Snowdonia Aerospace Airspace Change Proposal (Stage 4B), ACP-2019-58 Llanbedr Aerodrome Danger Area(DA)

Annex 5 – Draft ANSP Concept of Operations

Snowdonia Aerospace LLP, Enterprise House,
Southwell Park, Portland, Dorset, DT5 2NA

VAT NO. 139 5308 03 | Registered in England Number OC 335994

Document Details

Approval Level	Name	Authorisation
Author		Consultant
First reviewer		Airfield Manager
Second reviewer and release authorisation		Chief Executive

Issue	Amendment Details	Date
1.0	First formal release	8th February 2021

Table of Contents

1. Draft ANSP Concept of Operations

The full suite of ANSP documents, including the Concept of Operations (CONOPS), was audited by the CAA on 20th March 2020. The extant CAA Competent Authority Service Provider Certificate UK/2020/00108 is attached in Annex 4. The CONOPS has now been updated to address the proposed permanent Danger Area as a result of ACP-2019-58. The CONOPS is currently marked as “DRAFT” pending processing via the SAC ANSP Change Management System.

LLANBEDR ANSP

CONCEPT OF OPERATIONS (CONOPS)

THIS IS A REVISION DOCUMENT AND IN DRAFT

Document Ref:	Llanbedr CONOPS
Version	Issue 2.0 draft
Date	03 February 2021
Document Owner:	Llanbedr Aerodrome Manager
Document Editor:	Llanbedr Aerodrome Manager

This Manual is subject to regular review and approval by the Document Owner and Document Editor. It is managed under the Snowdonia Aerospace LLP document control system.

Address:
Snowdonia Aerospace LLP
Llanbedr Aerodrome
Llanbedr
Gwynedd
Wales, UK
LL45 2PX
www.snowdoniaaerospacecentre.com

1. CONTENTS

2. PREFACE

The purpose of this Manual is set out the goals and objectives of having, and maintaining, a Flight Information Service at Llanbedr Aerodrome. In so doing it sets out some of the wider aims and ambition Snowdonia Aerospace Centre (SAC) has for the aerodrome.

The document will reference the organisation, its activities and interactions among participants and stakeholders. It states responsibilities and describes the functioning ATS system.

It is a narrative of who we are, what we do, with what, and to an extent how we do it although the real detail of the ANSP is contained in the suit of documentation listed below.

- Llanbedr Aerodrome Manual
- Llanbedr Aerodrome Safety Management Manual
- Llanbedr Aerodrome Change Management Manual
- Llanbedr Aerodrome ANSP MAFIS Vol 1
- Llanbedr Aerodrome ANSP MAFIS Vol 2
- Llanbedr Aerodrome Quality Management Manual
- Llanbedr Aerodrome Security Manual
- Llanbedr Aerodrome Unit Training Plan
- Llanbedr Aerodrome Maintenance Exposition
- Llanbedr Aerodrome Wildlife Hazzard Management Manual
- Llanbedr Aerodrome Operating Standing Instructions

3. ADMINISTRATION

3.1 Change History

Changes to this document must be conducted in accordance with Snowdonia Aerospace Centre Document Control procedures as detailed in the SAC ANSP Safety Management System Manual.

Permanent changes will be promulgated through the issue of a new edition.

Version	Date	Description	Produced by	Reviewed by
Draft V1.0	8 January 2020	1st Draft requested by CAA for ANSP	DY	MJ
Issue 1.0	17 January 2020	1st Issue	MJ	DY
Issue 2.0	3rd February 2021	DRAFT for issue on approval of ACP-2019-58	DY	

Distribution List	Job Title	Soft Copy	Hard Copy
SAC, Head Office	CEO	✓	
SAC	Aerodrome Manager	✓	
SAC	Assistant Operations Manager	✓	
Llanbedr Aerodrome	Visual Control Room		✓
CAA, SARG, Gatwick	RMATSSR (S),	✓	

NOTE: The "Master Copy" is treated as a controlled document. It is the responsibility of the reader to confirm the document held is at the appropriate issue state. All copies printed from electronic sources and those indicated as "soft copies" are uncontrolled with the exception of any documents held at ATS operational control positions (in accordance with MATS part 1 (Section 8, Chapter 1) which shall be printed from the Master Copy and controlled via local document control procedures. Such documents will be marked as 'controlled'.

3.2 Amendment Procedure

The editor of this document is the Llanbedr Aerodrome Manager on behalf of SAC. It will be reviewed when necessary or required. All proposals for amendment and enquiries regarding editorial content should be addressed to the editor of this document using the Operational Change Safety Analysis.

3.3 Abbreviations

Glossary of Terms - A number of common acronyms are used throughout this Manual; these and others are included in the list below.

Term	Definition
<	Less than
>	More than
°	degrees
ACP	Airspace Change Proposal
AD	Aerodrome
Admin	Administrative / Administration
AFISO	Aerodrome Flight Information Service Officer
AFPEx	Assisted Flight Planning Exchange
AIC	Aeronautical Information Circular
AIP	Aeronautical Information Publication
AIRMET	Airman's Meteorological Information
AIRPROX	Aircraft Proximity Report
AIS	Aeronautical Information Services
amsl	above mean sea level
ANSP	Air Navigation Service Provider
AOC	Air Operator Certificate
APAPI	Abbreviated Precision Approach Path Indicator
ARCC	Aeronautical Rescue Co-ordination Centre
ARR	AFPEX Arrival Message
ASR	Altimeter Setting Region
ATD	Actual Time of Departure
ATE	Air Traffic Engineering
ATS	Air Traffic Services
ATSOCAS	Air Traffic Services Outside Controlled Air Space
ATSU	Air Traffic Service Unit
ATZ	Aerodrome Traffic Zone
AUTO	Automatic
BT	British Telecom
CAA	Civil Aviation Authority
CACC	Civil Aviation Communication Centre
CAP	Civil Aviation Publication

Term	Definition
CH	Channel
CNL	AFPEX Cancellation Message
DEP	AFPEX Departure Message
DfT	Department for Transport
DME	Distance Measuring Equipment
Doc	Document
DPI	Differential Pressure Indicator
DVD	Digital Versatile Disc
e.g.	For example
ETA	Estimated Time of Arrival
ETD	Estimated Time of Departure
FIR	Flight Information Region
FL	Flight Level
FPL	Flight Plan
FPS	Flight Progress Strip
g/m3	Grams per cubic metre
hPa	Hectopascals
H24	24 hours
HH	Hour (time)
HO	Head Office
i.e.	That is
ICAO	International Civil Aviation Organisation
ICOM	ICOM Incorporated (radio equipment manufacturer)
IFPS	Integrated Initial Flight Plan Processing System
IFR	Instrument Flight Rules
IT	Information Technology
LAIR	Llanbedr Aerodrome Incident Report
LHS	Left Hand Side
LoA	Letter of Agreement
Ltd.	Limited
MAFIS	Manual of Flight Information Services
MATS	Manual of Air Traffic Services
MAYDAY	Distress Call
MEHT	Minimum Eye Height Over Threshold
Met	Meteorological (or Meteorology)
METAR	Meteorological Routine Report (Aviation)
MHz	Megahertz
MLO	Meteorological Liaison Officer
MMS	Meteorological Monitoring System
MOR	Mandatory Occurrence Report
MoU	Memorandum of Understanding
MSA	Minimum Sector Altitude
MT	Motor Transport
NATS	National Air Traffic Services Ltd

NAVAID	Navigation Aid
Term	**Definition**
nm	nautical miles
No.	Number
NOTAM	Notice to Airmen
NWP	Numeric Weather Prediction
OAT	Operational Air Traffic
OJT	On the Job Training
OJTI	On the Job Training Instructor
OOH	Out of Hours
OIC	Officer in Charge
PAB	Precision Aneroid Barometer
PAN PAN	Urgency Call
PANS	Procedures for Air Navigation Services
PC	Personal Computer
POB	Persons on Board
PPR	Prior Permission Required
QFE	Atmospheric Pressure at Aerodrome Elevation - Reads Height
QNH	Atmospheric Pressure at Sea Level - Reads Altitude
RAC	Rules of the Air and Air Traffic Services
RAF	Royal Air Force
RFFS	Rescue and Fire Fighting Service
RMATSSR	Regional Manager (ATS) Safety Regulation
RPAS	Remotely Piloted Aerial System
RPL	Repetitive Flight Plan
RTF	Radio Telephone
RVP	Rendezvous Point
RWY	Runway
SA	Snowdonia Aerospace LLP
SAC	Snowdonia Aerospace Centre
SAR	Search and Rescue
ScOACC	Scottish Oceanic and Area Control Centre
SI	Supplementary Instruction
SIGMET	Significant Meteorological Information
SMS	Safety Management System
SNOWTAM	Snow Condition NOTAM
SRG	Safety Regulation Group
TAF	Terminal area forecast
TDA	Temporary Danger Area
Tel	Telephone
TEPR	Telecommunications Engineering Problem Report
TOI	Temporary Operating Instruction
UAS	Unmanned Aircraft System
UAV	Unmanned Aerial Vehicle
UHF	Ultra-High Frequency
UK	United Kingdom

UTP	Unit Training Plan
VAAC	Volcanic Ash Advisory Centre

Term	Definition
VCR	Visual Control Room
VFR	Visual Flight Rules
VHF	Very High Frequency
VOR	VHF Omni-Directional Radio Range

4. INTRODUCTION

4.1 The Aerodrome

Llanbedr Aerodrome is a former Ministry of Defence establishment located on the coast of Cardigan Bay in the County of Gwynedd, North Wales. It is situated within the Snowdonia National Park near the village of Llanbedr, Gwynedd.

The 563-acre site was purchased by the Welsh Assembly Government in 2004, and subsequently sold to Llanbedr Aerodrome Estates LLP (LAE) under a 125-year leasehold arrangement.

LAE rebranded as Snowdonia Aerospace Centre in 2015 and effected a company name change to Snowdonia Aerospace LLP.

The Aerodrome was designated an Enterprise Zone in 2013 and is seen as an important asset for Wales in relation to the strategic government aims for aerospace.

Following the issue (in relation to Unmanned Aerial Systems (UAS)) of a Certificate of Lawful Use by the Snowdonia National Park Planning Authority, and the growing focus on this market sector, it is intended that the aerodrome will be operated principally as a specialist establishment for the research development and testing of Remotely Piloted Aircraft Systems (RPAS), or drones.

Planning consent matters are covered in the Aerodrome Manual.

Currently the aerodrome is unlicensed, but SAC have applied to the CAA for an aerodrome licence.

ACP-2019-58 an application for a permanent Danger Area is in progress and this new issue of the CONOPS is in anticipation of approval of the new airspace design.

In this draft the majority of references to the previous TDA have been removed to avoid confusion. Any use of the TDA prior to approval of the DA will rely on the extant documentation.

5. OPERATIONS

5.1 Traffic Profile

The Aerodrome is multi-use, but the primary commercial activity is in support of Remotely Piloted Air Systems (RPAS) / Unmanned Aerial Systems (UAS) hence the ACP application referenced above. There is a flying school, Fly Snowdonia, and a number of resident aircraft. A contract being negotiated with MOD led to an ATZ ACP-2020-02 but this is currently paused at the request of RAF. The original contract with MOD would have led to approximately 4,000 fast jet movements at the airfield in the first year of operation commencing as soon as 1st April 2020. Subsequent increases in movements were projected by the RAF at 5,000 and 6,000 movements in year two and three respectively. To date, February 2021, there has been no indication from the RAF of a desire to revisit the proposed contract and there is no fast jet military activity at Llanbedr. A mix of helicopter traffic uses the aerodrome including SAR, Police, air ambulance and military.

The aerodrome is also being developed for space research with capability to launch satellites and drones.

5.1.1 Air Traffic Service

The Control Tower was re-equipped in 2015 with state of the art equipment commensurate with the provision of an AFISO service – initially to prove the concept during an Initial Operating Capability (IOC) but with a view to becoming a permanent operation and with the potential to be developed into the provision of a full air traffic control service should circumstances prove that this is required. ANSP SafeSkys provided a FIS from May 2015 until October 2019. The original grant of the VHF Radio Licence to SAC was in September 2014 with a designated operational coverage (DOC) of 14nm and 6,000ft. SAC gained ANSP approval in March 2020 and provide a FIS as required.

5.1.2 The Objective of establishing a SAC ANSP

The decision for SAC to make an application for ANSP was made in September 2019 and the submission made. The SafeSkys ANSP function at Llanbedr ended October 11th, 2019 when [redacted] closed the watch at 17:00. [redacted] had been Senior AFISO at Llanbedr for four years.

The reason for the end of service under the SafeSkys / Air Partner ANSP was largely circumstantial. What is of importance is that SAC has great ambition for Llanbedr which is a unique aerodrome with a potential varied mixture of traffic and activity and the SAC Partners felt we would be better served by becoming an ANSP in our own right.

Management is concentrated totally on the one aerodrome and is able now to address all operational matters in conjunction with staff, with all stakeholders and customers to ensure as the ANSP that we are meeting our obligations fully yet able to respond dynamically to developments which at an aerodrome that is dedicated to RTD&E could be vital. We are particularly interested in the future of ATM and UTM and will work with

technology specialists and CAA in this regard. We have agreed to provide a DAAIS for the activation of the proposed new airspace DA (ACP-2019-58) and in order to do so we must maintain the ANSP certificate and permission through the CAA audit process.

5.1.3 SAC ANSP Approval.

The SAC new ANSP Certificate was issued in March 2020 and the commencement of a FIS on a Greenfield basis commenced immediately in time to support a BVLOS drone trial.

5.1.4 Danger Area Activity Information Service (DAAIS)

Currently SAC provide a DAAIS when the TDA is promulgated and use Temporary Operating Instructions to address matters specific to the Operational Safety Case of users.

SAC have agreed with the approval of a new permanent DA to provide a DAAIS when the airspace is NOTAM active and have initiated change process. This requires a review of all ANSP documentation including this CONOPS.

The airspace management policy described in the ACP-2019-58 will be reviewed in detail with the FISOs in June/July 2021. A DAAIS is the name given to the provision of a FIS within a Danger Area and in all respects the extant ANSP is sufficient to provide the service. However, the change process will be followed and FISO workshop/training will consider what scenarios might develop, what calls shall be made, what difficulties may arise etc.

5.2 The Requirement

This requirement section 5.2 was contained in the original SAC CONOPS approved in March 2020 and will be updated summer 2021 to reflect the known situation.

The traffic profile was mentioned above at 5.1. There are two distinct drivers for what will be required.

a) Scenario 1: With a Contract in place for RAF Valley training

b) Scenario 2: Without that Contract

SAC is hopeful we will secure a RAF Contract. The final detail may change but in all probability the requirement will be a FIS Monday to Friday 09:00 – 17:00 local. There are additional requirements that may well delay the start of RAF operations at Llanbedr beyond April 1st 2020.

a) The Aerodrome will need to be licensed

b) The Aerodrome will require an ATZ

c) We will not allow commencement of RAF Training while in Greenfield status.

Additionally, in order to meet the licensed aerodrome requirement, the Company providing the CAT 3 Fire Cover will need to have:

- located the RFFS Vehicle at Llanbedr,
- implemented training, and
- satisfied CAA at a final pre-license audit.

Scenario 1 - the preferred outcome

This scenario will be a great step forward for Llanbedr with the re-introduction of a High CAT RFFS and enabling employment of AFISO to meet the need.

The Aerodrome Manual already makes clear that out of normal published hours of a FIS, pilot's must make blind calls to Llanbedr Traffic but also that the FIS may be extended or an Air Ground Service may be provided.

Llanbedr Aerodrome is PPR only and clear information will be provided in the promulgated PPR information if there is any change in service.

Scenario 2

This will be the scenario if the RAF do not sign a Contract. The aerodrome will revert to a situation where the only requirement for a FIS is during drone trials and in support of other specialist RDT&E activity. In 2019 there were less than 900 GA movements which is woefully inadequate to support any kind of service unless run on a voluntary basis.

SAC propose in this event to provide a FIS in order to maintain the validity of the ANSP and the currency of staff. An Air Ground Service may be provided at other times in the week. Importantly in order to support trials and other commercial activity the FIS will be

extended to meet the customer requirement. In most, if not all, cases there will be a NOTAM issued.

5.3 AFISO Training

Details of the training programme and requirements are set out in the Snowdonia Aerospace Greenfield Unit Training Plan. Although the service provision for the anticipated DAAIS is the same as for the FIS the introduction of new permanent airspace is deemed significant and requires a change management initiative in accordance with the SAC ANSP SMS. A FISO training workshop will take place in summer 2021 and will include running tabletop scenarios of traffic movements / emergency situations etc.

For convenience as it is relevant to the CONOPS the Greenfield Unit Training Plan is copied below.

5.3.1 Hours of work

Because of the interruption of Covid and the extraordinary circumstances CAA agreed a fully flexible approach to FISO hours of work and training. When possible two FISO should attend Llanbedr for Greenfield operations whenever there was likely to be meaningful traffic. By sharing the watch, neither FISO will undertake more than four hours on watch per day and the lunch period can be covered. [redacted], the senior AFISO, employed full time, could work additional periods on his own.

It is anticipated that both FISO will have completed their minimum hours for validation at the Unit in the summer of 2021 and that the SAC ANSP will come out of Greenfield status.

5.3.2 Senior AFISO Training

The Senior AFISO at Llanbedr is [redacted]. He was interviewed specifically with this role in mind. During the development of the new set of documentation for the SAC ANSP he has been involved as a proof-reader and has therefore had the opportunity to study and comment.

From 20th January 2020, on return from vacation [redacted] is tasked to develop an Audit checklist for each manual which will headline all tasks the Senior AFISO must undertake in order to ensure the ANSP functional system remains compliant. The Aerodrome Manger will work with [redacted] in this respect and similarly build a checklist as an everyday reminder of accountability and responsibilities.

The SAC ANSP Consultant, [redacted], and the former Senior AFISO, [redacted] have offered to support with any interpretation or queries.

5.4 Transition to Greenfield and subsequent ANSP approval

The utilisation of the VCR since October 15th, 2019 was exactly as if [redacted] were operating a FIS with the exception of the communications on the VHF and ground net radios which was strictly as permitted for Air Ground communications. The opening of the watch log, runway inspections, recording movements, noting unusual bird activity etc. has been carried out exactly as if [redacted] were a FISO.

The SAC conception of how we were to re-invoke a FIS when granted an ANSP Certificate was described in the Greenfield Training section of the UTP. Essentially, we put the two experienced Llanbedr AFISO on watch for further experience and testing by CAA as required and in compliance with the UTP.

[redacted], as the full-time employee, took on the Senior AFISO role – already in his job description. [redacted] commenced part time work in accordance with the Greenfield Plan.

We anticipate both FISO will validate in the summer of 2021. Once we have CAA validated AFISO they will take on training duties to bring other suitably qualified individuals on board as required. [redacted] has previously been an OJTI.

The FIS required for BVLOS traffic in the DA, and other traffic in the vicinity requires the FISO to use standard terms and phraseology as employed by the Senior FISO when the TDA was active. Non the less a training day and table top exercise is planned for late summer 2021 in preparation for first use of the permanent DA.

5.5 UAS Trials

Unmanned aircraft have been flown at Llanbedr since the 1950's and the most remembered is the unmanned target towing drone, the Jindivik, which completed 7,000 flights between the 1960's and 2004.

Today the term RPAS is now mostly associated with larger platforms flying at altitude under IFR in regulated airspace. The term drone, resisted for so long by UK GOV, is now accepted as the term for most unmanned aircraft. However due to SAC aligning with Gov Policy at the time, most references in SAC Manuals remain as RPAS.

SAC is involved with trial proposals from initial customer contact, though consideration of a Safety Case prior to submission to CAA for approval to the trial itself. Pre-trial the activity is considered again and evaluated as is whether there is a need for the promulgation of a Temporary Operating Instruction within the Manual of Flight Information Services (MAFIS).

Campaigns will generally run from Monday to Friday 09:00 to 17:00 (local) and at other times as notified. This could consist of between a 30 and 90 day deployment, comprising a series of concentrated flying campaigns or trails or just a few days only dependent on technical and weather constraints. Some trails are of only a few days duration and actual flight times short.

It is intended that at all times that a Campaign / Trial is underway a Flight Information Service will be provided by suitably qualified and licensed Aerodrome Flight Information Service Officers (AFISOs).

Under normal circumstances, and unless otherwise notified, there will be no RPAS activity after 17:00 on weekdays or at weekends. When notified and necessary to support a trial outside of normal operating hours, the aerodrome will support with a FIS or an Air Ground Service. At other times too when the FIS is notified as not available an Air Ground Service may be provided.

The nature of RPAS activity is such that no two trials are likely to be the same and so the manuals are not intended to train AFISOs in RPAS operations but instead are intended to train ab initio or experienced AFISOs new to Llanbedr Aerodrome to a standard whereby the Civil Aviation Authority can issue an AFISO licence to the individual.

There could be more than one operator flying in which case a booked slot time procedure may be introduced. As always, effective communications between all parties will enable operators to co-ordinate with the AFISO to take best advantage of time available.

Like most types of aviation, RPAS activity will be weather dependent and will be particularly affected by wind and icing levels.

5.6 RAF Training

Discussion over fast jet training at Llanbedr has taken place over some years. This led to a week trial of Hawks at Llanbedr flying circuits one week in August 2017 and the pressing need for RAF to increase training hours has led to a contract negotiation which was expected to conclude January 2020. Estimated movement numbers are described at 5.1 above.

The concept is that the RAF will fly largely on an opportunity basis, but flights would always be pre-booked. There is no intention to mix Texan aircraft and Hawks in the circuit. It is partly because of the air speed differences that the RAF have looked to export the Hawk flying.

There is also no intention to mix RAF aircraft with drones. Safety Cases for drone operation approved by CAA currently predicate the use of segregated airspace.

It has been agreed that SAC FISO and RFFS will visit RAF Valley for familiarisation training with aircraft types.

Non of the above can progress further until RAF review their business case and advise and therefore it is just not known at the present time if the ACP-2020-02 for an ATZ will be progressed.

5.7 Other aerodrome users

Aerodrome resident aircraft operators are well aware of the principle role of the aerodrome and have concessions based on their understanding that other users will have priority at various times.

To date with VLOS and EVLOS activity and when the TDA was activated the good communications with resident airfield users mostly enabled everyone to plan flying. This should be no different with the activation of the DA.

Aerodrome users are notified by email a week in advance of activity, at 24 hours notice with any revisions and may call the Tower for updates on the flying schedule on any day.

All NOTAM activation will be for minimum times so could well be for example from 08:00 to 11:00 and then 15:00 to 17:00. This affords the opportunity for the flying school and resident aircraft operations. At other times when activated airspace is not to be used for weather or technical reasons them on confirmation from the operator the NOTAM must be cancelled asap. Where it is not appropriate for a NOTAM to be cancelled but the airspace is not being used a FISO may assist a departure with due warning of the probability when the airspace will be used again.

PPR is not normally allowed on any day of NOTAM DA activity unless the pilot can definitely arrive in a period when there is no NOTAM activity.

5.8 Noise Abatement

Noise abatement procedures are contained in the Llanbedr Aerodrome Manual Flying Orders.

In the interest of good community relations, pilots should be discouraged from carrying out manoeuvres likely to irritate or shock the local population. AFISOS should note that there are a number of holiday attractions in the vicinity of the Aerodrome such as Shell Island as well as a nearby caravan park and other holiday accommodation.

5.9 Co-ordination with Aberporth Range Air Control and RAF Valley

It has been agreed that Letters of Agreement (LoA) or Memorandum of Understanding (MoU) with Aberporth Range Air Control and RAF Valley, will be introduced with the introduction of the permanent DA. However, regardless, AFISOs are to co-ordinate all traffic which may affect operations at either location with the relevant agency. This is especially important in the event that any RPAS / UAS intends to operate within the Cardigan Bay Danger Area complex and within the Llanbedr TDA.

6. AIRSPACE

6.1 The Airspace

A formal consultation process for the establishment of permanent segregated airspace in the form of a Danger Area (DA) which, when activated, will enable unmanned aircraft operations from Llanbedr Aerodrome and into the existing Danger Area EG D201 and EG D202 complex is expected to complete in 2021.

The DA will be activated by NOTAM – the preliminary notification will aim to give a minimum of seven (7) days' notice of any campaign to enable other airspace users to plan accordingly: final confirmation of the activity will be promulgated by NOTAM before at Day – 1 or 24 hours. Planning meetings with RAF Valley will work two weeks in advance of proposed activity.

The proposed DA has six separate volumes of airspace – see illustration.

- **Area A** has a radius of 2.5 nautical miles, equivalent to an ATZ, centred on the Llanbedr Aerodrome Reference Point but with the east side of the circle truncated so as to permit a low level inland north/south transit route for GA traffic. Area A, as with all the airspace, will only be activated when needed but has to be activated to give access to the other areas.
- **Areas B & E** are two distinctly different operating environments, one over the sea and one inland. Neither will be promulgated active at the same time.
- **Area F,** provides access to a lowland area to the north.
- **Areas C and D** form a transit corridor joining Area A to EG D201.
- **Area A, B and C** extend from surface level to a maximum upper level of 6,000 ft. amsl,
- **Area D** extends from 2,000 ft. to a maximum upper level of 6,000 ft. AMSL. The primary purpose of Area D is to enable aircraft operating in and out of RAF Valley to transit beneath the DA unhindered.

To ensure maximum Flexible Use of Airspace, the proposed Areas may be independently activated, only that required will be activated and also for the minimum period of time. In addition, any Area will only be activated up to the maximum altitude for a specific activity, which is anticipated to mostly be 2,000 ft. AMSL.

Figure 1 below illustrates the proposed extent of the Airspace which will form part of the permanent DA in plan view. Figure 2 shows a cross section.

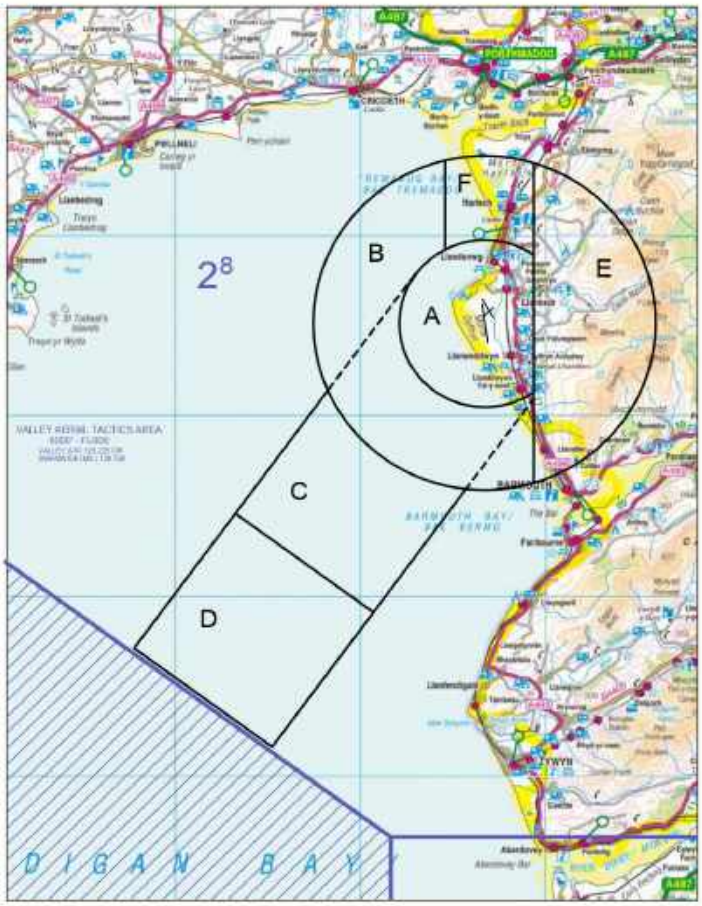

Figure 1

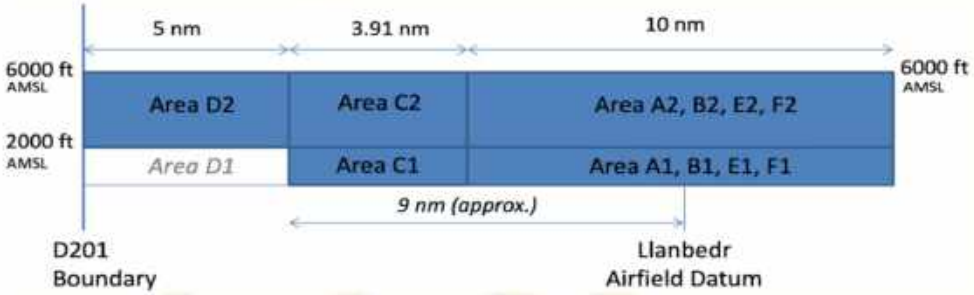

Figure 2

The following Figure 3 is an alternative illustration showing each airspace area boarded by a different colour.

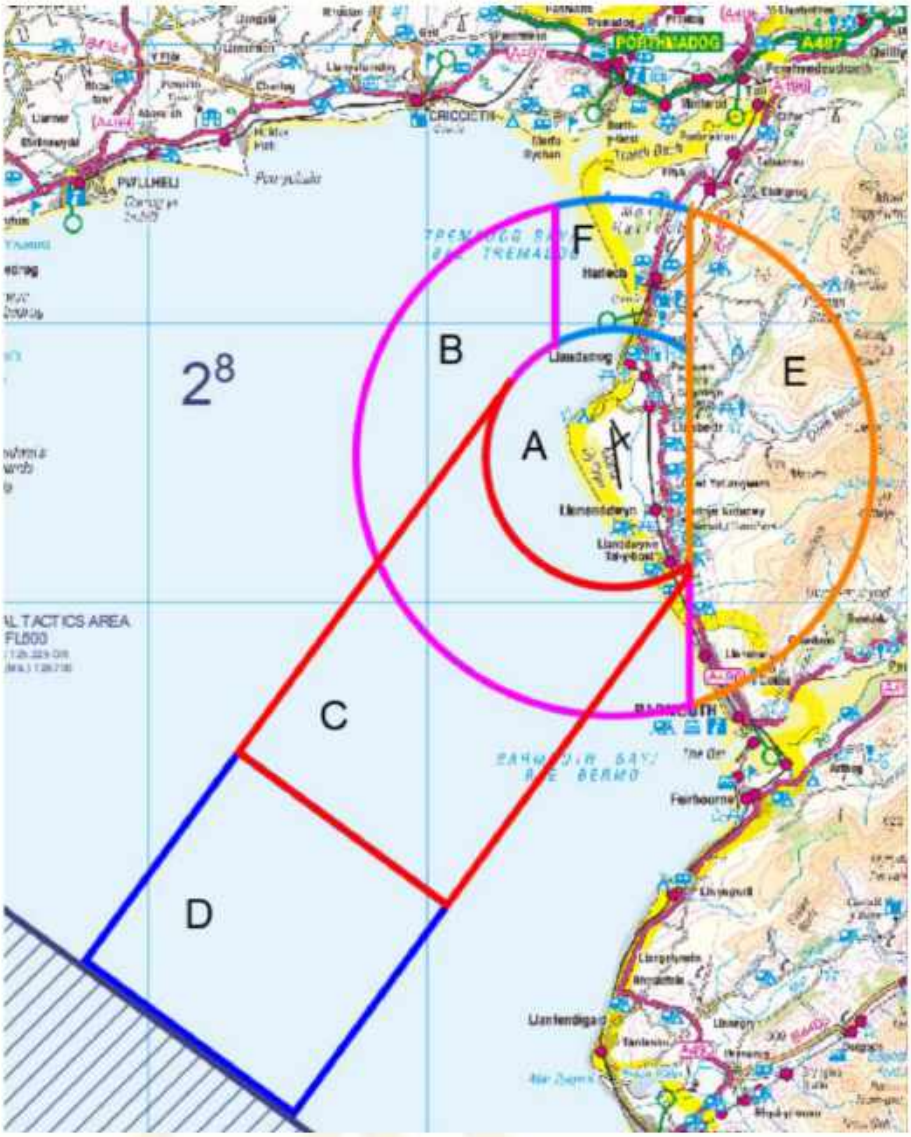

Figure. 3 ***– Final Airspace Design for ACP-2019-58, Llanbedr Danger Area***

The proposed DA dimensions are detailed below in terms of World Geodetic System 1984 (WGS84) co-ordinates describing the boundaries. The co-ordinates are in the format degrees, minutes and seconds.

Area A

525022N 0040522W
524617N 0040510W
524817N 0040738W
thense clockwise by the arc of a circle radius 2.5 NM centred on
524817N 0040738W
to
525022N 0040522W

Area B

524617N 0040510W
524334N 0040503W
524817N 0040738W
thense clockwise by the arc of a circle radius 10 NM centred on
524817N 0040738W
to
525307N 0040947W
525028N 0040939W
524817N 0040738W
thense anti clockwise by the arc of a circle radius 2.5 NM centred on
524817N 0040738W
to
524617N 0040510W

Area C

524943N 0041102W
524223N 0041920W
523933N 0041233W
524605N 0040510W
524617N 0040510W
524817N 0040738W
thense clockwise by the arc of a circle radius 2.5 NM centred on
524817N 0040738W
to
524943N 0041102W

Area D

524223N 0041920W
523933N 0041233W
523527N 0041712W
523816N 0042358W
524223N 0041920W

Area E

524334N 0040503W
525307N 0040530W
524817N 0040738W
thense clockwise by the arc of a circle radius 10 NM centred on
524817N 0040738W
to
524334N 0040503W

Area F

525028N 0040939W
525307N 0040947W
524817N 0040738W
thense anti clockwise by the arc of a circle radius 10 NM centred on
524817N 0040738W
to
525307N 0040530W
525022N 0040522W
524817N 0040738W
thense clockwise by the arc of a circle radius 2.5 NM centred on
524817N 0040738W
to
525028N 0040939W

These locations can be very busy during the summer months and AFISOs must ensure that as far as is reasonably practicable no excessive noise is generated near these locations.

7. COMMUNICATIONS

7.1 VHF Radio Communications

The main VHF RTF communication system comprises a Park Air T6T transmitter and a T6R receiver built into a standalone 22U cabinet. A Park Air S4 controller panel is located on the AFISO desk along with a microphone and loudspeaker. The serial numbers and the modification state of all equipment appears in the MAFIS Vol 2.

The electrical supply is backed up by UPS provision and capability to plug in a generator to power all of the ATS complex.

The 22U cabinet is located at the base of the Control Tower building in the 'Comms' room along with the UPS system for the VCR. Security provision in relation to comms equipment and access to the VCR is described in the Llanbedr Security Manual.

In the event of a catastrophic failure of either the transmitter, receiver or control panel a professional Icom desk top unit IC 120E is immediately available. This unit is also continuously in use during the hours of watch and tuned to 121.6Mhz (the aircraft Commander to RFFS emergency frequency) which is recorded as requested by CAA Aerodrome Standards Licensing department. Retuning the Icom 120E temporarily to 118.930Mhz is accomplished easily by using a dial on the front of the unit.

A further back up VHF unit is provided in the form of an Icom handheld transceiver.

In the event of a catastrophic failure of the Park Air a normal service may be maintained using the Icom 120E. However, a risk assessment and TOI must be completed and submitted to CAA ATM Engineering and to Aerodrome Standards advising of the change and the temporary loss of recording on 121.6 Mhz.

The risk assessment will take into account expected traffic and determine whether a Call Out is required or Urgent Maintenance action is required in relation to the Park Air.

In the event of a failure of the Park Air followed by a failure of the Icom 120E the emergency handheld Icom radio has been provided in the VCR to enable emergency communications and safely recover any active flight. Once any airborne UAS has been recovered to Llanbedr or has diverted to West Wales (depending on the position at the time of the failure) no further trials flying will take place until such time as the main VHF RTF system has been restored to operational service. GA operations may continue as they would 'out of hours' making blind calls to Llanbedr Traffic.

7.2 Ground net radio communications

A business Ground Net radio system is used across the aerodrome with a base station on the main desk in the VCR enabling the duty AFISO to communicate direct with any drone pilot and all airside staff / vehicles.

A back up handheld unit is maintained on charge in the VCR for emergencies.

A number of other handheld ground net radios are always available on charge for use by staff and contractors and any of these may be used temporarily as a backup should the desk base station and other hand held units fail.

8. CONCLUSION

The Aerodrome Manager will keep the CAA ATM Inspector fully informed as to developments at the airfield. and the provision of ATS.

It would seem most likely that the ANSP will pass out of Greenfield status in the summer of 2021 and hopefully the approval of ACP-2019-58 will follow in the Autumn of 2021 bringing with it the security for the FISO needed to support at the very minimum when the DA is active.

This CONOPS relates to this transition period and will be introduced in accordance with the SAC Change Management procedure. It will be revised and finalised in summer 2021.

This page is intentionally left blank