Skyports Limited

ACP-2021-0070 - UAS BVLOS in Segregated Airspace (Montrose – Stracathro – Kirriemuir – Dundee – Montrose Vessel Anchorages)

Targeted Engagement with Aviation Stakeholders

Version 1.0 – Dated: 09 November 2021

Amendment record

Issue	Amendment	Date
Issue 1	Initial Issue	09/11/21

This document is controlled by the Change Sponsor (Skyports' UAS Operator). The initial release version and any subsequent revision will be subject to the approval of the UAS Operator. Amendments to this document will be recorded in the Amendment Record. For reference, a copy of this version and all superseded versions will be stored on a secure server.

If this document is updated following meetings with the Civil Aviation Authority (CAA) or for any other reason, the UAS 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.

Contents

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 months commencing on 14th March 2022 and ending on 10 June 2022 to transport medical equipment, medical samples (including dangerous goods in the form of blood samples) and medicine by unmanned aircraft (UA) to and from multiple healthcare facilities in Montrose – Stracathro – Kirriemuir – Dundee – Montrose Vessel Anchorages. Specifically, Skyports will be transporting COVID-19 testing kits and COVID-19 testing samples for analysis.

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, where feedback will be periodically reviewed weekly, 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 operation is a response to a written request from the National Health Service (NHS) and Clarksons Port Services in Scotland for assistance with the response to COVID-19. The unique opportunity to address these issues using BVLOS UAS operations has arisen as a result of the development of the Mercury Drone Ports Program, a sanctioned project within Angus Council's Mercury Programme under the Tay Cities Deal.

Skyports will carry samples (including dangerous goods UN3373 Category B) collected from local medical practices for analysis at pathology laboratories at larger hospitals more quickly and more reliably than current road transport alternatives. Currently, samples are collected by the local NHS porter 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 are either conducted on poor quality samples and/or testing needs to be repeated.

The service will provide the NHS with an on-demand collection and delivery service – reducing reliance on infrequent, expensive, porter collections that are currently in operation. In this manner, patient care can be more keenly focused on the patient themselves, rather than on meeting the pre-set porter collection times. This level of improvement is transformational for the health system in Angus 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). Such a service would serve to reduce testing times and speed up diagnoses for patients, all at reduced cost to the NHS through reduced reliance on expensive taxi transport. Equitable healthcare for all can only be realised through increased connectivity with rural facilities.

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.

2.2 Offshore wind

Current offshore supply chains require vessels to return to port for COVID-19 testing and to collect one-off spare/replacement parts and supplies. This comes at significant environmental cost (through fuel burn and ensuing emissions) and reduces 'time on station' for vessels, delaying construction and maintenance tasks for offshore wind assets.

The increasing proliferation of offshore wind developments in the Angus region necessitates a step-change in the way we move goods to/from these areas. The requirement for ongoing COVID-19 testing has accelerated the need for a fast and frequent transport service to move tests to mainland pathology labs. Reducing vessel movements to deliver and collect medical tests and one-off parts and tools will contribute towards a significant reduction in carbon emissions, as the UK seeks to meet its Net Zero goal by 2050.

2.3 Routing Overview

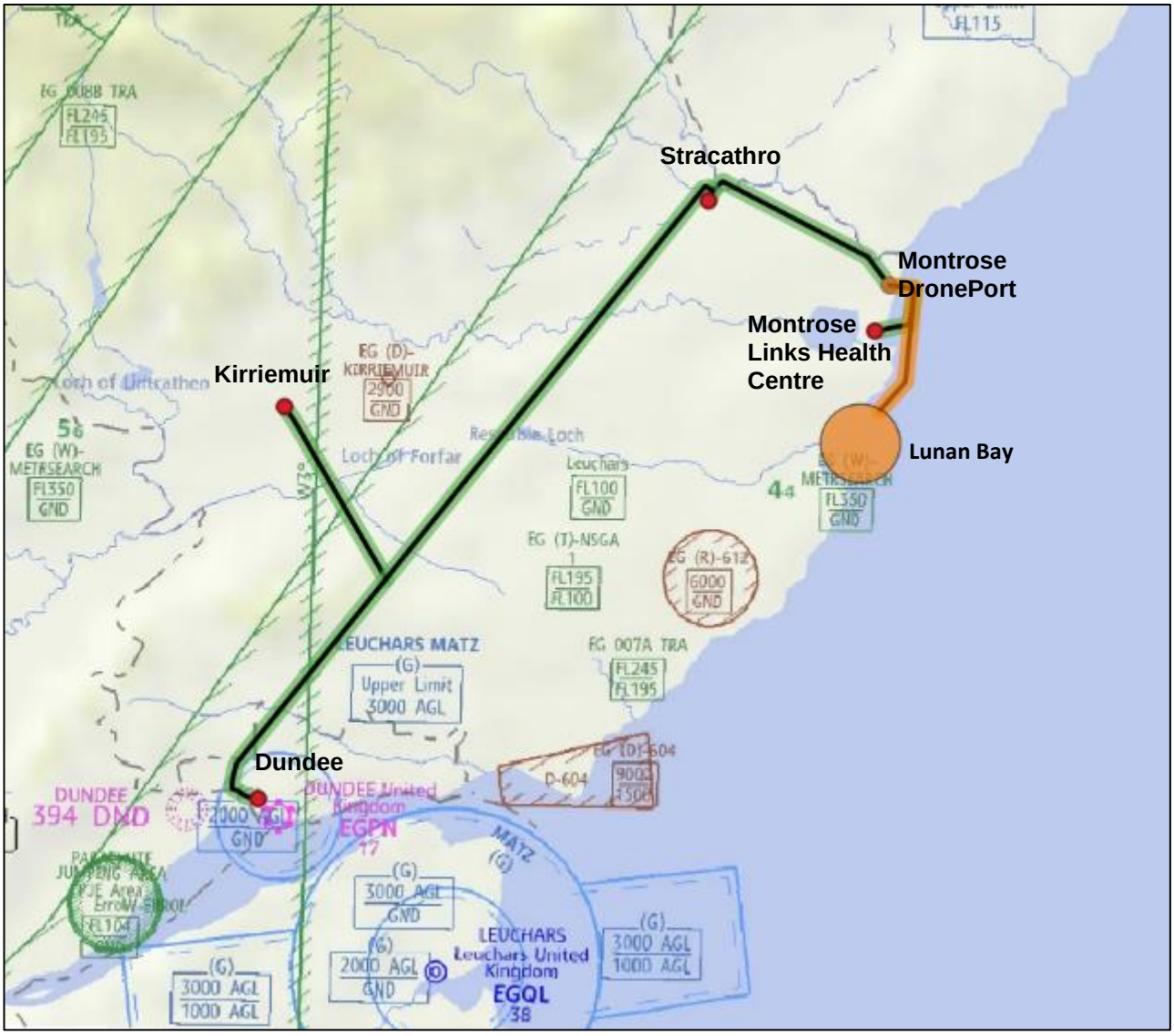

FIGURE 1: ROUTE OVERVIEW ON LOW-LEVEL VFR AIRSPACE CHART

2.3.1 Route details

Route (reciprocal)	**Distance (m)**	**Altitude (AGL)**	**Avg. cruise speed (m/s)**	**Estimated Time (mins)**	**% of Max Endurance (of 68 mins)**	**TDA Required** *(see Section **Error! Reference source not found.**)*
Kirriemuir - Ninewells	28400	< 400 ft	27	18	27%	A & B
Stracathro - Ninewells	46100	< 400 ft	27	28	41%	A
Stracathro - Kirriemuir	42500	< 400 ft	27	26	38%	A & B
Stracathro - Montrose Links Health Centre	18400	< 400 ft	27	11	16%	C

Montrose Drone Port - Lunan Bay	9500	< 400 ft	27	6	9%	D

2.3.2 Routing Choice

Route planning is performed in accordance with the Skyports Operations Manual. Routes are planned as per below:

- ✓ Avoid overflight of congested and urban areas
- ✓ Avoid overflight of areas where uninvolved persons are likely to be present (e.g. footpaths, roads)
- ✓ Minimise overflight of environmentally sensitive areas (permission required if overflight is necessary)
- ✓ Ensure that the UA can cover the proposed route distance with a sufficient safety reserve remaining upon arrival
- ✓ Ensure sufficient 4G signal exists to maintain primary C2 link throughout the duration of the flight
- ✓ Ensure suitable diversion locations and RTH locations are available
- ✓ Maintain altitude of < 400ft AGL
- ✓ Account for terrain and winds
- ✓ Ensure UA climb descent rates are within OEM stipulated limitations

2.3.2.1 Flight Volume

The horizontal operating volume of the Kookaburra MkIII SUA consists of the following:

- Flight geography
- Contingency buffer
- Ground risk buffer

The Kookaburra MkIII has two flight sectors (defined during route planning):

1) **Constrained Leg** (Figure 2): chosen when operating space is limited
    a. Flight Geography = 40m (20m either side of flight path) – UA cannot orbit or turn around
    b. Contingency buffer = 80m (40m either side of flight path)
    c. Ground risk buffer = 1:1 rule buffer beginning from the edge of the contingency buffer. Typically 120m (dependent on flight altitude)

2) Unconstrained Leg (Figure 3): chosen when operating space is larger
    a. Flight Geography = 960m (480m either side of flight path) – SUA can orbit and turn around
    b. Contingency buffer = 1400m (700m either side)
    c. Ground risk buffer = 1:1 rule buffer beginning from the edge of the contingency buffer. Typically 120m (dependent on flight altitude)

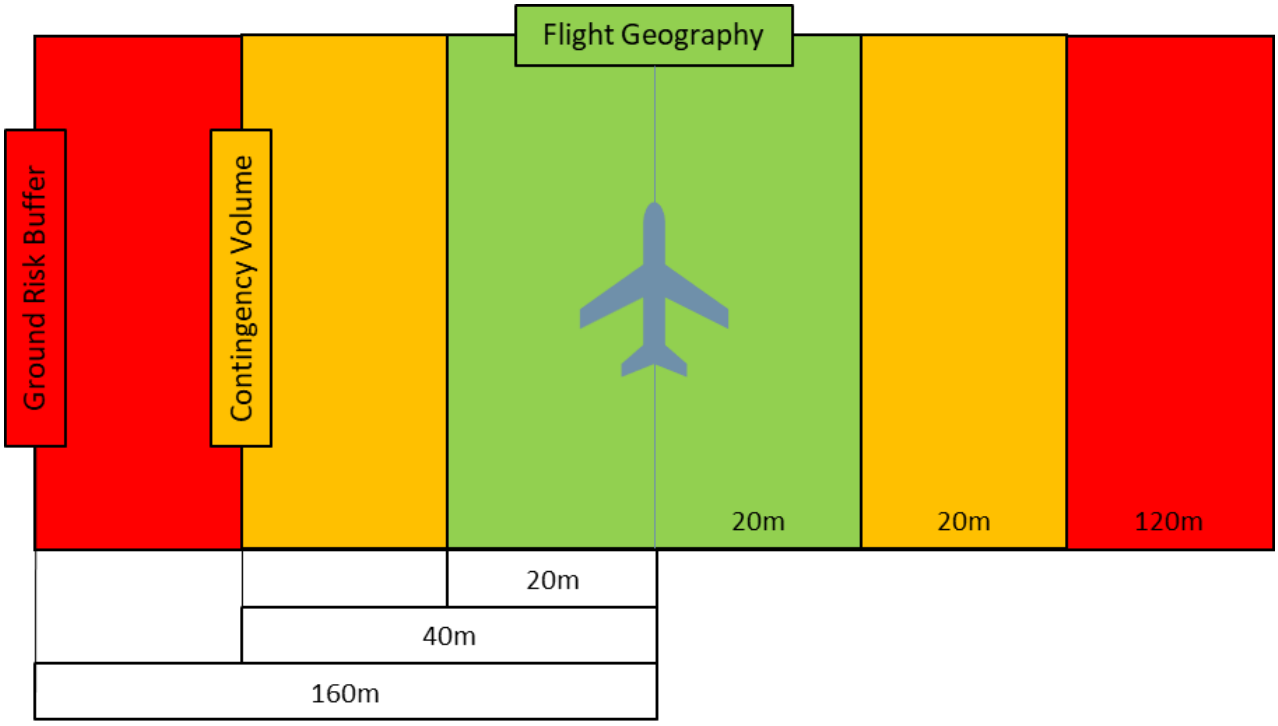

FIGURE 2: CONSTRAINED FLIGHT SECTOR (HORIZONTAL FLIGHT PROFILE)

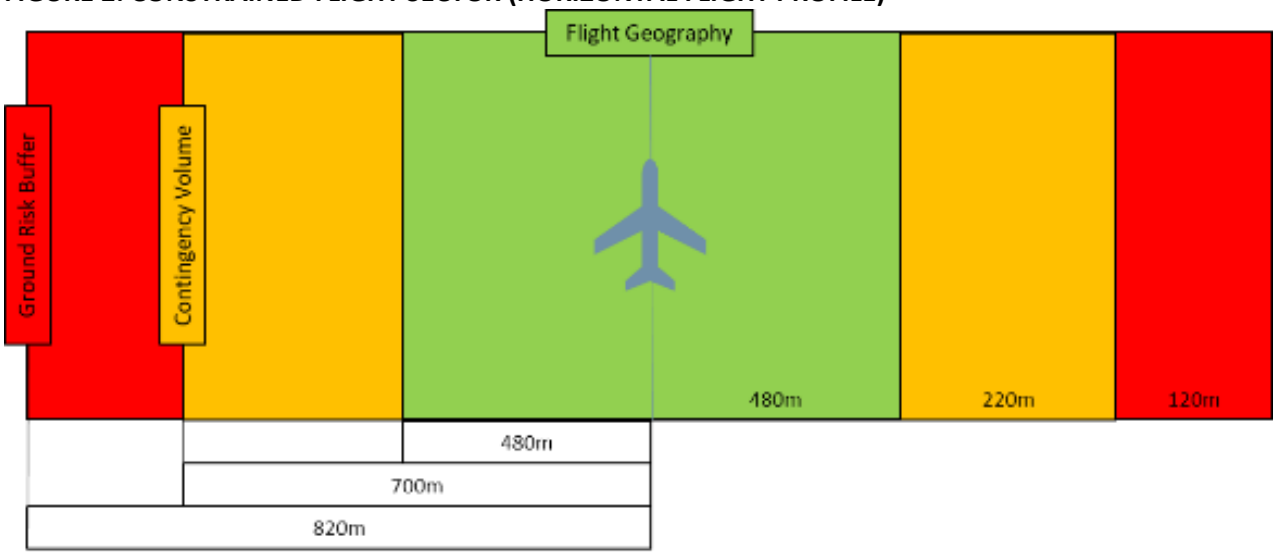

FIGURE 3: UNCONSTRAINED FLIGHT SECTOR (HORIZONTAL FLIGHT PROFILE)

The vertical operating volume of the Kookaburra Mk III Unmanned Aircraft consists of the following:

- Flight geography = 12m above and below planned flight path

Contingency buffer = 30m above planned flight path, extending to the ground surface below the planned flight path

3 Summary of engagement activity undertaken to date

DronePrep Ltd and DTLX Ltd shall co-sponsor the ACP and contribute to stakeholder engagement and public relations. Due the location of the proposed activity and given the prior stakeholder engagement performed by DTLX Ltd for ACP-2019-084, Skyports will engage those stakeholders in addition to the other identified stakeholders (see Appendix A for complete stakeholder list).

Through targeted aviation stakeholder engagement exercises performed by DTLX Ltd and those additional stakeholders identified, Skyports aims to develop comprehensive picture of airspace usage in the area.

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.

The TDA complex is broken into four sections to facilitate the operation of a single route without activating all TDAs concurrently.

4.2 Top-down view

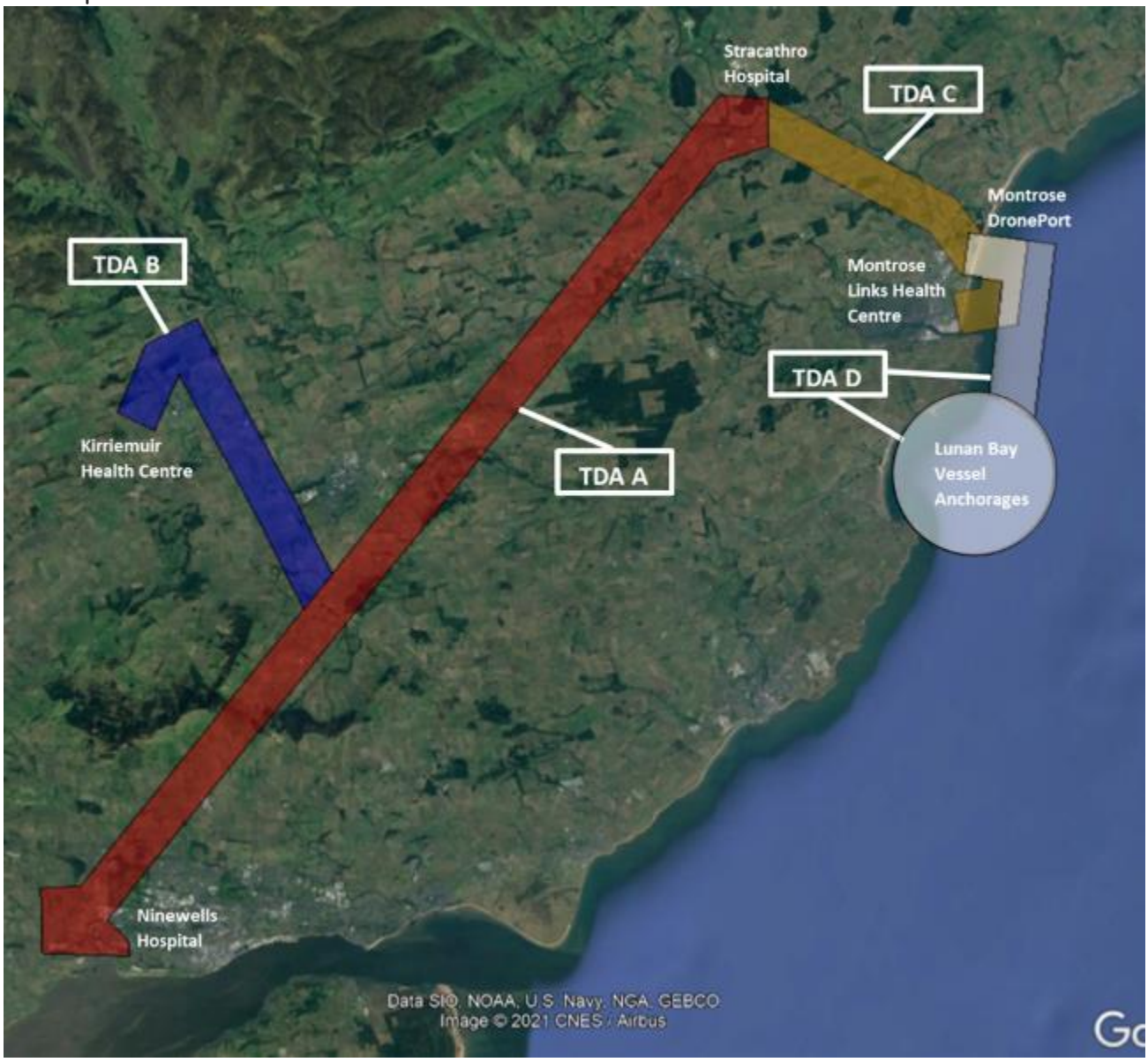

FIGURE 4: TOP DOWN VIEW OF TDA COMPLEX

4.3 Temporary Danger Area (TDA) Complex

4.3.1 TDA A: Stracathro to Ninewells

Identification and lateral limits						
	Area bounded by straight lines joining:					
WP	**Lat (N)**	**Lon (S)**	**Lat (N)**	**Lon (W)**	**Upper & lower limit**	**Remarks**
1	56.79359548	-2.58800051	56° 47' 36.94" N	002° 35' 16.80" W	Lower: SFC Upper: 400ft AGL	Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours: When notified Sponsor: Skyports
2	56.79516159	-2.62263304	56° 47' 42.58" N	002° 37' 21.47" W		
3	56.73943083	-2.70410163	56° 44' 21.95" N	002° 42' 14.76" W		
4	56.67998427	-2.79088826	56° 40' 47.94" N	002° 47' 27.19" W		
5	56.64443824	-2.84275481	56° 38' 39.97" N	002° 50' 33.91" W		
6	56.59022312	-2.92128592	56° 35' 24.80" N	002° 55' 16.62" W		
7	56.53556436	-3.00028461	56° 32' 08.03" N	003° 00' 01.02" W		
8	56.50502895	-3.04442275	56° 30' 18.10" N	003° 02' 39.92" W		
9	56.48657378	-3.07046744	56° 29' 11.66" N	003° 04' 13.68" W		
10	56.48553369	-3.09904657	56° 29' 07.92" N	003° 05' 56.56" W		
11	56.46009279	-3.09793573	56° 27' 36.33" N	003° 05' 52.56" W		
12	56.45961121	-3.06690161	56° 27' 34.60" N	003° 04' 00.84" W		
13	56.45925112	-3.03685424	56° 27' 33.30" N	003° 02' 12.67" W		
14	56.46521516	-3.03695116	56° 27' 54.77" N	003° 02' 13.02" W		
15	56.47346341	-3.05161043	56° 28' 24.46" N	003° 03' 05.79" W		
16	56.49464064	-3.02194077	56° 29' 40.70" N	003° 01' 18.98" W		
17	56.55703132	-2.9317464	56° 33' 25.31" N	002° 55' 54.28" W		
18	56.61283393	-2.85102085	56° 36' 46.20" N	002° 51' 03.67" W		
19	56.70155039	-2.7216752	56° 42' 05.58" N	002° 43' 18.03" W		
20	56.76864508	-2.62349406	56° 46' 07.12" N	002° 37' 24.57" W		
21	56.77528424	-2.58816105	56° 46' 31.02" N	002° 35' 17.37" W		
22	56.79359548	-2.58800051	56° 47' 36.94" N	002° 35' 16.80" W		

4.3.2 TDA C: Stracathro – Montrose Links Health Centre

Identification and lateral limits						
	Area bounded by straight lines joining:					
WP	**Lat (N)**	**Lon (S)**	**Lat (N)**	**Lon (W)**	**Upper & lower limit**	**Remarks**
1	56.71835192	-2.45653052	56° 43' 06.06" N	002° 27' 23.50" W	Lower: SFC Upper: 400ft AGL	Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours: When notified Sponsor: Skyports
2	56.70248285	-2.45021381	56° 42' 08.93" N	002° 27' 00.76" W		
3	56.70605979	-2.41058085	56° 42' 21.81" N	002° 24' 38.09" W		
4	56.73880942	-2.40303658	56° 44' 19.71" N	002° 24' 10.93" W		
5	56.74104547	-2.43473609	56° 44' 27.76" N	002° 26' 05.04" W		
6	56.75487188	-2.45367078	56° 45' 17.53" N	002° 27' 13.21" W		
7	56.7936055	-2.5880296	56° 47' 36.97" N	002° 35' 16.90" W		
8	56.77528376	-2.58816812	56° 46' 31.02" N	002° 35' 17.40" W		
9	56.74225765	-2.4731588	56° 44' 32.12" N	002° 28' 23.37" W		
10	56.72589452	-2.45096334	56° 43' 33.22" N	002° 27' 03.46" W		
11	56.72480941	-2.43594585	56° 43' 29.31" N	002° 26' 09.40" W		

12	56.72039893	-2.43697227	56° 43' 13.43" N	002° 26' 13.10" W		
13	56.71835192	-2.45653052	56° 43' 06.06" N	002° 27' 23.50" W		

4.3.3 TDA B: Kirriemuir to Ninewells (used in conjunction with TDA A -Section 4.3.1)

Identification and lateral limits						
	Area bounded by straight lines joining:					
WP	**Lat (N)**	**Lon (S)**	**Lat (N)**	**Lon (W)**	**Upper & lower limit**	**Remarks**
1	56.69692123	-3.02768762	56° 41' 48.91" N	003° 01' 39.67" W	Lower: SFC Upper: 400ft AGL	Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours: When notified Sponsor: Skyports
2	56.67036131	-3.04758396	56° 40' 13.30" N	003° 02' 51.30" W		
3	56.66337538	-3.02150649	56° 39' 48.15" N	003° 01' 17.42" W		
4	56.68540798	-3.00417441	56° 41' 07.46" N	003° 00' 15.02" W		
5	56.62618598	-2.94454342	56° 37' 34.26" N	002° 56' 40.35" W		
6	56.59459348	-2.91490464	56° 35' 40.53" N	002° 54' 53.65" W		
7	56.60831965	-2.89495687	56° 36' 29.95" N	002° 53' 41.84" W		
8	56.63531601	-2.92005738	56° 38' 07.13" N	002° 55' 12.20" W		
9	56.7070344	-2.9920121	56° 42' 25.32" N	002° 59' 31.24" W		
10	56.69692123	-3.02768762	56° 41' 48.91" N	003° 01' 39.67" W		

4.3.4 TDA D: Montrose Drone Port to Lunan Bay

Identification and lateral limits						
	Area bounded by straight lines joining:					
WP	**Lat (N)**	**Lon (S)**	**Lat (N)**	**Lon (W)**	**Upper & lower limit**	**Remarks**
1	56.66879369	-2.39874163	56° 40' 07.65" N	002° 23' 55.46" W	Lower: SFC Upper: 400ft AGL	Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours: When notified Sponsor: Skyports
2	56.73744461	-2.38354756	56° 44' 14.80" N	002° 23' 00.77" W		
3	56.74181339	-2.44499608	56° 44' 30.52" N	002° 26' 41.98" W		
4	56.72519623	-2.44922752	56° 43' 30.70" N	002° 26' 57.21" W		
5	56.7230835	-2.42132356	56° 43' 23.10" N	002° 25' 16.76" W		
6	56.6787737	-2.4307677	56° 40' 43.58" N	002° 25' 50.76" W		
7	56.66879369	-2.39874163	56° 40' 07.65" N	002° 23' 55.46" W		
8 (3.5km radius circle around point)	56.648056	-2.441617	56° 38' 53.00" N	002° 26' 29.82" W		

4.4 Notification

Skyports will promulgate TDA activations by NOTAM at least 24 hours before the day of planned use.

4.4.1 Danger Area Activation Information Service (DAAIS)

Skyports will discuss with NATS (Scottish Flight Information Service, Scottish Control (Prestwick)) 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.

4.5 Usage dates

Date	Time
14th March 2022 and ending on 10 June 2022	Daylight hours and outside of daylight hours (**excluding** Saturdays & Sundays)

4.6 Technical means used

Type	Swoop Kookaburra MK III. 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 Take-off and Landing Points. 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 UA is fitted with ADS-B IN and OUT, which can process uncertified ADS-B signals, namely SIL/SID=0.

5. Guidance on how to respond

5.1 Duration

Skyports intends to carry out its aviation stakeholder engagement exercise over a 9-week period, given the previous engagement performed by DTLX ltd, who are working with Skyports during the stakeholder engagement period.

5.2 Dates of targeted stakeholder engagement period

This targeted stakeholder engagement activity period will take place between **Tuesday 9th November 2021** and end on **Sunday 9th January 2022.**

5.3 Deadline for responses

All responses should be sent to Skyports by **midnight on Sunday 9th January 2022**, 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; or by simply replying to this email.

Emails should be sent to airspacechange@skyports.net Please title the email 'ACP-2021-070 UAS BVLOS in Segregated Airspace (Montrose - Stracathro - Kirriemuir - Dundee & Montrose Anchorages)'.

Please be clear in the e-form response 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 email address 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

Air	Organisation Type	Name
1.	General Aviation	Aberdeen Hang Glider & Paraglider Club
2.	Representative	Aircraft Operators Group (AOG)
3.	Representative	Aircraft Owners and Pilots Association (AOPA)
4.	Representative	Airport Operators Association (AOA)
5.	Representative	Airspace Change Organising Group (ACOG)
6.	Representative	Airspace4All
7.	Representative	Association of Remotely Piloted Aircraft Systems
8.	Representative	Aviation Environment Federation (AEF)
9.	Representative	British Balloon and Airship Club
10	Representative	British Business Aviation and General Aviation Association
11	Representative	British Gliding Association (BGA)
12	Representative	British Hang Gliding and Paragliding Association (BHPA)
13	Representative	British Helicopter Association
14	Representative	British Microlight Aircraft Association (BMAA)

15	Representative	British Microlight Aircraft Association / General Aviation Safety Council (GASCo)
16	Representative	British Model Flying Association (BMFA)
17	Representative	British Skydiving
18	Emergency Services	Coastguard (HEMS: Bristow)
19	ANSP	Defence Airspace and Air Traffic Management
20	Airport	Dundee Airport
21	Emergency Services	Fire Scotland
22	Airstrip	Forfar Airstrip (private)
23	Representative	General Aviation Alliance (GAA)
24	General Aviation	Grampian Microlight and Flying Club
25	Representative	Helicopter Club of Great Britain (HCGB)
26	Operator	Heliair (pipeline)
27	Operator	Helicentre
28	Training provider	HoT Alexander Air Ltd (presumably Alexander Air Flight Training Ltd)
29	Airstrip	Kirriemuir Airstrip (private)

30	Representative	Light Aircraft Association (LAA)
31	Emergency Services	Maritime and Coastguard Agency
32	Representative	Military Aviation Authority (MAA)
33	Military	Ministry of Defence
34	General Aviation	Montrose Aero Model Club
35	Heritage	Montrose AirStation Heritage Centre
36	Powerline Inspection	National Grid
37	ANSP	NATS
38	Airfield	Newbigging Airstrip (private)
39	Association	Northern Lighthouse Board
40	Operator	PDG Helicopters
41	Airport	Perth Airport
42	Emergency Services	Police Scotland
43	Military	RAF Leuchars
44	Emergency Services	Scottish Air Ambulance Service (Helimed 2 & 5) (HEMS: Gama)

45	Emergency Services	Scottish Charity Air Ambulance (Helimed 76 & 79) (HEMS: Babcock)
46	Natural Heritage	Scottish Natural Heritage
47	Operator	Skyhook
48	Representative	Strathtay Strut (of the LAA)
49	Training Provider	Tayside Aviation

Note: Additional identified stakeholders will be added during the targeted stakeholder engagement exercise, as a consequence of stakeholders getting in touch. Names of private individuals will not be included but their feedback will be incorporated.

Appendix B: Response form

Name	
Organisation name	
Position in the organisation	
Email	

Feedback

Appendix C: Referenced Documents

Document	Document Title	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 5.0 6 September 2021	CAP 203A00
CAP 1616	Airspace Change – Guidance on the regulatory process for changing the notified airspace design and planning and planned and permanent redistribution of air traffic, and on providing airspace information	Version 4.0 1 March 2021	CAP 1616
CAP 722	Unmanned Aircraft System Operations in UK Airspace – Guidance	Version 8 5 November 2020	CAP 722

Appendix D: Acronyms & 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
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

Appendix E: 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. 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	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. The volumes of airspace are designed to ensure the safe and optimal operation of aircraft. Airspace structures consist of: (d) controlled airspace, namely control zones, control areas, terminal control areas and airways; (b) airspace restrictions, namely danger, restricted and prohibited areas; for a radio mandatory zones, transponder mandatory zones;

	(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.
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.