



Skyports

Skyports Limited

ACP-2020-099 - UAS BVLOS in Segregated Airspace (Oban-Isle of Mull-Coll)

Targeted Engagement with Aviation Stakeholders

Version 3.0 – Dated: 28 January 2021

Amendment record

Issue	Amendment	Date
Issue 1	<ul style="list-style-type: none"> • Initial Issue 	11/01/2021
Issue 2	<ul style="list-style-type: none"> • Updated list of Acronyms and Abbreviations • Amendment to operation duration from 5 weeks to 3 (<u>1.</u>) • Amendments to TDA complex designs (<u>4.3</u>), specifically: <ul style="list-style-type: none"> ○ Redesign and reduction in Upper Limit of Tobermory – Craignure TDA (<u>4.3.4</u>) ○ Reduction in Upper Limit of Craignure TDA (<u>4.3.5</u>) ○ Reduction in Upper Limit of Kerrera TDA (<u>4.3.7</u>) ○ Reduction in Upper Limit of Oban TDA (<u>4.3.8</u>) ○ Reduction in Upper Limit of Oban-Bunessan Sea 1 (<u>4.3.9</u>) ○ Removal of Oban-Easdale TDA (old 4.3.12) ○ Removal of Easdale TDA (old 4.2.13) • Amendment to usage dates (<u>4.5</u>) • Amendment to the duration of the targeted engagement exercise with relevant aviation stakeholders (<u>5.1</u>) • Amendment to the dates of the targeted stakeholder engagement period (<u>5.2</u>) • Amendment to the deadline for responses (<u>5.3</u>) • Inclusion of Appendix identifying and sharing the 	22/01/2021

	<p>principal issues raised so far during the targeted engagement exercise with relevant and Skyports responses and proposed solutions for feedback from stakeholders (Appendix C)</p> <ul style="list-style-type: none"> • Amendments to list of stakeholders, with additional ones included following recommendations received to date during the stakeholder engagement exercise (Appendix A) 	
Issue 3	<ul style="list-style-type: none"> • Inclusion of clarification that the SUA automatic collision avoidance system is depending on the other aircraft carrying ADS-B and broadcasting Out (Appendix C, Issue 6) • Inclusion of decision <u>not</u> to operate if the cloud base is <1500ft AMSL (Appendix C, Issue 5) 	28/01/2021

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If this document is updated following meetings with the Civil Aviation Authority (CAA) or for any other reason, the SUA Operator as Change Sponsor will publish a new version on the CAA Airspace Change online portal for all to see. This is to enable the CAA to refer to the correct version if it needs to publish a determination of whether an airspace change is a relevant option to investigate.

Referenced documents

Document	Version	Version & Date	Source
DA/TDA Policy 20200721	CAA Policy for the Establishment of Permanent and Temporary Danger Areas	Version 1.0 21 July 2020	DA/TDA Policy 20200721
ANO 2016	The Air Navigation Order (ANO) 2016 and Regulations	Version 5.6 21 March 2019	CAP 393
CAP 1616	Airspace Change – Guidance on the regulatory process for	Version 3.0 22 January 2020	CAP 1616

	changing the notified airspace design and planning and planned and permanent redistribution of air traffic, and on providing airspace information		
CAP 722	Unmanned Aircraft System Operations in UK Airspace – Guidance	Version 8 5 November 2020	<u>CAP 722</u>

Acronyms and abbreviations

ACP	Airspace Change Proposal
ADS-B	Automatic Dependent Surveillance-Broadcast
AMSL	Above Mean Sea Level
AGL	Above Ground Level
ANO	Air Navigation Order
BVLOS	Beyond Visual Line of Sight
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
DA	Danger Area
DAAIS	Danger Area Activity Information Services
DAATM	Defence Airspace and Air Traffic Management
GP	General Practitioner
HSCP	Heath and Social Care Partnership
KML	Keyhole Markup Language
LAT	Latitude
LONG	Longitude
NHS	National Health Service
MOD	Ministry of Defence
MTOW	Maximum Take-Off Weight
NOTAM	Notice to Airman
PPE	Personal Protective Equipment
SIL	Source Integrity Level
SFC	Surface
SUA	Small Unmanned Aircraft
TDA	Temporary Danger Area
TOI	Temporary Operating Instruction
UA	Unmanned Aircraft
UAS	Unmanned Aircraft System
VMC	Visual Meteorological Conditions
VTOL	Vertical Take-off and Landing
WC	Well Clear

Glossary

Aeronautical Information Publication	Long-term information essential to air navigation, including the detailed structure of UK airspace and flight procedures, which forms part of the UK Integrated Aeronautical Information Package. Sometimes informally known as the Air Pilot.
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	Publication is the responsibility of the CAA but is carried out under licence by NATS. www.ais.org.uk
Air navigation service provider	An organisation which operates the technical system, infrastructure, procedures, and rules of an air navigation service system, which may include air traffic control.
Airspace change proposal	A request (usually from an airport or air navigation service provider) for a permanent change to the design of UK airspace.
Airspace design	Together, the airspace structure and flight procedures
Airspace change process	The staged process an airspace change sponsor follows to submit an airspace change to the CAA for a decision. The process includes actions associated with implementation and post-implementation review, after the CAA or, where applicable Secretary of State, decision.
Airspace Modernisation Strategy	A co-ordinated strategy and plan for the use of UK airspace for air navigation up to 2040, including for the modernisation of the use of such airspace, prepared and maintained by the CAA, incorporating the previous Future Airspace Strategy. It is a requirement of the Air Navigation Directions 2017. https://www.caa.co.uk/Commercial-industry/Airspace/Airspace-ModernisationStrategy/For-a-strategy/
Airspace structure	<p>Designated volumes of airspace within identified characteristics, including the equipment aircraft wanting to enter that airspace must carry and actions pilots must carry out before entering that airspace.</p> <p>The volumes of airspace are designed to ensure the safe and optimal operation of aircraft.</p> <p>Airspace structures consist of:</p> <ul style="list-style-type: none"> (d) controlled airspace, namely control zones, control areas, terminal control areas and airways; (b) airspace restrictions, namely danger, restricted and prohibited areas; <p>for a radio mandatory zones, transponder mandatory zones;</p> <p>(d) other airspaces specified by the CAA when defining the airspace change process, such as, for example, flight information zones, aerodrome traffic zones, temporary segregated areas, temporary reserved areas or free-route airspace.</p>

Beyond Visual Line of Sight (BVLOS)	An operation in which the remote pilot or observer does not use visual reference to the remotely piloted aircraft in the conduct of flight.
Consultation	Formal process seeking input into a decision, undertaken in line with the Gunning Principles, and government guidance
Danger Area	Airspace within which activities dangerous to the flight of aircraft may exist at notified times.
Design principles	The principles encompassing the safety, environmental and operational criteria and the strategic policy objectives that the change sponsor seeks to achieve in developing the airspace change proposal. They are an opportunity to combine local context with technical considerations, and are therefore drawn up through discussion with affected stakeholders.
Engagement	Catch-all term for developing relationships with stakeholders, covering a variety of activities including but not limited to consultation, information provision, regular and one-off meetings and for a, workshops and town hall discussions.
Feedback	Informal response to engagement – change sponsors may be expected to seek feedback from stakeholders in addition to formally consulting them.
Military operations	Operations undertaken by military aircraft, or military aerodromes.
Overflight	For the purposes of airspace changes, overflight is defined according to the CAA’s report, CAP 1498 which outlines a measurement based upon community perception. It does not portray noise impacts. www.caa.co.uk/cap1498
Portal	The CAA’s airspace change portal – an online portal containing details of all current and previous airspace changes, including the ability to respond to consultations. https://airspacechange.caa.co.uk
Representative group	Stakeholder group that gathers together those with similar interests in a proposal. It could be at an industry level (for instance the Airport Operators Association), national level (for instance the Aviation Environment Federation) or local level (for instance HACAN).
Sponsor (or change sponsor)	An organisation that proposes, or sponsors, a change to the airspace design in accordance with the CAA’s airspace change process.
Stakeholder	An interested third party in an airspace change or PPR proposal.
Statement of Need	The means by which the change sponsor sets out what airspace issue or opportunity it is seeking to address and what outcome it wishes to achieve, without specifying solutions, technical or otherwise.

Uncontrolled airspace	Airspace in which aircraft are able to fly freely through the airspace without being constrained by instructions in routeing or by air traffic control, unless they require an air traffic control service.
Unmanned aircraft system (UAS)	An Unmanned Aircraft System (UAS) comprises individual 'System Elements' consisting of the Unmanned Aircraft (UA) and any other System Elements necessary to enable flight, such as a Remote Pilot Station, Communication Link and Launch and Recovery Element. There may be multiple UAS, RPS or Launch and Recovery Elements within a UAS.

Contents

Amendment record	2
Referenced documents	3
Acronyms and abbreviations	4
Glossary	4
1 Introduction	10
1.1 About Skyports	10
1.2 About segregated airspace and unmanned aircraft systems (UAS)	10
1.3 Regulatory process	10
2 Requirement for airspace change.....	11
2.1 COVID-19 response.....	11
3 Summary of engagement activity undertaken to date.....	11
4 Airspace change proposals	12
4.1 Overview.....	12
4.2 Top-down view	12
4.3 Temporary Danger Area (TDA) Complex	12
4.3.1 Arinagour	12
4.3.2 Tobermory Bay	13
4.3.3 Tobermory	13
4.3.4 Tobermory - Craignure	13
4.3.5 Craignure	14
4.3.6 Craignure – Oban.....	14
4.3.7 Kerrera.....	14
4.3.8 Oban	15
4.3.9 Oban – Bunessan Sea 1.....	15
4.3.10 Oban – Bunessan Sea 2.....	15
4.3.11 Bunessan.....	16
4.4 Notification	16
4.5 Usage dates	16
5. Guidance on how to respond	16
5.1 Duration.....	16
5.2 Dates of targeted stakeholder engagement period.....	16
5.3 Deadline for responses.....	17
5.4 Responses.....	17
5.5 Contingency.....	17
6 Post engagement	17
6.1 Airspace deconfliction	17
6.2 Continued monitoring	17
Appendix A: List of identified stakeholders.....	18

Appendix B: Response form	19
Appendix C: Principal issues and proposed solutions	20
Issue 1: Access to Glenforsa Airfield	20
Summary	20
Skyports response.....	20
Issue 2: Activations.....	22
Summary	22
Skyports response.....	22
Issue 3: TDA Upper Limits	27
Summary	27
Skyports response.....	27
Issue 4: Communicating with Skyports	27
Summary	27
Skyports response.....	27
Issue 5: Procedures to cooperate with air traffic services.....	27
Summary	27
Skyports response.....	28
Issue 6: Aircraft Avoidance.....	28
Summary	28
Skyports response.....	28
Issues 7: Night Flying.....	28
Summary	28
Skyports response.....	28
Issue 8: Small Unmanned Aircraft Technical Specification	29
Summary	29
Skyports response.....	29
Issue 9: Military level aircraft.....	29
Summary	29
Skyports response.....	29

1 Introduction

Skyports (the change sponsor) is seeking a Temporary Danger Area (TDA) complex to be established during notified periods to enable the safe testing and demonstration of unmanned aircraft system (UAS) beyond visual line of sight (BVLOS) operations during a trial operation for 3 weeks commencing on 8 April 2021 and ending on 30 April to transport medical equipment, medical samples (including dangerous goods in the form of blood samples) and medicine by small unmanned aircraft (SUA) to and from multiple healthcare facilities in Oban, Isle of Mull and Coll on the west coast of Scotland. Specifically, Skyports will be transporting COVID-19 testing kits and COVID-19 testing samples for analysis.

The operation is a response to a written request from the National Health Service (NHS) in Scotland for assistance with the response to COVID-19. The project is part funded through a joint initiative by the European and UK Space Agencies for the utilisation of space-enabled technology to assist with the COVID-19 response.

This document describes the nature of the TDA and how the change may affect local aviation stakeholders.

1.1 About Skyports

Skyports develops, implements, and operates end-to-end drone deliveries overcoming inefficiencies with traditional transportation methods within the medical, e-commerce and logistics sectors.

1.2 About segregated airspace and unmanned aircraft systems (UAS)

The legal constraints on flying operations, including UAS, within UK airspace are contained within the Air Navigation Order (ANO). UAS do not have an automatic right to airspace if safety provision cannot be made or if such operations would have an unreasonably negative impact on other aviation stakeholders. To integrate with other aviation stakeholders, UAS operators must ensure that their aircraft can demonstrate an equivalent level of compliance with the rules and procedures that apply to manned aircraft.

Until UAS can comply with the requirements for flight in non-segregated airspace, BVLOS UAS flights outside permanently established segregated airspace may be accommodated through the establishment of segregated airspace on a temporary basis.

For flights within segregated airspace, while some restrictions may still apply, a UAS will generally be given freedom of operation within the bounds of the allocated airspace, subject to any agreed procedures and safety requirements. An authorisation to operate will consider the risks associated with any unintended excursion from the allocated airspace and it will also consider the possibility of airspace infringements. In addition, measures that may be put in place to enhance the safety of UAS activities will also be considered by the CAA during authorisation. For more information, see CAA CAP 722.

Temporary segregated airspace – a TDA – can only be requested and implemented once due consideration has been given to the possible positive and negative impacts of the ACP on other aviation stakeholders and the local community, which is the purpose of this document.

1.3 Regulatory process

Temporary segregated airspace is by its very nature not a permanent change to airspace; however, all change sponsors are under a statutory obligation to engage aviation stakeholders and any other relevant stakeholders by following the steps set out in the Airspace Change Process. For more information, see [20200721 – CAA Policy for the Establishment of Permanent and Temporary Danger Areas](#) (a scaled down version of [CAP1616](#)).

Skyports is conducting a targeted aviation stakeholder engagement exercise before submitting our finalised proposed airspace design proposals to the CAA for assessment to ensure that all identified interested parties have had an opportunity to review the proposed changes and comment accordingly.

2 Requirement for airspace change

2.1 COVID-19 response

The NHS in Scotland, specifically the Argyll & Bute Health & Social Care Partnership (HSCP) – a joint initiative between NHS Highland and Argyll & Bute Council – have requested support from Skyports with the COVID-19 response.

Skyports will carry samples (including dangerous goods) collected from local GP practices for analysis as pathology laboratories at larger hospitals more quickly and more reliably than current road transport alternatives. Currently, samples are collected by the local postal service (without temperature control) and taken to the hospital at the end of rounds, which is slow and often leads to a degradation of sample quality meaning the tests either a conducted on poor quality samples and/or testing needs to be repeated.

Turnaround time for results will improve from as much as up to 4 days to as short as half a day, depending on the location being served. This level of improvement is transformational for the health system in Oban, Isle of Mull and Coll with potentially life-saving treatment able to be commenced earlier and/or non-essential treatment able to be avoided (e.g., unnecessary antibiotic treatments which are currently being prescribed before receipt of pathology results). A quicker, more reliable route, unrestricted by rigid and limited surface transport timetables, flown by UA has the potential to save the NHS money by not having to repeat tests. Local patients will avoid having to have repeat tests or wait for so long for the results and will receive a better standard of care.

As the NHS has been restarting routine tests, examinations, and procedures, this will place significant demands on its ability to manage business-as-usual and COVID-19 activities concurrently. The Skyports solution adds capacity when the NHS needs support the most.

Skyports will be able to more deeply integrate its UA service into the NHS supply chain to improve efficiencies and better understand how to provide a permanent service over time, which could be scaled and applied to other parts of the UK. Additionally, the NHS is using this project as an opportunity to properly assess the long-term viability of such a service.

Finally, Skyports has received funding through a joint initiative by the European and UK Space Agencies for the utilisation of space-enabled technology to assist with the COVID-19 response.

3 Summary of engagement activity undertaken to date

Skyports completed an airspace change process in support of our operations between Oban and the Isle of Mull in May and June 2020 ([ACP-2020-038](#)). Through targeted aviation stakeholder engagement exercises in support of that application Skyports developed a comprehensive picture of airspace usage in that area.

More recently, we have engaged with many of the same aviation stakeholders, such as the emergency services, scheduled and commercial services and general aviation on another change proposal ([ACP-2020-55](#)) for the wider Oban area. We are aware of their operational requirements, including their continued need to enter temporary segregated airspace once active. We do not wish to overburden these stakeholders with an informal engagement exercise. We therefore believe a reduced engagement duration will suffice.

Nevertheless, if you identify a stakeholder(s) not included on the List of Identified Stakeholders (see Appendix A) in this document that you think should be made aware of these proposals and given the opportunity to provide their views, please let us know.

4 Airspace change proposals

4.1 Overview

Skyports requires TDAs within which to safely execute its operations and present the following proposed airspace design to aviation stakeholders.

Eleven adjacent TDAs are required to facilitate our operations and are designed to minimise the impact on other aviation stakeholders in the area.

4.2 Top-down view



4.3 Temporary Danger Area (TDA) Complex

4.3.1 Arinagour

Identification and Lateral Limits			Upper Limit	Remarks
WP	LON	LAT	Lower Limit	
	Area bounded by straight lines joining		Lower Limit: SFC	Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours: When notified Sponsor: Skyports
			Upper Limit: 400ft AMSL	
1	-6.12995	56.65058		
2	-6.54176	56.59795		
3	-6.56259	56.62822		
4	-6.51564	56.63697		
5	-6.50772	56.62343		
6	-6.11787	56.67179		
7	-6.03843	56.64018		
8	-6.06870	56.63078		

4.3.2 Tobermory Bay

Identification and Lateral Limits			Upper Limit	Lower Limit	Remarks
Area bounded by straight lines joining			Lower Limit: SFC		Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours: When notified Sponsor: Skyports
WP	LON	LAT	Upper Limit: 550ft AMSL		
1	-6.06870	56.63078			
2	-6.03844	56.64019			
3	-6.00609	56.61224			
4	-6.03631	56.60310			

4.3.3 Tobermory

Identification and Lateral Limits			Upper Limit	Lower Limit	Remarks
Area bounded by straight lines joining			Lower Limit: SFC		Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours: When notified Sponsor: Skyports
WP	LON	LAT	Upper Limit: 600ft AMSL		
1	-6.10764	56.61939			
2	-6.06872	56.63078			
3	-6.03625	56.60305			
4	-6.08424	56.59374			

4.3.4 Tobermory - Craignure

Identification and Lateral Limits			Upper Limit	Lower Limit	Remarks
Area bounded by straight lines joining			Lower Limit: SFC		Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours: When notified Sponsor: Skyports
WP	LON	LAT	Upper Limit: 400ft AMSL		
1	-5.74101	56.48589			
2	-5.79202	56.52109			
3	-5.80669	56.52394			
4	-5.80372	56.52914			
5	-5.96053	56.55664			
6	-5.96336	56.55290			
7	-5.98155	56.55663			
8	-5.99695	56.57754			
9	-6.03087	56.60483			
10	-6.00608	56.61224			

11	-5.97551	56.58570		
12	-5.96251	56.56751		
13	-5.95561	56.56598		
14	-5.95873	56.56035		
15	-5.81379	56.53409		
16	-5.80218	56.53192		
17	-5.79923	56.53688		
18	-5.77800	56.53279		
19	-5.72436	56.49621		

4.3.5 Craignure

Identification and Lateral Limits			Upper Limit	Remarks
			Lower Limit	
	Area bounded by straight lines joining		Lower Limit: SFC	Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours: When notified Sponsor: Skyports
WP	LON	LAT	Upper Limit: 400ft AMSL	
1	-5.74941	56.48061		
2	-5.71625	56.50134		
3	-5.68134	56.48738		
4	-5.71391	56.46573		

4.3.6 Craignure – Oban

Identification and Lateral Limits			Upper Limit	Remarks
			Lower Limit	
	Area bounded by straight lines joining		Lower Limit: SFC	Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours: When notified Sponsor: Skyports
WP	LON	LAT	Upper Limit: 400ft AMSL	
1	-5.70710	56.47030		
2	-5.68135	56.48738		
3	-5.55191	56.43264		
4	-5.57955	56.41542		

4.3.7 Kerrera

Identification and Lateral Limits			Upper Limit	Remarks
			Lower Limit	
	Area bounded by straight lines joining		Lower Limit: SFC	
WP	LON	LAT	Upper Limit: 600ft AMSL	

1	-5.57950	56.41548	Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours: When notified Sponsor: Skyports
2	-5.55182	56.43264	
3	-5.48892	56.40592	
4	-5.52711	56.39323	

4.3.8 Oban

Identification and Lateral Limits			Upper Limit	Remarks
			Lower Limit	
	Area bounded by straight lines joining		Lower Limit: SFC	Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours: When notified Sponsor: Skyports
WP	LON	LAT	Upper Limit: 750ft AMSL	
1	-5.46893	56.41233		
2	-5.43918	56.39400		
3	-5.44500	56.37569		
4	-5.50220	56.37017		
5	-5.52704	56.39325		

4.3.9 Oban – Bunessan Sea 1

Identification and Lateral Limits			Upper Limit	Remarks
			Lower Limit	
	Area bounded by straight lines joining		Lower Limit: SFC	Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours: When notified Sponsor: Skyports
WP	LON	LAT	Upper Limit: 750ft AMSL	
1	-5.50221	56.37018		
2	-5.54583	56.35648		
3	-5.56454	56.38161		
4	-5.52704	56.39325		

4.3.10 Oban – Bunessan Sea 2

Identification and Lateral Limits			Upper Limit	Remarks
			Lower Limit	
	Area bounded by straight lines joining		Lower Limit: SFC	Activity: UAS Beyond Visual Line of Sight (BVLOS)
WP	LON	LAT	Upper Limit: 400ft AMSL	
1	-5.54586	56.35650		

2	-5.83215	56.28463	Hours: When notified Sponsor: Skyports
3	-6.16890	56.27076	
4	-6.15191	56.29765	
5	-5.84348	56.31104	
6	-5.56454	56.38159	

4.3.11 Bunessan

Identification and Lateral Limits			Upper Limit	Remarks
			Lower Limit	
	Area bounded by straight lines joining		Lower Limit: SFC	Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours: When notified Sponsor: Skyports
WP	LON	LAT	Upper Limit: 450ft AMSL	
1	-6.25494	56.33057		
2	-6.20793	56.33338		
3	-6.15193	56.29770		
4	-6.16889	56.27074		
5	-6.25636	56.30893		

4.4 Notification

Skyports will promulgate TDA activations by NOTAM at least 24 hours before the day of planned use. See Appendix C for plans to incorporate greater flexibility.

4.5 Usage dates

Date	Time
Thursday 8th April 2021 to Friday 30 th April 2021	Daylight hours and outside of daylight hours (excluding Saturdays, Sundays and Bank Holidays)

5. Guidance on how to respond

5.1 Duration

Skyports intends to carry out its aviation stakeholder engagement exercise over a 3-week period. We acknowledge this is significantly less than the standard 12-week engagement and 4-6-week shorter engagement as per CAA DA/TDA policy 20200721; however, Skyports believes a shorter engagement period is sufficiently proportionate to the size of the change, the already completed engagements with local stakeholders during 2020 and the urgent imperative to support the NHS in Scotland COVID 19 response.

5.2 Dates of targeted stakeholder engagement period

This targeted stakeholder engagement activity period will take place between **Monday 11th January** and end on **Sunday 31st January 2021**.

5.3 Deadline for responses

All responses should be sent to Skyports by **midnight on Sunday 31st January 2021**, when the stakeholder engagement period will close.

5.4 Responses

Responses should be submitted directly to Skyports, ideally using the response form provided in Appendix B. Unfortunately owing to social distancing and Skyports staff working from home, responses by post and face-to-face meetings cannot be accepted.

Emails should be sent to ricky@skyports.net (copy to simon@skyports.net). Please title the email 'ACP-2020-099 UAS BVLOS in Segregated Airspace (Oban-Isle of Mull-Coll)'.

Please be clear in email responses whether you are: i) in support of the proposal; ii) oppose the proposal; iii) neither support nor oppose the proposal; and/or iv) have any constructive suggestions for adaption of the proposals. Please provide a rationale for your position.

5.5 Contingency

Skyports believes it is important that this stakeholder engagement exercise is successful in meeting its objectives and will be seeking a response from every stakeholder – with either details of recommended changes to the proposed design, proposed means of tactical deconfliction or simply confirmation that the proposed change will have no impacts.

Where stakeholders may not be able meet the stated engagement timescales, Skyports will aim to be flexible where reasonably practicable to accommodate later responses. If you think this timeframe is too challenging, please contact us at the emails in 5.4 so we can make allowances accordingly.

6 Post engagement

Skyports will upload all engagement material to the Airspace Change Portal retrospectively after Stage 4.

A post-engagement summary report, with feedback provided verbatim from stakeholders, will be provided to the CAA.

Once the CAA has made a decision on the final airspace change design, Skyports will advise all stakeholders of the outcome.

6.1 Airspace deconfliction

Skyports will produce comprehensive and robust airspace deconfliction procedure via a Temporary Operating Instruction (TOI) that secures the approval of relevant aviation stakeholders that may need to enter the TDA once activated, e.g., emergency services, and Commercial airplane/helicopter operators. Skyports will engage relevant aviation stakeholders separately on this document and secure their written approval before operating.

6.2 Continued monitoring

While the TDA is in operation Skyports will undertake regular engagement with aviation stakeholders via email (or phone) at the end of each day of active operations. Skyports will monitor any feedback received on the CAA Airspace Portal or received directly by email or phone and collate the feedback and provide regular updates to the CAA when the TDA is activated and after it has been deactivated.

Appendix A: List of identified stakeholders

Stakeholder	Type of Organisation
Aircraft Owners and Pilots Association (AOPA)	Representative
Airspace4All	Representative
Airfield Operators Group (AOG)	Representative
Air Task (for Hebridean Air Services)	Air transport provider
Argyll and Bute Council (operator of Oban and the Isles Airport and Coll Airport)	Aerodrome
Association of Remotely Piloted Aircraft Systems (ARPAS-UK)	Representative
Babcock International	Aviation service provider (Police and Charity Air Ambulance)
British Balloon and Airship Club	Representative
British Business and General Aviation Association (BBGA)	Representative
British Gliding Association (BGA)	Representative
British Hang Gliding and Paragliding Association (BHPA)	Representative
British Helicopter Association (BHA)	Representative
British Microlight Aircraft Association (BMAA) / General Aviation Safety Council (GASCo)	Representative
British Skydiving	Representative
Bristow Helicopters	Aviation service provider (SAR)
Connel Flying Club	General Aviation
Gama Aviation	Aviation service provider (Scottish Air Ambulance)
General Aviation Alliance	Representative
Glenforsa Airfield	Aerodrome
Grampian Micolight & Flying Club	General Aviation
Helicopter Club of Great Britain (HCGB)	Representative
Lanark and Lothian Soaring Club	General Aviation
Light Aircraft Association (LAA)	Representative
Loganair	Air Service Operator
Maritime and Coastguard Agency	Emergency service provider
Ministry of Defence – Defence Airspace and Air Traffic Management (MoD DAATM)	Military
NATS	Air Navigation Service Provider
OIC Leuchars Flying Club	General Aviation
PDG Aviation	Air Service Operator
Police Scotland	Emergency service provider
Scotia Seaplanes	General Aviation
Scottish Air Ambulance	Emergency service provider
Scottish Association for Marine Science	Research
Scottish Mountain Paragliding Club	General Aviation
Skyhook Helicopters	Aviation service provider

Note: Additional stakeholders have been included during the targeted stakeholder engagement exercise and as a consequence of stakeholders getting in touch. Names of private individuals have not been included but their feedback has been incorporated.

Appendix B: Response form

Name	
Organisation name	
Position in the organisation	
Email	

Feedback

Appendix C: Principal issues and proposed solutions

Skyports thank all those that have submitted comments, raised issues, provided proposed alternatives and asked questions regarding our proposed temporary airspace change. We are pleased with the level of engagement we have had to date with relevant aviation stakeholders.

The engagement to date has revealed some common themes and issues and some solutions that we have taken into account. We therefore wanted to share the main issues raised as well as our proposed solutions to them so that stakeholders can provide their feedback in their submissions. In addition, where we are able to commit to a change to the current proposals, we have done so in this appendix or elsewhere in this document (see [Amendment record](#) for all changes made).

Issue 1: Access to Glenforsa Airfield

Summary

- What plans and procedures do you have in place to deconflict with traffic at Glenforsa Airfield on Mull? The currently proposed airspace conflicts with the established visual circuit at Glenforsa?

Skyports response

- Skyports proposes moving the route and TDA away from the circuit to Glenforsa to the north of the Sound of Mull and reducing the dimensions (horizontal and vertical – see [4.3.4](#)) of the Tobermory-Craignure TDA to minimise the impact on access to this popular airfield, which can be busy between April and October. At this section of the route, Skyports proposes to operate what is called a ‘constrained leg’ whereby the unmanned aircraft is able to operate within a narrower corridor, therefore reducing the TDA volume required. See Figures 1 and 2 below.
- The boundary of the TDA accommodating the constrained leg portion of the route is now narrower than the original design and measures 1.76nm from the centreline of the runway at Glenforsa Airfield.
- While operating a constrained leg is feasible, it is less desirable from a UAS operator perspective. As soon as the SUA enters a constrained leg, the SUA will not be able to immediately execute a return-to-home in the event of an emergency as it does not have the space to execute a turn. The SUA will need to complete its exit from the constrained leg and then it will make the return back through the constrained leg, or it will complete its mission if the remote pilot determines that is a safer maneuver. In the event of an emergency that requires the SUA to be grounded immediately while in the constrained leg, the remote pilot will have no option but to land in the sea, resulting in the total loss of technology and payload. Operating in constrained legs is therefore sub-optimal from a UAS operations perspective.
- We can also agree to operate around Glenforsa only during the first two weeks of the proposed period of operations. After those two weeks, Skyports can operate along other routes and therefore TDAs along the Sound of Mull (i.e. Tobermory-Craignure TDA) will not be activated for the remaining period of operations.
- Finally, if there are any particular big events taking place at Glenforsa on a given day, Skyports can agree to not operate routes around Glenforsa on those days, which we can discuss with the airfield operator once the airfield event schedule is agreed.



FIGURE 1: DISTANCE OF CONSTRAINED LEG IN TOBERMORY - CRAIGNURE TDA RELATIVE TO CENTRELINE OF GLENFORS A AIRFIELD

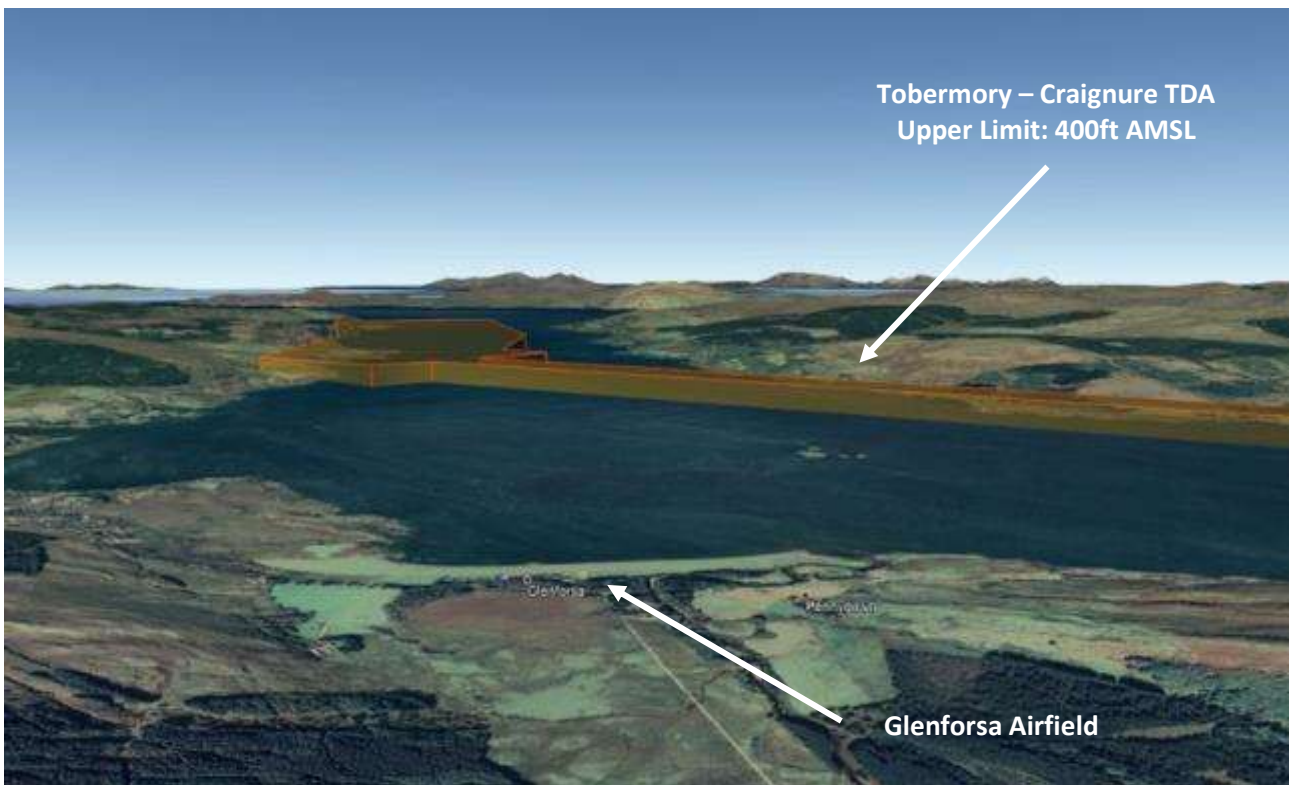


FIGURE 2: 3D VISUAL OF TOBERMORY - CRAIGNURE TDA RELATIVE TO GLENFORS A AIRFIELD

Issue 2: Activations

Summary

- Can you advise what the proposed times are for such restrictions and how much warning might be given?

Skyports response

- Skyports will not be activating all of the TDA complex at the same time. Only the TDAs that are required to facilitate routes to be flown on a given day will be activated. All of the other TDAs in the complex not required will not be activated.
- Maps at Figures 3, 4, 5 and 6 below explain what route combinations will look like.
- TDAs will not be activated for 24-hour periods or 24-hour periods for several days at a time. Skyports intends to use the TDAs only when required and will deactivate TDAs outside of notified hours.
- Apart from the Lorn & Islands Hospital (Oban) and the Mull & Iona Community Hospital (Craignure), other facilities have limited operating hours. We therefore expect activations of TDAs to enable flights to these facilities to be limited to half days or less and not the whole day.
- Skyports cannot provide more specific or narrower activations as we need to preserve flexibility to provide an on-demand service for the NHS; however, if for whatever reason we decide we will not end up operating in an activated TDA(s) for the full duration it was activated, a dedicated member of Skyports flight crew will deactivate the TDA as soon as that decision has been taken.
- TDAs will be activated by NOTAM at least 24 hours' notice. We are exploring with the CAA whether we can reduce the NOTAM activation notice, cognisant, however, that sufficient advance notice is still required for private aircraft travelling up to the area from the south of England, for example. We are also exploring a means of sharing our schedule of operations each day with private aircraft, so pilots have clearer visibility of expected activity at more specific times.
- Skyports has worked with the NHS and we have agreed that we can remove the Oban to/from Easdale portion of the TDA and still provide the NHS with the support they require. This route has been removed from the TDA Complex top-down view map at [4.2](#) and TDA Complex at [4.3](#).
- Finally, Skyports can commit to not operating weekends or Bank Holidays to minimise impacts on private aircraft and so are withdrawing our request for TDAS for the weekends and any Bank Holiday's that take place during the proposed period of operations. (see [4.5 Usage dates](#))

Route Combinations

1. Oban to/from Buinessan with Craignure Route Combination:

- Unused TDAs linking Craignure to Coll will be deactivated/remain inactivated.



FIGURE 3: OBAN TO/FROM BUINESSAN WITH CRAIGNURE ROUTE COMBINATION

2. Oban to/from Tobermory Route Combination:

- Unused TDAs linking Coll to Tobermory and Oban to Bunessan will be deactivated/remain inactivated.



FIGURE 3: OBAN TO/FROM TOBERMORY ROUTE COMBINATION

3. Oban to/from Craignure Route Combination:

- Unused TDAs linking Craignure to Coll and Oban to Buessan will be deactivated/remain inactivated.
- Oban to/from Craignure links the only two 24hr hospitals.



FIGURE 5: OBAN TO/FROM CRAIGNURE ROUTE COMBINATION

4. Oban to/from Coll Route Combination:

- Unused TDAs linking Oban to Buessan will be deactivated/remain inactivated.



FIGURE 6: OBAN TO/FROM COLL ROUTE COMBINATION

Issue 3: TDA Upper Limits

Summary

- Some TDAs within the proposed complex have altitudes that are higher than 400ft. Can Skyports limit TDA altitudes to 400ft to provide separation?

Skyports response

- We have endeavoured to keep the maximum altitudes of the proposed TDAs to 400ft AMSL wherever possible. All altitudes are depicted in AMSL but the SUA itself will not operate in excess of 400ft AGL regardless of terrain. Nevertheless, we have looked at some of the TDAs with altitudes in excess of 400ft AMSL, and we have tried to reduce them through re-routing were operationally possible and safe to do so.
- We have been able to reduce the Upper Limits of a number of TDAs (see Figure 7 below). The Upper Limits have also been amended in 4.3 TDA Complex.

TDA Name	Original Upper Limit	Revised Upper Limit
Tobermory – Craignure	450ft AMSL	400ft AMSL
Craignure	450ft AMSL	400ft AMSL
Kerrera	700ft AMSL	600ft AMSL
Oban	950ft AMSL	750ft AMSL
Oban – Bunessan Sea 1	900ft AMSL	750ft AMSL

FIGURE 4: DETAILS OF REVISED TDA UPPER LIMITS

Issue 4: Communicating with Skyports

Summary

- Will there be a means of communicating with Skyports to request entry to an active TDA?

Skyports response

- Should private aircraft wish to have access to an active TDA for any reason, phone numbers of the Skyports Flight Operations Team will be available on the relevant NOTAM, which can be called to request entry to that active TDA. If the SUA is airborne or likely to be airborne during the time when the request is made, then the request will be denied; however, if there are no SUA flights taking place or expected to take place during the time for which the request is made, then access is likely to be approved.
- If contacting Skyports by phone is not possible, Skyports will explore with Oban Information and Scottish Information about the provision of a Danger Area Activity Information Service (DAAIS) to enable private aircraft en route to contact Skyports to request access. See Issue 5 for more information.

Issue 5: Procedures to cooperate with air traffic services

Summary

- Do you have any procedures to cooperate with air traffic services in case of, for example, an emergency where an aircraft may need to cross the danger area?

Skyports response

- Skyports will discuss with Oban Information and Scottish Information the provision of a DAAIS to cover the area of operations, which will enable aircraft en-route to be able to contact Skyports and to be reminded of any active TDAs in the area. Skyports will discuss with Oban Information and Scottish Information sharing of our up and down times so that if a private aircraft were to accidentally enter or make an emergency entry into an active TDA, Oban Information or Scottish Information would be able to confirm via radio whether a Skyports SUA was in flight or not.
- It is worth noting that the Skyports SUA will be fitted with ADS-B IN and OUT and will therefore be visible to private pilots on their navigation system. Skyports will also be able to monitor the location of private aircraft fitted with electronic conspicuity that are broadcasting. See [Issue 8](#) and Figure 9 for more details about SUA electronic conspicuity capability.
- Any procedures for Skyports to cooperate with air traffic service will be confirmed with stakeholders in due course and contact details for Skyports and DAAIS will be included in the relevant NOTAM.
- Skyports will not operate if the cloud base is below 1500ft AMSL. Skyports will use www.windy.com to determine the cloud base before commencing and throughout operations.

Issue 6: Aircraft Avoidance

Summary

- What is your procedure for avoidance if another aircraft is detected in close proximity to yours, or accidentally enters TDA by accident or in an emergency?

Skyports response

- The UAS will constantly review the speed and heading of other aircraft in the situational awareness catchment area. If the system anticipates that another aircraft will breach the pre-set drone Well Clear (WC) Boundary, the system will automatically decide to respond sufficiently early so as to avoid any actual breach, assuming the other aircraft maintains their current speed and heading. The system is dependent on the other aircraft carrying ADS-B and broadcasting out.
- While the UAS offers this collision avoidance capability, Skyports is unable to rely on this system as a complete strategic air risk mitigation solution with regards to current UAS regulations, hence the regulatory requirement to operate within segregated airspace.

Issues 7: Night Flying

Summary

- Operating only during night would minimise interference with the current use of the airspace. Can Skyports not operate at night?

Skyports response

- Skyports may need to operate outside of daylight hours during the period covered by this ACP to meet the needs of the NHS. Skyports has applied to the CAA to be able to operate BVLOS flights at night, neither of which are permitted in the UK without operational authorisation by the CAA. Skyports will still need to operate to meet the requirements of the NHS and these are expected to be predominantly during daylight hours.

Issue 8: Small Unmanned Aircraft Technical Specification

Summary

- There are no details provided about the small unmanned aircraft (SUA) being used. Can you please provide some?

Skyports response

- Skyports is pleased to provide the following details about the SUA capabilities and its limitations (See Figure 9 below). Skyports will not operate the SUA if the conditions exceed the limitation of the vehicle.

Type	Hybrid – Powered Lift transitional platform (VTOL)
Max speed	68kt
Cruise speed	60kt
Max endurance	68 mins (forward flight limit at MTOW)
Max payload	3kg
MTOM/MTOW	17kg
Lighting	Navigational lights and a white strobe
Max. wind	27 kts (14 m/s) from any direction
Min. visibility	Min. 500m at TOLPs. Flights will comply with visual meteorological conditions (VMC).
Precipitation	Moderate rainfall (2mm – 10mm per hour)
Cloud ceiling	No limitation
Min. / Max. Operating Temperature	0°C / +45°C
Electronic Conspicuity*	The SUA is fitted with ADS-B IN and OUT, which can process uncertified ADS-B signals, namely SIL/SID=0.

FIGURE 5: UNMANNED AIRCRAFT CAPABILITIES AND LIMITATIONS

* Upon request, Skyports can provide KML files of the proposed TDAs so that they can be uploaded to aircraft navigation software.

Issue 9: Military level aircraft

Summary

- Have you considered the prospect of military low-flying aircraft being endangered by a drone flying in the area?

Skyports response

- We are in contact with the military about this proposal and are seeking their input into this targeted stakeholder engagement exercise. If the military inform us that they require use of the airspace at any time during our proposed period of operations, Skyports will agree not to operate for the duration of the exercise.