagree**~~
Other comment:		
5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)		
Your response	**Agree**	~~**Disagree**~~
Other comment:		
6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.		
Your response The launch of aerostats or balloons typically requires calm conditions a number of hours after sunrise, or hours before sunset. High altitude balloon activities, operating fragile film balloons, would not be feasible unless these time periods are available. For large or complex balloons, filling with lifting gas may be carried out the night before a launch. Whereby, a launch may want to be carried out either side of sunrise. For balloon launches it is best to have period of a number of hours where a launch can happen as local weather conditions are critical and could be subject to change.		
7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design		
Your response N/A		

8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.
Your response N/A
9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?
Your response N/A
10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.
Your response please provide details. The launch of high-altitude balloons would need clear access to 50,000+ feet. Whether or not airspace design needs to include this altitude should be considered. A successful deployment of a high-altitude balloon would aim to travel above Class A airspace.

15 Cyclops Air Ltd.

QUESTIONNAIRE IN RELATION TO:

Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation: Cyclops Air Ltd

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)

Your response: Agree

Other comment:

This volume of airspace seems ideal for the nature of BVLOS flying for smaller commercial companies

and access to MoD managed Danger Areas is not feasible due to costs and primacy of MoD users. Llanbedr is an ideal drone development area – rural and near the coast.

2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided

Your response: Agree

Other comment:

Size is of suitable dimensions for SUAS, but lacks volume for larger systems to fly at range- though access to D201 would permit this.

3. The design must minimize the impact to other airspace users by activation only when required based

on need.

Your response: Agree

Other comment: This arrangement fits with the Flexible use of airspace principles and the 3 sub areas looks a sensible way to proceed given that for most SUAS area A will be sufficient for BVLOS testing .

Engagement CAP1616: Airspace Design

4. The airspace should be as accessible as possible to other users and be managed in accordance with

Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)

Your response: Agree

Other comment:

Nil

5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)

Your response Agree

Other comment:

6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.

Your response

The Danger Area should be available for booking any time throughout the 24 hour period.

7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design

Your response

Not aware of any, flights in the TDA have been very well managed to accommodate GA on previous

occasions I have flown BVLOS at Llanbedr.

8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.

Your response

Not aware of any.

9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS

should be aware of?

Your response

Not aware of any.

10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.

Your response please provide details.

Thank you for your cooperation in completing this questionnaire. Your comments will provide a valuable

16 National Trust

QUESTIONNAIRE IN RELATION TO: Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation:

The National Trust

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	**Agree** YES	**Disagree**
Other comment: This question is primarily directed at other airspace users. However, we concur that the most important design principle would be safety-related, noting that a safe environment for airspace users also helps to ensure safety of uninvolved persons on the ground.		
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	**Agree**	**Disagree**
Other comment: The National Trust will not provide a formal view on this design principle as it is a question more relevant for airspace specialists/users and will not have a material impact on activities on the ground.		
3. The design must minimize the impact to other airspace users by activation only when required based on need.		
Your response:	**Agree**	**Disagree**
Other comment: The National Trust will not provide a formal view on this design principle as it is a question more relevant for airspace specialists/users and will not have a material impact on activities on the ground.		

4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)		
Your response:	**Agree**	**Disagree**
Other comment: The National Trust will not provide a formal view on this design principle as it is a question more relevant for airspace specialists/users and will not have a material impact on activities on the ground.		
5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)		
Your response	**Agree**	**Disagree**
Other comment: The National Trust will not provide a formal view on this design principle as it is a question more relevant for airspace specialists/users and will not have a material impact on activities on the ground.		
6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.		
Your response Nil		
7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design		
Your response Nil		
8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.		
Your response Nil		

9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?

Your response

The National Trust welcomes the consideration of noise sensitive areas at Stage 1b of the ACP process. We would also expect, as detailed in CAP 1616 for other factors such as location in relation to the Snowdonia National Park and nominated quiet areas to equally be considered.

The areas coastline includes some of the most ecologically important habitats (including sand dunes and estuaries) in the British Isles and the National Trust cares for such a habitat immediately north of the aerodrome.

We note that the combination of safety, operations, technical and environmental factors already pertaining to low volume operations "is not expected to change" as a component of this ACP. We also note that "it is also envisaged that the average number of aircraft movements during any given trial will remain low, typically 5 to 10 movements per week, but that the number of trial activities will increase to 20+ per annum."

Finally, the National Trust notes that in January 2020, the CAA published a consultation on the minimum requirements for noise modelling that a change sponsor should submit in support of its proposal and that policy on minimum requirements is due to be published (CAP 16161 states this will be "by Easter 2020.)" We would expect this new policy to be followed with regards to this particular ACP and is a matter of particular interest to us to ensure that the tranquillity of these special places is conserved.

10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.

Your response please provide details. As Europe's largest conservation charity, with landholdings in the immediate vicinity of Llanbedr Aerodrome, and the surrounding National Park, the National Trust would expect to see robust consideration and assessment of factors such as tranquillity, noise, air quality and biodiversity to be considered as part of the ACP process (as detailed in CAP1616). As such, qualitative and where possible quantitative assessments of the environmental impacts that would arise from this airspace change proposal, notably noise, CO2 emissions and local air quality should be conducted as required by CAP 1616 policy. We would also expect the resultant presentation and explanation of those impacts to all stakeholders and for this to be considered by the CAA as part of the assessment process.

17 Mona Flying Club

Hi [redacted]

I have seen the consultation documents regarding the above, having received the information through club and committee members.
I have also seen the LAA response and in the light of that am generally happy with the ATZ proposal.
It should improve matters locally for GA traffic South of Mona and Caernarfon particularly if it facilitates easier access to Llanbedr as a destination.
However, I have concerns as to how you propose to handle/operate the proposed Danger Airspace.
From the map provided it looks as if the DA overlaps half of the ATZ, how would that be practically managed?
Also, how often would the DA be active, weekends and evenings are of particular interest to Mona GA aircraft.

Regards
[redacted]

18 NATS

Llanbedr Aerodrome (Danger Area) ACP-2019-58
Representative Organisation: NATS NERL
1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)
Your response: Agree
Other comment: Nil
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided
Your response: Agree
Other comment: NATS would like to understand the predicted usage, both in terms of height and duration of the adjoining Danger Area D201which would be accessed by the proposed Danger Area
3. The design must minimize the impact to other airspace users by activation only when required based on need.
Your response: Agree
Other comment: Nil
4. The airspace should be as accessible as possible to other users and be managed in accordance with
Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)
Your response: Agree
Other comment: Nil
5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)
Your response Agree
Other comment: Nil
6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.
Your response: NATS would like to understand the predicted usage, both in terms of height and duration of the adjoining Danger Area D201which would be accessed by the proposed Danger Area
7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design
Your response: Nil
8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.
Your response: Nil
9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?
Your response: Nil
10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.
Your response please provide details: NATS would like to understand the predicted usage, both in terms of height and duration of the adjoining Danger Area D201which would be accessed by the proposed Danger Area

19 BAE Systems

Llanbedr Aerodrome Airspace Change Proposal ACP-2019-58

BAE SYSTEMS Response to Initial Engagement Letter, dated 12th May 2020.

Response Requirement.

The questions / statements in the Questionnaire below are designed to help us understand any constraints that could be considered during the CAA CAP 1616 Design Principles step of the Define Stage, Design Principles (1B). Please insert your responses below to each of the following questions. Where additional sheets or documents are used please make it clear which specific questions the additional sheets are responding to. ALL documents are to be returned to: da.acp@snowdoniaaerospace.com as previously described. The first 5 questions give an option to agree or disagree. If you agree or disagree it would be helpful to have additional supporting comments to this. If any of the questions are not applicable or relevant, please say so against the appropriate question in the comment box. Please just copy the completed questionnaire pages to send, with any additional supplementary response.

QUESTIONNAIRE IN RELATION TO:

Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation:

BAE SYSTEMS (AIR) Warton – Flight Test and Flight Operations

[redacted]

[redacted]

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	**Agree**	**Disagree**
Other comment: Proposed airspace is considered appropriate in terms of both area and altitude for operations of UAS from Llanbedr. Permits system operation over land and sea areas. Provides good transit corridor to existing danger area, D201.		

2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	**Agree**	**Disagree**
Other comment: Our experience in UAS flight trials has proven that it is essential that sufficient area is covered across both land and sea to cater for a variety of system types and sensors. The trials area needs to be sufficiently large to cater for various airspeeds, as well as providing large enough search and reconnaissance areas to test the system capability. **The ability to sub-divide the area is considered highly desirable. This permits potential segregation of simultaneous trials activities, or increases flexibility to other airspace users by minimizing the trials operational area only to that which is required.**		
3. The design must minimize the impact to other airspace users by activation only when required based on need.		
Your response:	**Agree**	**Disagree**
Other comment: UK airspace is at a PREMIUM. It is essential that consideration is given to other airspace users to maximize flexibility across the airspace. Activating the proposed airspace only on an as required basis facilitates this flexibility.		
4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)		
Your response:	**Agree**	**Disagree**
Other comment: **As stated in (3) above, UK airspace is at a PREMIUM. Therefore, it is considered ESSENTIAL that the use of Flexible Use of Airspace (FUA) principles are adopted as far as is practicable.**		

5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)		
Your response	**Agree**	**Disagree**
Other comment: **In order to provide clear, unambiguous information across the general aviation community it is essential that existing designation notation is maintained.**		
6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.		
Your response **The ability to utilize the proposed airspace during both day and night time is considered a necessity to test the full capability of a UAS. Some UAS may have an endurance >24hours. It is therefore considered essential that the airspace can be activated through periods of darkness. In order to minimize any potential night time noise impact on the local community, operational hours need to be clearly identified in advance and should be constrained to those hours only required to complete the required trials activities.**		
7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design		
Your response **None known to BAE SYSTEMS. However, BAE SYSTEMS are not local to Llanbedr Aerodrome.**		
8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.		
Your response: The ability of a UAS to "Sense and Avoid" is currently not considered equivalent to manned aviation. Onboard cameras and transponders will help to increase UAS conspicuity, but consideration does need to be given to existing light aviation such as those operators identified in the question.		

It is considered essential that clear communication paths are assured to notify when the proposed airspace is active.
9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?
Your response **None known to BAE SYSTEMS. However, BAE SYSTEMS are not local to Llanbedr Aerodrome.**
10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.
Your response please provide details. **BAE SYSTEMS continues to utilize (and has a foreseeable future need to access) the Aberporth Danger Area, D201. Whilst a review of the proposal has not identified an impact on aviation access to D201, it is important to recognize that trials access to D201 will be required for the foreseeable future and any airspace change should not preclude such access to Military Air Traffic (i.e. access to D201 should not be impeded by the presence of this Danger Area).**

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 Danger Area airspace design can be developed.

All completed forms have to be kept to evidence the CS engagement with stakeholders and interested parties but this information remains confidential.

Snowdonia Aerospace LLP / Change Sponsor

20 Snowdonia Enterprise Zone Board

QUESTIONNAIRE IN RELATION TO: Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation: Snowdonia Enterprise Zone Board

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	**Agree X**	**Disagree**
Other comment:		
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	**Agree X**	**Disagree**
Other comment: **The development of the Llanbedr site of the Snowdonia Enterprise Zone depends to a significant extent on the ability of aircraft under development and space related vehicles to access the main Cardigan Bay Danger Area. The design of the new permanent area must accommodate the potential future users from Llanbedr involvement in research, development and test of new aircraft developments**		
3. The design must minimize the impact to other airspace users by activation only when required based on need.		
Your response:	**Agree X**	**Disagree**
Other comment:		
4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)		

Your response:	**Agree X**	**Disagree**
Other comment:		
5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)		
Your response	**Agree X**	**Disagree**
Other comment:		
6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.		
Your response **The CS should take account of the need of local people and not cause unnecessary disturbance outside normal business hours.**		
7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design		
Your response		
8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.		
Your response		
9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?		
Your response		

10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.
Your response please provide details. **Not aware of any**

21 Ultra Electronics - EWST

QUESTIONNAIRE IN RELATION TO:
Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation:

[redacted]
Ultra Electronics – EWST
A8 Cody Technology Park
Ively Road
Farnborough
GU14 0LX

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	**Agree**	~~**Disagree**~~
Other comment:		
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	**Agree**	~~**Disagree**~~
Other comment:		
3. The design must minimize the impact to other airspace users by activation only when required based on need.		
Your response:	**Agree**	~~**Disagree**~~
Other comment:		

4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)		
Your response:	**Agree**	~~**Disagree**~~
Other comment:		
5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)		
Your response	**Agree**	~~**Disagree**~~
Other comment:		
6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.		
Your response None known		
7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design		
Your response None known		
8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.		
Your response None known		

9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?
Your response None known
10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.
Your response please provide details. None known

22 **Newton Launch Systems Ltd**

QUESTIONNAIRE IN RELATION TO: Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation:

(Please insert details of the Organisation you are replying on behalf of)

Newton Launch Systems Limited

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	**Agree**	
Other comment: Newton is in the process of developing technology to support innovative space launch solutions and requires a safe location to test a range of experimental vehicles including UAVs and rocket-powered boost gliders. In order to undertake this activity in the UK, a suitable danger area within close proximity of a research airfield is required. The existing D201 danger area is suitable for flight testing as is the airfield at Llanbedr, but a safe route between the two is essential. ACP-2019-58 meets these requirements and would allow Newton to proceed with its proposed development activity at Llanbedr.		
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	**Agree**	
Other comment: Newton's proposed activity ranges from low altitude trials of unmanned carrier aircraft, which could be conducted in close proximity to the airfield, to suborbital near space flight, which would be air launched from the southwest corner of D201 and then glide to a runway landing at Llanbedr. In between the two extremes, there will be test flights of small rocket powered vehicles to approximately 5,000 ft altitude and, less frequently, larger vehicles launched from within D201 to approximately 50,000 ft. The danger area needs to be able to accommodate this full range of activity.		

3. The design must minimize the impact to other airspace users by activation only when required based on need.		
Your response:	**Agree**	
Other comment: Depending on the type of vehicle and nature of the test programme, test campaigns can range from a single flight to multiple flights over several weeks. The design of the danger area needs to permit flexible access to accommodate the needs of its users and must be suitable for trials lasting days or weeks as necessary. It also needs to recognise that trial dates often need to be changed at short notice, for example if bad weather or technical problems force a postponement of a test flight. In summary, while it is reasonable to allow other airspace uses to access the danger area when not in use for RDT&E activities, it needs to be possible to activate the DA with reasonable notice when required.		
4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)		
Your response:	**Agree**	
Other comment: See answer to question 3.		
5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)		
Your response	**Agree**	
Other comment:		
6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.		
Your response The danger area needs to be available at weekends and early evenings, provided that tests can be undertaken without causing nuisance to others. This will enable broader community involvement such as amateur groups, students or local community events. Such outreach activities often have to be scheduled for times outside the normal working week (i.e. Monday to Friday 0900 to 1700) to enable participation		

by those who work during the week. Furthermore, some of the test activities may require launch of a vehicle at a specific time of day, e.g. early morning.
7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design
Your response **N/A**
8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.
Your response **N/A**
9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?
Your response **N/A**
10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.
Your response please provide details. **N/A**

23 Herefordshire Gliding Club and BGA

QUESTIONNAIRE IN RELATION TO: Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation:

(Please insert details of the Organisation you are replying on behalf of)

[redacted] on behalf of Herefordshire Gliding Club (Shobdon) / British Gliding Association

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	**Agree**	**Disagree Yes**
Other comment: The eastern part of the Area A is unnecessary. A slice should be cut off the eastern part of the cylinder roughly along the line of the railway or A road and parallel with the 17 / 35 runway.		
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	**Agree Yes**	**Disagree**
Other comment:		
3. The design must minimize the impact to other airspace users by activation only when required based on need.		
Your response:	**Agree Yes**	**Disagree**
Other comment:		

Additionally the Llanbedr ATSU should provide a danger area crossing service or equivalent. Glider pilots will generally plan to keep away from an active danger area but my occasionally fail to climb and need to make a precautionary landing. The proposed danger area, when activated, will close off a long stretch of coastal plane that provides safe potential landing areas in an area where there are few or no alternatives.		
4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)		
Your response:	**Agree Yes**	**Disagree**
Other comment:		
5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)		
Your response	**Agree Yes**	**Disagree**
Other comment:		
6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.		
Your response		
7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design		
Your response **GA including sporting and recreational aviation has legitimate rights of access to airspace. Therefore the DA should be open to access by GA subject to safety constraints and conventional rules – i.e. radio contact.** **Gliding is a General Aviation Operation – see below.**		

8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.

Your response

Gliders must be operated so that they remain within gliding range of safe landing areas at all times even though they may not generally require to use such areas. Suitable landings areas in Snowdonia are limited to the coastal plane and wider valleys. If gliders were totally excluded from the danger area when active they would be less able to use the nearby Class G airspace safely. When gliders are soaring to the east of Llanbedr the nearest safe landing areas would be within the proposed danger area. Provision should be made for gliders to enter the danger area and make a precautionary landing in the unusual event that the glider is not able to continue soaring and is out of gliding range of a gliding site.

9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?

Your response

10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.

Your response please provide details.

Many gliders are equipped with electronic conspicuity (EC) – usually Flarm which is relatively inexpensive (from £600) and provides traffic awareness and collision avoidance technology. Very few gliders are equipped with transponders because: (a) they are costly to buy and install (approx. £3000) compared with the cost of a typical second hand glider (£10,000); (b) they do not by themselves provide traffic awareness and collision avoidance technology; (c) they have a relatively high power consumption that needs extra batteries to be installed; (d) instrument panel space is limited so it may be difficult to accommodate an extra instrument; and (e) the long term strategy for EC is ADSB so transponders are seen as an interim solution that will become redundant within the normal life-span of a glider.

Any design should assume that few gliders will be equipped with transponders and many will be equipped with radios and Flarm.

24 Space Forge

QUESTIONNAIRE IN RELATION TO: Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation:

Space Forge Ltd

Csa Catapult Innovation Centre, Imperial Park, Celtic Way, Newport, Wales, NP10 8BE

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	**Agree**	
Other comment: Space Forge Ltd are developing a reusable small satellite suited for return to UK territorial waters. This satellite is expected to have a 100x10km (3σ) landing error ellipse and will be targeted for a water landing and capture by a UAV for swift recovery. By 2025 Space Forge is targeting monthly satellite returns and daily by 2030 to execute a business plan that could generate hundreds of high tech Jobs in Wales. The D201 airspace is ideal for this activity due to the geographic location, and so we will require an assured access corridor to this airspace. Due to the uncertainty in the landing zone and variability in wind directions, we require access from to D201 from both the southerly and northernly directions. For the northern access Llanbedr airport is an ideal staging location, however for regular UAV operations an access corridor such as the one proposed here would be required.		
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	**Agree**	
Other comment: Space Forge's UAV recovery system is anticipated to operate above 3000ft AMSL with the prospect of daily flights by 2030 and so the stated air corridor is sufficient.		

3. The design must minimize the impact to other airspace users by activation only when required based on need.		
Your response:	**Agree**	
Other comment: Space Forge activities in this zone for both testing and operational use are expected to be known up to 28 days in advance however the specific timing for a test will be determined by appropriate weather windows.		
4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)		
Your response:	**Agree**	
Other comment:		
5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)		
Your response	**Agree**	
Other comment: The Space Forge satellite capture UAV is expected to operate BVLOS, but with continuous communication for telemetry/telecommand relay.		
6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.		
Your response: Space Forge Ltd will have control over the location that the satellite will land in, but control over the time of landing is limited as windows are subject to orbital mechanics. For example there is expected to be only two landing windows a week that coincides with a landing in the D201 zone would could occur at any time of day. Therefore ideally we would not like		

constraints on access times as it would limit the number of landing opportunities and hence risks to the mission.
7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design
Your response Space Forge has no comment in this area.
8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.
Your response Space Forge has no comment in this area.
9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?
Your response Space Forge has no comment in this area.
10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.
Your response please provide details. Space Forge has no comment in this area.

25 MOD

MOD

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	**Agree**	
The safety of any airspace users contained within segregated airspace should not be to the detriment of other airspace users. With the volume of flying from RAF Valley set to increase the MOD would have to scrutinize any design options to fully understand the impact this will have on MOD activity and whether there is any increased risk to life.		
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	**Agree**	**Disagree**
Due to the wording of this design principle, this is difficult to respond to without further information. If a DA was approved, the MOD would be expecting to see the DA as small as possible whilst ensuring maximum access to all airspace users. Depending on design options, the medium level 4 FTS activity may be impeded. The area is used by Texan T1 with a base of 4000ft and Hawk T2 with a base of 5000ft. Furthermore, low level sorties are common. Flying training is key to MOD output with an anticipated increase of 81% by 2022/23. The MOD understand that access to D201 is a key enabler, however, the MOD would require confirmation on how they would operate and, if intending to utilise the MOD airspace what facilities they would require If there is a requirement to operate in the 201 complex regularly we would expect agreement through an LOA, similar to WWA, or as contracted through QQ/DE&S NB: EG D201 – DE&S QQ use would have to be paid for any additional services – ATS/Equipment etc.		
3. The design must minimize the impact to other airspace users by activation only when required based on need.		
Your response:	**Agree**	

As with any airspace booking or DA activation, it should be planned for the minimum amount of time / area used as possible, to enable flexibility for all airspace users.

MOD would be keen to ensure appropriate LOAs were a condition of any approved DA.

There is a wide range of activity within D201 (as listed in the AIP). The MOD would be keen to ensure that proposed adjacent Das would not have any impact on the operations contained within D201.

4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)

Your response:	**Agree**	

MOD would be keen to understand how safe access to airspace would be achieved. RAF Valley do not have sufficient radar coverage, furthermore, the MOD would be interested to understand how the provision of ATS around/in the DA (as required) could be achieved.

The MOD are keen to support FUA principles.

5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)

Your response	**Agree**	

Evolving UAS policy should be considered as this ACP progresses.

The MOD would be keen to understand how a DA (bridge) is sufficient from a safety case perspective for all different UASs.

The MOD would be keen to understand how safe delivery of DACS could be provided. Would this be with a FISO? If there is an intention to ask QQ (providers of ATS at Aberporth), the MOD request early engagement.

6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.

RAF Valley operations and low-level flying system are primarily in day light hours and published in the AIP.

Weekend operations would have negligible impact on MOD operations.

7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design
N/A
8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.
N/A
9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?
N/A
10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.
N/A

26 Whizzard Helicopters

QUESTIONNAIRE IN RELATION TO: Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation:

(Please insert details of the Organisation you are replying on behalf of)

WHIZZARD HELICOPTERS

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	**Agree** **YES**	**Disagree**
Other comment: **It makes perfect sense to have a permanent DA activated by NOTAM**		
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	**Agree YES**	**Disagree**
Other comment: **We have no experience of the size and nature of airspace required by UAV's but presume the machines can occasionally be erratic in their flight path. DA's do not need to be circular or square, and if the test flights are primarily over the sea, when active does the DA actually need to be 5nm inland and so potentially restrict the movement of other aircraft… ?**		
3. The design must minimize the impact to other airspace users by activation only when required based on need.		

Your response:	**Agree YES**	**Disagree**
Other comment: **This is probably the crux of the matter. If there might be 20 weeks of trials, with 5 to 20 test flights during each of those weeks, the question is how to ensure that the airfield/airspace is only closed to other bona fide users when a UAV is actually airborne.** **RDT&E organisations should be educated from the outset that they will not be the only users, and that rather than block booking slots which may not in fact be usitlised, liase through the FISO so that other airfield operations can continue.**		
4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)		
Your response:	**Agree YES**	**Disagree**
Other comment:		
5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)		
Your response	**Agree YES**	**Disagree**
Other comment:		
6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.		
Your response **None known**		
7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design		

Your response

Apart from the observation in 2 above, the design itself will have little impact.

Two points:

1. **If a UAV is operating out in Area C, will Area A be open to allow fixed wing circuit traffic, or helicopter departures to the East ?**
2. **Is it the case that all UAV activity in Area A will prohibit any other aviation activity in Area A? Or will some RDT&E be of such a nature that e.g helicopter departure/arrivals to/from the East could occur? I'm reminded of that occasion last summer when (so I'm told) the airfield was closed for 2 hours during which time a UAV lifted to 4' for 5 minutes. Could communication between the operators, the FISO, and the RDT&E organisation itself, be allowed to conclude that other/certain airfield activities could occur at the same time ?**

8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.

Your response

Not known, but the inland design of the DA may have an effect.

9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?

Your response

None known

10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.

Your response please provide details.

Other than the observation in point 2, no. Rather than the design itself, for us it is the activation of the DA in a way that allows all of us with bona fide operational needs to work together in a way conducive to commercially viable and safe aviation activities.

As mentioned in the response to the activities of Valley, for us, having as much advanced warning as possible, particularly if those airborne trials are going to be extensive, would be helpful in our operational planning.

27 Skydive Snowdonia

QUESTIONNAIRE IN RELATION TO: Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation:

(Please insert details of the Organisation you are replying on behalf of)

SKYDIVE SNOWDONIA

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	**Agree** **YES**	**Disagree**
Other comment: **It makes perfect sense to have a permanent DA activated by NOTAM**		
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	**Agree YES**	**Disagree**
Other comment: **We have no experience of the size and nature of airspace required by UAV's but presume the machines can occasionally be erratic in their flight path. DA's do not need to be circular or square, and if the test flights are primarily over the sea, when active does the DA actually need to be 5nm inland and so potentially restrict the movement of other aircraft… ?**		
3. The design must minimize the impact to other airspace users by activation only when required based on need.		
Your response:	**Agree YES**	**Disagree**

Other comment: **This is probably the crux of the matter. If there might be 20 weeks of trials, with 5 to 20 test flights during each of those weeks, the question is how to ensure that the airfield/airspace is only closed to other bona fide users when a UAV is actually airborne.** **RDT&E organisations should be advised from the outset that they will not be the only users, and that if a jump plane is airborne they will be requested to wait until the parachutists are confirmed landed. (Should be easy enough to co-ordinate this through the FISO and the Chief Instructor)**		
4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)		
Your response:	**Agree YES**	**Disagree**
Other comment:		
5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)		
Your response	**Agree YES**	**Disagree**
Other comment:		
6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.		
Your response **None known**		
7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design		
Your response		

Apart from the observation in 2 above, the design itself will have little impact. **Parachutists will always be exiting the aircraft within Area A, and generally in the SW quadrant of Area A based on prevailing winds.** **Parachuting with UAV's airborne will not occur, so again it's all to do with effective communication on the day to maximise the use of the airspace.**
8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.
Your response **Not known, but the inland design of the DA may have an effect.**
9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?
Your response **None known**
10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.
Your response please provide details. **Other than the observation in point 2, no. Rather than the design itself, for us it is the activation of the DA in a way that allows all of us with bona fide operational needs to work together in a way conducive to commercially viable and safe aviation activities.** **As mentioned in the response to the activities of Valley, for us, having as much advanced warning as possible, particularly if those airborne trials are going to be extensive, would be helpful in our operational planning. Tandem skydives are often booked months in advance.**

28 Snowdonia Flight School

QUESTIONNAIRE IN RELATION TO: Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation: Snowdonia Flight School

(Please insert details of the Organisation you are replying on behalf of)

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	**Agree Yes**	**Disagree**
Other comment: It is certainly necessary to protect all users of the airspace, but a permanent danger area should only be activated when necessary. There will be times when it is necessary to protect all users of the airspace during experimental unmanned flying, but as far as possible GA should be able to function normally whenever unmanned flying is not actually taking place. The airspace should have different areas to help with this.		
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	**Agree Yes**	**Disagree**
Other comment: The solution needs to be flexible enough to support a variety of unmanned aircraft and manned aircraft.		
3. The design must minimize the impact to other airspace users by activation only when required based on need.		
Your response:	**Agree Yes**	**Disagree**
Other comment: This is very important and I would like to see efficient use of the airspace (thus limiting impact on other users) along with safety being the driving forces behind any solution.		

4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)		
Your response:	**Agree Yes**	**Disagree**
Other comment: See previous comments.		
5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)		
Your response	**Agree Yes**	**Disagree**
Other comment: None		
6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.		
Your response: You mention night time, I do not believe that the facilities at the airfield lend themselves to night operations for unmanned aircraft and this posses many challenges that are some way off from overcoming. So, I would not recommend night use for this proposal just yet. **Also, it would seem sensible given the experimental nature of the unmanned aircraft to limit the operations to weekdays 9am to 5pm, such that if an accident where to happen there would be good availability of emergency services.**		
7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design		
Your response **General Aviation in Wales and in the UK is suffering, and in north and mid Wales is almost extinct. The flight school at Hawarden ceased to exist in 2019, Welshpool is exceptional limited, Mona operates on a very part-time basis and Aberporth has no flight school. I am biased for sure as I run Snowdonia Flight School located at Llanbedr, but if the flight school is unable to get enough volume of flight time then it will follow a sad pattern of being another closed flight school statistic. So efficient use of airspace and sufficient**		

priority to general aviation and the local flight school is key. I think policies and procedures need to be developed around separation by distance and time rather than airfield closure to general aviation.

8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.

Your response

I believe you can consider 3 axis microlight flying as similar in many ways to general aviation and powered aircraft. However, I struggle to see how the mix of unmanned aircraft, general aviation and military would work well with gliding, hang gliding, paragliding or model flying. I honestly don't believe you can safely operate with such a wide mix of flying types. For example, at Old Warden where I was based, Model Flying and General Aviation were not allowed to mix at the same time, it was one or the other. I believe the task to handle GA (airplanes and helicopters), Military and Drones together will be a significant challenge without adding these further types of flying.

9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?

Your response

There are many quiet residential areas near the airfield that object to noise, many people have moved to the area for peace, quiet and the picturesque countryside. I frequently receive complaints when the Texan Military aircraft from RAF Valley is flying from residents in Criccieth, Pwllheli, Harlech, Dyffryn etc. so I do believe due consideration is necessary to residents. I find that most residents are reasonable so long as the noise is not too bad and ceases to exist for long periods.

10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.

Your response please provide details.

I have noticed that there is no mention or consideration towards a parachuting operation on site at Llanbedr, perhaps this is no longer on the agenda, but if not, due consideration should be given to this type of operation.

Whilst I support the principle of using Llanbedr for unmanned aircraft business, I believe this should not be at the expense of General Aviation and therefore the outcome needs to

support general aviation or for north and mid Wales this would be very sad leaving only Caernarfon as the only real full time facility.

29 Gwynedd Council

QUESTIONNAIRE IN RELATION TO: Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation:

(Please insert details of the Organisation you are replying on behalf of)

Gwynedd Council

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	**Agree**	**Disagree**
The Statement of need predicates the need for this airspace change on the use of the airfield for the development of novel aircraft. It is creating the conditions for this civil use of the site which we as an authority have committed to support (in order to create high value jobs in the locality), and therefore agree that the change in airspace facilitates the future development of the facility. As a safety requirement, the establishment of this airspace change is necessary.		
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	**Agree**	**Disagree**
Other comment: **No comment**		
3. The design must minimize the impact to other airspace users by activation only when required based on need.		
Your response:	**Agree**	**Disagree**
Other comment:		

No comment		
4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)		
Your response:	**Agree**	**Disagree**
Other comment: **No comment**		
5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)		
Your response	**Agree**	**Disagree**
Other comment: **No Comment**		
6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.		
The opinion of the local Community Councils is clearly important in this matter, but we would remind the CS that all relevant Public Protection requirements must be met (in terms of noise levels etc), and planning issues discussed with Snowdonia National Park Authority **Public Protection issues should be discussed in detail with the relevant Gwynedd Council officers**		
7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design		
Your response **No Comment**		

8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.
Your response **No comment**
9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?
The opinion of the local Community Councils on this matter is clearly important in this issue but would remind the CS that all relevant Public Protection requirements must be met (in terms of noise levels etc), and planning issues discussed with Snowdonia National Park Authority **Obvious noise sensitive areas would include relevant settlements and noise sensitive properties in the vicinity of the airfield, and potentially nature conservation areas.** **Public Protection and Bio-diversity issues should be discussed in detail with relevant Gwynedd Council officers**
10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.
Our key economic concern is that any developments enhance the development of the site as a centre of excellence for novel aircraft and space technology development. In particular the proposed improvements to be made to site infrastructure through secured European funding, for which Gwynedd Council is acting as Lead Body

30 ARPAS UK

Dear David,

Following our telephone conversation just now,I can confirm that the ARPAS UK official response to Snowdonia Aerospace ACP requests for an ATZ and a DA are that we support them on the grounds they enhance safety for airspace users in the area. We have no additional comment beyond that, at this stage.
kind regards

[redacted]

31 Vertical Aerospace

QUESTIONNAIRE IN RELATION TO:
Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation:

Vertical Aerospace Ltd

Registered address: 140-142 Kensington Church Street, London, England, W8 4BN

Engineering Locations: Bristol and Oxford

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	**Agree**	~~**Disagree**~~
Other comment:		
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	**Agree**	~~**Disagree**~~
Other comment: For our larger test aircraft we may require ~ 20 km straight run for some tests		
3. The design must minimize the impact to other airspace users by activation only when required based on need.		
Your response:	**Agree**	~~**Disagree**~~
Other comment:		

4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)		
Your response:	**Agree**	~~**Disagree**~~
Other comment:		
5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)		
Your response	**Agree**	~~**Disagree**~~
Other comment: We fully support Conformity, Simplicity and Safety.		
6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.		
Your response We are unlikely to be performing night flights in the near future, however dawn/dusk are often favorable due to wind conditions.		
7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design		
Your response Based on previous experience on site, we are willing to work around and with other GA operations.		
8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.		

Your response Insufficient local knowledge to provide comment.
9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?
Your response Insufficient local knowledge to provide comment.
10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.
Your response please provide details. Consider the erecting of temporarily masts for RF telemetry/control links. Conspicuity of other airspace used that may encroach the DA during activation would be beneficial.

32– 35) Dronamics Global Ltd / Auriga Aerospace Ltd / Windhorse Aerospace Ltd. / AveAlto Ltd

QUESTIONNAIRE IN RELATION TO: Llanbedr Aerodrome (Danger Area) ACP-2019-58

Representative Organisation:

Dronamics Global Ltd

Auriga Aerospace Lts

Windhorse Aerospace Ltd

AveAlto Ltd

1. The design of airspace is appropriate due to the need described and in order to provide a safe environment for airspace users. (See: Statement of Need.)		
Your response:	**Agree YES**	**Disagree**
Other comment: The proposed airspace will be a great benefit as it allow ease of access to regular flight testing which will reduce admin effort for all test programs. SA will be able to provide airspace deconfliction.		
2. The design must allow access to sufficient area to accommodate the wide range of anticipated different types of air vehicle requiring to use it for the range of RDT&E purposes, but could be sub divided		
Your response:	**Agree YES**	**Disagree**
Other comment: The proposed airspace provides the minimum area to allow sensible testing. Ideally altitude should be increased to 4000-6000 ft, but that is not essential. Would prefer airspace not to be sub-divided or at least restricted when large, slow flying air vehicles are testing		

3. The design must minimize the impact to other airspace users by activation only when required based on need.		
Your response:	**Agree**	**Disagree YES**
Other comment: Airspace should be permanent to allow testing on a short notice basis. Having to plan testing based on NOTAM and Met requirements can hamper test programs. For long endurance/multiple day flights – any restrictions will have to remain in place anyway to allow for possible early return to base situations This would allow small modifications and operational scheduling to be tested. Some of the air vehicles to be tested are relatively slow moving and cannot obey air law, so there will be an unavoidable impact to other air users. There should be		
4. The airspace should be as accessible as possible to other users and be managed in accordance with Flexible Use of Airspace (FUA) principles as far as is practicable (Efficiency and Airspace Sharing)		
Your response:	**Agree Yes**	**Disagree**
Other comment: Provided adequate control of airspace is demonstrated due to the slow flying nature of some of the air vehicles to be tested, as these cannot readily manoeuvre to avoid other air traffic		
5 The design should be in accordance with current airspace regulation and use a pre existing designation of airspace with established parameters (Conformity, Simplicity and Safety)		
Your response	**Agree YES**	**Disagree**
Other comment:		

6. Please let us know if there are any day time or night time constraints that you consider the CS could take into account when making this application.
Your response Some of the air vehicles, on long endurance flights will require airspace to fly and land at night. Airspace will also be required in all weather conditions.
7. Please provide any details of any issues or constraints due to local General Aviation Operations that you believe may have an impact on the airspace design
Your response Several of the aircraft we are proposing to fly from SA will be either large, slow moving air vehicles, or single use gliders, that are not readily available to manoeuvre and will not be able to comply with air law.
8. Please provide details of any constraints the introduction of this design may have on gliding, microlight flying, hang gliding, paragliding or model flying.
Your response None
9. Are there any local development projects, or existing particularly noise sensitive areas, that the CS should be aware of?
Your response
10. Please advise us of any other issues or constraints you feel the CS could consider when designing its new airspace.
Your response please provide details.

Company	Aircraft	Type	Max Op Alt		Hangarage	Low alt/short test Flights	BVLOS	Access to D201
Dronamics Global Ltd	MALE Cargo delivery UAS	Black Swan	20000ft		Yes	Yes	Yes	Yes
	1/4 scale UAV				Yes	Yes	Yes	Yes
Windhorse Aerospace Ltd	Aid Delivery Glider	Pouncer	20000ft		Yes	Yes	Yes	Yes
Windhorse Aerospace Ltd	Powered aid Delviery UAS	Powered Pouncer	6000ft		Yes	Yes	Yes	Yes
Auriga Aerospace Ltd	Solar powered HAPS		66000ft		Yes	Yes	Yes	Yes
Avealto Ltd	LTA High Alt comms Platform	AHAP	72200		Yes	Yes	Yes	Yes

Company	Long endurance flights	high altitude flights	op envelope testing	all weather flying	multiple aircraft operational	Interaction with ATC	Other
	Requirement for SA						
Dronamics Global Ltd	Yes	Yes	Yes	Yes	Yes	Yes	
	Yes	Yes	Yes	No	Yes	Yes	
Windhorse Aerospace Ltd	Yes	Yes	Yes	No	Yes	Yes	needs to be air dropped
Windhorse Aerospace Ltd	Yes	Yes	Yes	No	No	Yes	
Auriga Aerospace Ltd	Yes	Yes	Yes	No	No	Yes	
Avealto Ltd	Yes	Yes	Yes	No	No	Yes	specialist hangar required

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[redacted]
Snowdonia Aerospace LLP

Llanbedr Airfield, Llanbedr, Wales, LL45 2PX

13 July 2020

Re: **Air Space Change application for reinstatement of ATZ and new Danger Area for BVLOS flight at Llanbedr**

[redacted]

As a regular user of Llanbedr airfield for Unmanned Air Vehicle (UAVs) flight testing I am delighted to hear that you are applying for permanent reinstatement of an airfield ATZ and a new Danger Area that would be suitable for Beyond Visual Line of Sight (BVLOS) operations.

From the perspective of the MAGMA research programme (60kg jet powered UAV, novel flight controls), the ability to fly beyond line of sight within a designated danger area over water greatly expands the available flight test envelope compared to current flight restrictions at Llanbedr and an increase in ceiling altitude of up to 6000' will for example allow us to test stall and spin characteristics for the first time. Furthermore, the customer for the present work is ultimately interested in testing of larger and much higher performance vehicles, for which BVLOS test capability is essential from first flight forwards.

From the perspective of the EPSRC CASCADE programme ('Drones *are* the infrastructure'), the ability to evaluate the tools and technologies needed to scale up operations from one pilot-one drone – line of sight operations to one commander – many drones – beyond line of sight operations is a critical part of the research. Provision of a permanent ATZ and routine BVLOS capability at Llanbedr will be instrumental in allowing cost effective flight demonstration of innovations developed in the UK research community, allowing Wales to compete with similar test capabilities emerging in the South of the UK and internationally.

I wish for a successful outcome to your application and look forward in anticipation to the new capabilities that Llanbedr will be able to offer the UAV flight test community in the near future.

Yours sincerely,

[redacted]

Manchester University Magma Flight Plan – see next pages 104 -106.

MAGMA - Flight Plan

Example flight plan for sortie from Llanbedr Runway 23, exit Llanbedr ATZ and perform 4 experiments to the south-west, before returning to ATZ, transitioning to visual line of sight.

MAGMA Flight Characteristics

Cruise Speed	40 m/s (90 mph)
Cruise Fuel Consumption[1]	450 mL/min
Maximum Fuel Consumption	650 mL/min
Maximum Fuel on Board	8 L
Mission Distance	34.6 km
Expected Mission time	14.4 min
Expected Fuel Usage	7 L
Reserve Fuel	1 L
Reserve Flight Time	2.2 min

Figure 1 – View of entire sortie 3D path

Figure 2 – Bird's eye view with waypoint distances

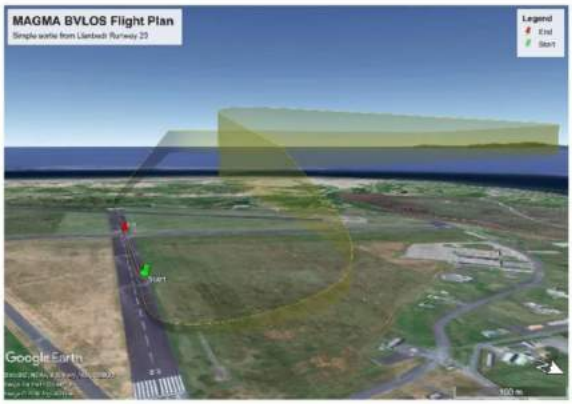

Figure 3 – Take-off and landing pattern

Figure 4 – Loiter for Transition

[1] Fuel consumption data: http://www.hawkturbine.com/FuelFiguresxxx.htm

Flight Stages

Waypoints	Altitude (feet)	Distance (km)	Time (min)	Stage
1-2	0	3.9	1.6	Take off
At WP2				Transition to Autopilot
2-3	2000	7	2.9	Experiment: Fluidic thrust vectoring at full throttle
3-4	2000	7	2.9	Experiment: Circulation control roll test
4-5	2000	6	2.5	Experiment: Circulation control yaw test
5-6	2000	6	2.5	Experiment: Split drag rudders yaw test
At WP6				Transition to Visual Line of Sight (VLoS) Pilot
6-11		4.7	2.0	Approach
Total		34.6	14.4	

Cases

Missed Approach	The 2.2 min of flight time gives enough time for a go around.
Autopilot transition	All transitions will be performed over the sea, within Llanbedr ATZ. Potential out of trim state could make aircraft momentarily unpredictable to other aircraft, hence within restricted ATZ and over the ocean.
Signal from transmitter not received	Aircraft will loiter as seen in Figure 4, within ATZ.

Time (min)	Flight state	Fuel Consumption (mL/min)	Cumulative Fuel Consummed (mL)	Expected Speed (m/s)	Distance (m)	Distance (km)
0.5	Take off	650	325	30	900	0.9
1	Take off	650	650	30	1800	1.8
1.5	Take off	650	975	30	2700	2.7
2	Take off	650	1300	30	3600	3.6
2.5	Cruise	450	1525	40	4800	4.8
3	Cruise	450	1750	40	6000	6
3.5	Cruise	450	1975	40	7200	7.2
4	Cruise	450	2200	40	8400	8.4
4.5	Cruise	450	2425	40	9600	9.6
5	Cruise	450	2650	40	10800	10.8
5.5	Cruise	450	2875	40	12000	12
6	Cruise	450	3100	40	13200	13.2
6.5	Cruise	450	3325	40	14400	14.4
7	Cruise	450	3550	40	15600	15.6
7.5	Cruise	450	3775	40	16800	16.8
8	Cruise	450	4000	40	18000	18
8.5	Cruise	450	4225	40	19200	19.2
9	Cruise	450	4450	40	20400	20.4
9.5	Cruise	450	4675	40	21600	21.6
10	Cruise	450	4900	40	22800	22.8
10.5	Cruise	450	5125	40	24000	24
11	Cruise	450	5350	40	25200	25.2
11.5	Cruise	450	5575	40	26400	26.4
12	Cruise	450	5800	40	27600	27.6
12.5	Cruise	450	6025	40	28800	28.8
13	Cruise	450	6250	40	30000	30
13.5	Cruise	450	6475	40	31200	31.2
14	Cruise	450	6700	40	32400	32.4
14.5	Landing	300	6850	35	33450	33.45
15	Landing	300	7000	35	34500	34.5

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