SKYLIFT

Updates and Clarification Notes for First Engagement Materials

To address a number of points within the CAA's Clarification Questions, Skylift UAV Ltd have detailed all three engagement emails, from the first engagement period, into this document. This document presents the email content, with footnotes and additional information in red text within square brackets [example] to add clarification.

First Engagement Email

Dear Stakeholder,

Action requested:
Please find below an Airspace Change Proposal for your review. We would appreciate it if you could review the proposed trial airspace, complete the attached feedback form and return it to FTZAdmin@consortiq.com[1] by 1700 hours on Friday 1st March 2024.

Background information and Planned Activity for 2024:
Skylift UAV Limited has been tasked by Solent Transport to support the Civil Aviation Authority's (CAA) ambitions to conduct safe Beyond Visual Line Of Site (BVLOS) operations outside of segregated airspace. An application to the CAA was submitted and approved by the CAA for a Temporary Danger Area (TDA) in 2022, In order to further the CAA's understanding of the operation of Uncrewed Airspace System's (UAS) in non segregated airspace, Skylift, on behalf of Solent Transport, intends to conduct further demonstration flights in 2024.

Find out more:
This proposal is covered under an Airspace Change Proposal (ACP) reference ACP-2022-106. This application is similar to a previously approved TDA ACP-2021-002 airspace, with the following minor amendments:
- Operating 2 aircraft simultaneously within the TDA using procedural separation.
- Increase in altitude from 400 ft to 600 ft [above ground level (AGL)] to allow greater altitude-based separation.
- The addition of several locations to allow exit and entry to the TDA from designated points allowing for transition from Visual Line Of Site (VLOS) to Beyond Visual Line Of Site (BVLOS).
- Removal of 3-[nautical] mile buffer[2] from previous TDA surrounding St Mary's Hospital on the IOW [Isle of Wight] to allow for complete End to End Medical BVLOS routing, removing the need for the final approach to be under VLOS rules[3].
- TDA space has been made wider to facilitate the VLOS entry and exit from STUB[4] locations.

[1] Update: This email address is no longer monitored.
[2] Clarification: At the time of writing, CAA policy required 3 nautical miles (nm) between the CTA and other activities. This policy was superseded in February 2024 by the SARG Policy 133 and the buffer reduced to 1nm. The TDA remains further than 1nm from Solent CTA.
[3] Clarification: VLOS operations are unable to enter the Solent CTA. However, they reduce the safety buffer and contingency buffer within the TDA, therefore, reducing the overall TDA size. Therefore, allowing access to the landing / take-off site in proximity to St Mary's Hospital, without impacting Solent CTA.
[4] Clarification: Stubs are defined geographical areas allowing safe entry and exit to the main TDA. The objective of the "stubs" within the trial airspace design is to provide exit and entry to the TDA from landing / take-off sites and allowing for transition from VLOS to BVLOS.

- Previous TDA was 2 months, current ACP is for 3 – 6 months. (Depending on CAA approval of TDA or trial[5])
- Agreement to remove section A[6] of TDA because CAA were concerned of the over flight risk over a populated area.

The full Statement of Need for this project is available on the CAA's Airspace Change Portal (link provided below). Once all the relevant approvals are in place, we plan to conduct a BVLOS flying operation between the proposed sites. The CAA have determined that this project is in scope of the Airspace Change Process (ACP) and that a Trial airspace will be most suited to achieve the objectives set out in the application. To that end, we are required to formally engage fellow airspace users who will potentially be affected by the proposed Trial.

The Airspace Change Proposal reference is ACP-2022-106 and all documentation associated with this proposal is available via that link.

Mitigation for other airspace users:
We wish to create minimal impact to the operations of other airspace users while avoiding overflight of inhabited areas where possible. We have endeavoured to propose a Trial area split into three portions[7] that are as small as possible to accommodate our flying operation and are "VFR-friendly[8]". We will have a comprehensive communications system in place, which can automatically text, for example, ATDs [actual time of departure] and ETAs [estimated time of arrival] to anyone that requires that information, and we can also provide Pre-Flight Information[9] for the TDA via a dedicated telephone number[10]. In the event of the emergency services requiring access to the airspace within the trial airspace, they will be given priority over RPA[11] [remotely

[5] Clarification: This sentence suggests the ACP could be for either a TDA or a trial. Depending on the requirement for an ACP, ACPs can be for either trial, temporary, or permanent changes, with different purposes and durations applicable to each. In this instance, this ACP is for a trial airspace. Within the associated trial airspace, a temporary danger area (TDA) is being proposed. Therefore, although a temporary danger area forms part of the proposal, this ACP is a trial as per the CAP1616 definition.

[6] Clarification: At the time of writing, section A still existed, but had been significantly altered compared to ACP-2021-002 including minimising the volume overland, therefore, reducing the risk as a result of overflying populated areas.

[7] Clarification / update: As well as the three main TDA sections, four stubs were also proposed in order to allow access to / from the landing / take-off sites and the main TDA sections. The updated final design will be provided within the ACP submission in January 2025. It now longer includes numerous TDA sections and stubs and is a single shape which will be activated in its entirety.

[8] Clarification: "VFR-friendly" has been used to explain that the TDA has been designed to reduce complexity for VFR pilots operating in nearby airspace. This has been achieved by using regular shapes with as few latitude / longitude points as possible; rounding the activation heights to whole numbers; the majority being over the Solent where other airspace users tend to be higher than the proposed TDA; and avoiding common operating procedures in / out of neighbouring airfields.

[9] Clarification: Pre-flight information could include weather, type(s) of UAS being operated, flight route, number of flights, for example.

[10] Clarification: This offer is aimed at emergency services and only to enhance (not replace) the information provided to / from the critical care desk. Information shared via this method is for awareness only and does not mean other airspace users can enter the TDA whilst the NOTAM is still active.

[11] Clarification: UAS (uncrewed air systems) has been used more regularly throughout Skylift UAV Ltd's documentation when referring to their operation. UAS is the totality of everything that makes a remotely piloted aircraft (RPA) work. This includes its GPS module, ground control module, transmission systems, camera, software, and the pilot on the ground controlling the RPA. An RPA is a component of a UAS.

piloted aircraft] traffic [within this trial], and we can collapse the airspace[12] very quickly if necessary. Our RPA is equipped with ADS-B and a Mode S Transponder for electronic conspicuity. We will also Geofence[13] the RPA's Flight Volume (see CAP 1915[14] for more information regarding this term) so that the aircraft remains within the confines of the trial airspace. During the trial, the expected operating hours of the airspace will be five days per week, predominantly in daylight hours[15], and the airspace will be activated by NOTAM [notice to aviation] with at least 24 hours' notice. We anticipate 4 return flights per day[16] during the week but not every week – we will publish a schedule to stakeholders once confirmed as this will change due to weather and other events.

For reasons of transparency, we must upload all feedback and comments to the CAA Airspace Change Portal. We will share feedback with the CAA in its original form, but published feedback will be redacted to remove personal details. We really do appreciate your feedback on this proposal, and we would like to thank you in advance for taking the time to respond. However, if you do not feel that your organisation is affected by the proposed trial then there is no need to respond. If we do not receive a response from you, we will assume that you have no objection to the Airspace Change Proposal as published.

Best regards
Skylift UAV Limited

The above email included the following form for stakeholders to provide their feedback in:

Feedback for Airspace Change Proposal ACP-2022-106

Name	
Job Title / Role	
Company / Organisation	
E-mail address	
Contact number	

Feedback:

[12] Clarification: "collapse the airspace" has been used to describe a situation where the TDA could be cleared of UAS, as quickly and safely as operable, to allow the transit of high-priority traffic (military, search and rescue, air ambulance, policing, and fire services whilst on critical missions). The TDA will not be "collapsed" to provide access to non-high priority traffic (including the services noted above on non-critical missions such as training).
[13] Clarification: Drone geofencing is a system that uses GPS technology to establish virtual geographical boundaries, known as geofences. It can be used to create no-fly zones, restrict altitudes, or prevent take-off or landing.
[14] Update: CAP1915 has been withdrawn and can no longer be accessed. See definition, above, for more information on geofencing.
[15] Clarification: If approved, the trial will operate Monday to Friday, 0900 – 1700.
[16] Update: This has increased to "six to eight per operating day" as per the second engagement letter. This increase allows Skylift UAV Ltd to maximise the benefit of activating the TDA.

Supplement to First Engagement Email

Dear stakeholder,

I hope this email finds you well, as a polite reminder the stakeholder engagement period for the Solent FTZ trial closes on the 4th March [2024][17].

Attached to this email is some additional information that will also be uploaded to the ACP portal as a matter of due course.

Please also see the attached feedback form, which you can populate with comments or alternatively reply with 'no further comments' as confirmation you have received our correspondence.

Thank you in advance,

Skylift [UAV Ltd].

Copy of attachment referenced in email above:

Previous TDA Background Information
This ACP follows on from a previously approved Temporary Danger Area (TDA) application (ACP 2021-002). https://airspacechange.caa.co.uk/PublicProposalArea?pID=335

The previous trial operated from May to July 2022 and tested aircraft and supporting systems and procedures in flying direct from Thorney Island to a field next to St. Mary's Hospital[18]. Dry Medication was flown on at least one test flight over the Solent. Live Chemotherapy drugs[19] were flown in VLOS test flights at Thorney Island. A request was made to extend the trial from September to November 2022, but this request was withdrawn due to the heavy lift VTOL [vertical take-off and landing aircraft][20] not meeting the endurance level required to cross the Solent.

Proposed Trial Airspace / TDA Information
ACP-2022-106 https://airspacechange.caa.co.uk/PublicProposalArea?pID=525
The image below shows the proposed airspace for Spring / Summer 2024[21] with stub examples.

[17] Clarification: The previous engagement email had stated an engagement end point of 1st March 2024. This three-day extension was not intentional however it was adhered to for continuity and in consideration of any final feedback which acknowledged the later date.
[18] Update: This was correct at time of writing. However, as per the ACP submission, Skylift UAV Ltd will no longer be operating over Thorney Island or the Isle of Wight (where St. Mary's Hospital is based) but will still operate across the Solent.
[19] Clarification: This engagement references dry medication and chemotherapy drugs in reference to the previous trial (ACP-2021-002). There are no plans for this trial to carry any Dangerous Goods. This trial's primary aim is to gather data about the operability of multiple UAS within the TDA airspace.
[20] Clarification: Vertical take-off and landing aircraft (VTOL) generally have low pay load capacity. "Heavy lift VTOL" has been used to describe one which was designed to carry higher than average payload.
[21] Clarification: Although written here as "Spring / Summer 2024" this was the proposed TDA for the full trial period (at the time of writing, this would have been June to November 2024).

The trial airspace intends to build upon the previous successful TDA in complexity and capacity for the benefit of UK PLC, by considering a wide range of features that affect the safety of segregated airspace[22].

The Civil Aviation Authority (CAA) has agreed to allow a TDA application to be the mechanism for which a trial airspace may be approved.

In addition to the previous TDA (2022), this application is to include:

- Operating multiple aircraft simultaneously within the TDA using procedural separation.
- Increase in altitude from 400 ft to 600 ft [AGL] to allow greater altitude-based separation between the lanes, in support of multiple drones.
- The addition of several 'stubs' to allow VLOS entry and exit to the TDA from several designated points allowing for transition from Visual Line of Sight (VLOS) to Beyond Visual Line of Sight (BVLOS), creating crossing traffic.
- Removal of 3 [nautical] mile buffer from the previous TDA surrounding St Mary's Hospital on the IOW to allow for complete End to End (E2E) BVLOS routing, removing the need for the final approach to be under VLOS rules.
- TDA space has been made wider to facilitate the VLOS entry and exit from stub locations.

[22] Clarification: This trial will gather information on UAS operations and multi-UAS operations, within a segregated airspace. Operating trials, and gathering this operational information, allows the CAA to make informed decisions regarding allowing UAS in unsegregated airspace. In time, this could allow UAS to operate BVLOS whilst contributing to the UK economy (for example delivery services, survey flights, film production).

Trial Aims[23]:
To test as many of the following, as many times as practically possible where weather and availability of time & space allows:

- Build and test a comms and flight planning tool to successfully coordinate the live trials.
    - Introduce different forms of Unmanned Aircraft System Traffic Management (UTM), building on basic planning systems to a full booking and coordination system. Inclusion of visual / audio comms or both. Test and develop operational procedures, capturing lessons learned and enhancing risk mitigation throughout the trials.
- Introduce a sensor network in the Solent region for situational awareness of cooperative and non-cooperative air traffic, testing of sensors to determine network density for each sensor type.
- Increase the complexity of flying from single operator/ aircraft to multiple operators/ aircraft crossing the trial airspace and using VLOS entry and exit to the stubs. This scenario enables us to simulate safe approaches and departures.
- Human factors monitoring of loading and unloading cargo.

Operating Hours:
The trial will operate from June to November 2024. Flying will primarily happen during daylight hours, with the TDA expected to be active five days a week[24]. All activations will be made via Notice to Aviation (NOTAM) with at least 24 hours' notice. The airspace is split into three portions, A, B & C[25] with one, two or all three being activated per activity. This allows for the impact to be as minimal as possible.

It is anticipated there will be four return flights per day[26] during the week but not every week.

[23] Update: As the project has progressed, the trial aims have been updated to better align with the project's current aims. The aims listed above where correct at time of writing; the updated trial aims will be provided within the ACP submission in January 2025.
[24] Clarification: The TDA proposal is for operations Monday to Friday, 0900 – 1700.
[25] Clarification / update: At the time of engagement, as well as the three main TDA section (shown in red in the image above), the proposed TDA also included four stubs (shown in yellow in the image above). To allow access to the main TDA sections, at least one stub will need to be activated. The updated final design will be provided within the ACP submission in January 2025. It now longer includes numerous TDA sections and stubs and is a single shape which will be activated in its entirety.
[26] Update: This has increased to "six to eight per operating day" as per the second engagement letter. This increase allows Skylift UAV Ltd to maximise the benefit of activating the TDA.

Proposed TDA Design, Post-First Engagement

Dear Stakeholder,

I am writing to update you on the progress of the Airspace Change Proposal ACP-2022-106.

Below is the final design[27] of the proposed airspace with updates based on the feedback from the engagement. The date for submission has been moved to Friday 12th April [2024][28] with the intention to start flying from the beginning of July [2024][29].

Kind regards,

Skylift UAV [Ltd].

[27] Clarification: This was the final design at the time of writing. However, it is no longer the final design and has been updated. The updated final design will be provided within the ACP submission in January 2025.
[28] Clarification: The submission date had been 15th March 2024.
[29] Clarification / update: Previously, the engagement period was described as six-months from June to November 2024 inclusive. However, changes to the timelines resulted in updating the operating timescales to July to November. A subsequent delay, to address the CAA's Clarification Questions, and for a summer weather period, means that the TDA is now proposed to operate for six-months from May to October 2025.

TDA Coordinates[30]:

Section A	Lat	Long
A1	50°49’32.43” N	0°52’39.82” W
A2	50°48’54.86” N	0°51’27.02” W
A3	50°46’13.39” N	0°54’53.34” W
A4	50°46’58.23” N	0°56’11.72” W

Section B	Lat	Long
B1	50°46’58.23” N	0°56’11.72” W
B2	50°46’13.39” N	0°54’53.34” W
B3	50°44’19.88” N	1°12’29.12” W
B4	50°45’3.83” N	1°13’33.87” W

Section C	Lat	Long
C1	50°45’3.83” N	1°13’33.87” W
C2	50°44’19.88” N	1°12’29.12” W
C3	50°43’45.19” N	1°14’22.51” W
C4	50°41’49.96” N	1°15’49.62” W
C5	50°42’9.91” N	1°16’59.62” W
C6	50°44’14.30” N	1°15’30.79” W

[30] Update: These coordinates are no longer correct and should not be used for flight planning purposes. The updated final design (and coordinated) will be provided within the ACP submission in January 2025.

Fort Stub	Lat	Long
F1	50°47’18.84” N	1° 2’16.22” W
F2	50°47’26.14” N	1° 1’39.99” W
F3	50°46’16.43” N	1° 2’28.58” W
F4	50°46’24.63” N	1° 1’6.15” W

Hospital Stub	Lat	Long
H1	50°42’45.95” N	1°17’59.25” W
H2	50°43’17.31” N	1°17’54.86” W
H3	50°43’10.75” N	1°16’16.20” W
H4	50°42’40.27” N	1°16’37.83” W