

Solent Transport Temporary Danger Area: Stage 4 Airspace Trial

Version History

Version	Updates	Date
1	First edition	12.04.2024

Referenced Documents

Number	Name	Link
1	CAP1616 Edition 4	Link
2	CAP1616 Edition 5, Annex G (Guidance on Airspace Change Process for Temporary and Trial Airspace Change Proposals)	Link
3	Airspace Modernisation Strategy	Link
4	ACP-2022-106 Solent Transport Airspace Trial – Assessment Meeting Minutes	Link
5	Policy for the Establishment and Operation of Special Use Airspace	Link
6	ACP-2022-106 Solent Transport Airspace Trial - Statement of Need	Link
7	ACP-2022-106 Solent Transport Airspace Trial – Airspace Change Presentation	Link

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1. Introduction

This document forms part of the document set in accordance with the requirements of the Civil Aviation Authority's (CAA) CAP1616¹ airspace change process (ACP). This document aims to provide adequate evidence to satisfy CAP1616 Stage 4 Submit Gateway, for an airspace trial.

Summary of Project

This ACP aims to introduce a Temporary Danger Area (TDA) to facilitate Uncrewed Air Systems (UAS) Beyond Visual Line of Sight (BVLOS) operations in the Solent area. The project will operate UAS between Portsmouth and Newport on the Isle of Wight. This forms part of a 4-year programme work led by Solent Transport as part of the Department for Transport funded Future Transport Zone (FTZ). Solent Transport is a partnership between Hampshire County Council, Isle of Wight Council, Southampton City Council and Portsmouth City Council; alongside working with the Universities of Southampton and Portsmouth.

The TDA will support the gathering of operational experience incrementally in order to support the CAA's future airspace roadmap and convince the general public of the safety and viability of logistics applications for UAS in the Solent region. This trial will build evidence and experience in support of the CAA's ambition to migrate BVLOS operations from segregated airspace to non-segregated airspace, as outlined under the Airspace Modernisation Strategy [\(Ref 3\)](#). The TDA will be used as an opportunity to test the available detect and avoid (DAA) solutions to support the route to approval with the CAA. Currently, this is not possible in any simulated environment known to Skylift UAV Ltd, therefore, this ACP is being completed in an operational environment.

In 2020, Skylift UAV Ltd previously operated a similar trial in this area, [ACP-2021-002](#). A similar TDA is used for both ACPs which means common stakeholders and the operational communications and procedures used are all still appropriate. However, there are a number of differences in this ACP, notably:

- The addition of several 'stub' locations to allow exit and entry to the TDA from designated points allowing for transition from Visual Line of Sight (VLOS) to BVLOS. This will enable a wide range of sensor data for cooperative and uncooperative traffic to be captured, thus building a more representative data model of future flying operations using point-to-point routings or multi-point routes.
- Multiple UAS and / or operators flying in the TDA at the same time to trial deconfliction methods and using procedural separation. This higher traffic density will allow operations to be trialled in a more representative environment than what the previous ACP focussed on.

¹ CAP1616 edition 4 [\(Ref 1\)](#) was published in 2021, with edition 5 due January 2024. However, CAP1616G (Guidance on Airspace Change Process for Temporary and Trial Airspace Change Proposals) [\(Ref 2\)](#) did not come into force until the 18th March 2024. Given the progress of this ACP, up to that point, this ACP continued based on edition 4. Unless otherwise stated, any reference to CAP1616 in this document assumes edition 4.

- UAS will be able to operate up to 600ft above ground level (AGL) of the highest point within each section of TDA; previously this was 400ft. This allows greater altitude-based separation between the lanes, in support of multiple UAS.
- Request for removal of the Solent Control Area (CTA) buffer which will allow better access and complete end-to-end BVLOS routing to St Mary's Hospital on the Isle of Wight. This is due to the proposed TDA falling within 3nm of the Solent CTA which would require final approach to be under VLOS rules. Recent changes to the buffer policy means Skylift UAV Ltd can operate within 1nm of the CTA without impacting Southampton Air Traffic Control (ATC), therefore removing this point².

The trial aims to test as many of the following, as many times as practically possible where weather and availability of time and 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 communications 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.

Further information on this trial can be found in the Statement of Need [\(Ref 6\)](#) and supporting Airspace Change Presentation [\(Ref 7\)](#) which were provided to the CAA during Stage 1.

The TDA will operate for up to five-months commencing July 2024. Full details for the trial can be found in Appendix: Trial Plan.

This ACP forms part of a series of trials. There is potential for a future ACP which could involve a hub location to allow testing of multiple UAS and operators in the same airspace. The details of this are not yet known, but an ACP and portal page will be created if this potential future ACP is progressed.

2. Landowners and Landing Sites

Landing sites are a vital component to this trial airspace. The landowners of these sites have been engaged throughout the ACP process to make sure they understand the trials request on them and that the correct permissions and agreements are in place. These can be reviewed, on request by the CAA, but are commercially sensitive and will not be made publicly available.

² This bullet point is referenced in the Assessment Meeting Minutes [\(Ref 4\)](#), at which time the buffer policy required 3nm between the CTA and other activities. This policy was superseded in February 2024 by the "Policy for the Establishment and Operation of Special Use Airspace" [\(Ref 5\)](#) and the buffer reduced to 1nm. The TDA remains greater than 1nm from Solent CTA.

3. Stakeholder Engagement

Skylift UAV Ltd understand that it is not just the landowners who could be impacted by this trial ACP. Therefore, a round of wider stakeholder engagement was completed to allow stakeholders to understand the proposal; establish that the trial will be safe and operable; and provide any feedback.

In line with CAP1616^(Ref 1), a formal consultation was not required.

Identified Stakeholders

Targeted stakeholders were identified using the National Air Traffic Management Advisory Committee (NATMAC) list. This was reviewed and limited to those members who operate in the vicinity or could have specific interest in the trial. Additional organisations were added to the stakeholder list based on their proximity to the TDA.

A full stakeholder list, and rationale for removing some NATMAC members, can be found in Appendix: Stakeholder List.

Engagement Activities

Formal engagement was carried out from Friday 2nd February 2024 to Friday 1st March 2024. Four weeks was considered proportional to the size and scope of the ACP, TDA volume, and impacted stakeholders.

Targeted stakeholders were sent an explanatory email about the ACP – including the purpose of the trial and proposed TDA design – and inviting them to respond. Bembridge Airport was initially contacted by phone as no email address could be identified for them. They later provided an email address and therefore received the same engagement materials / method as all other stakeholders.

Stakeholders were able to respond to the engagement via email. This was considered sufficient and appropriate as all targeted stakeholders regularly used emails. One stakeholder chose to respond verbally, this was also accepted, with the phone call recorded in Other Engagement Activities in Appendix: Engagement Activities.

In response to the email sent on 2nd February, Skylift UAV Ltd received requests for clarifying information. An addendum was sent to all stakeholders on 20th February. This also acted as a reminder that the engagement is active, and Skylift UAV Ltd took the opportunity to extend the engagement period by three days to Monday 4th March.

By 4th March, Lee-on-Solent Airport had not provided a response. Given their proximity to the proposal, they were contacted directly, see Other Engagement Activities.

The final proposed TDA design, was communicated to relevant stakeholders, via email, early April. Since then, the TDA has had to be widened, based on safety / operational advice from the CAA.

Copies of engagement emails can be found in Appendix: Engagement Activities.

Summary of Engagement Responses

By Wednesday 6th March 2024, fourteen responses had been received from nine targeted stakeholders and five other stakeholders (these respondents are listed in Other Stakeholders in Appendix: Stakeholder List).

Lee-on-Solent Airport then provided feedback on March 12th.

General Aviation Alliance (GA Alliance), an affected NATMAC stakeholder, contacted Skylift UAV Ltd on the 21st March 2024 stating they had not been engaged, although our records show they were included on both emails to date. They requested additional time to respond, and a response was received on 4th April and included in the feedback. Bringing the total number of responses to sixteen.

By 11th April 2024, a total of sixteen responses have been received from eleven targeted stakeholders and five other stakeholders (these respondents are listed in Other Stakeholders in Appendix: Stakeholder List).

Eight high-level themes have been identified: economic; engagement / consultation; environmental; legal; miscellaneous; operations; safety; and no comment / impact. Table 1 summarises all received feedback alphabetically by themes.

Table 1 – Summary of Feedback

Theme “You said”	Stakeholder(s)	Potential impact the design	Rationale “We did”	Design change
Economic - Expect compensation / reimbursement for property devaluation and / or legal costs	Estates Ltd	No	UAS are legally allowed to operate, within CAA regulations. Aircraft will be at high altitude (the TDA ceiling is 600ft above ground level (AGL)) and will not be recording any footage, therefore, negligible infringement on landowners overflown. Paying such costs is not a requirement of an ACP and therefore will not be covered.	N/A
Economic - Potential commercial implications for landowners	Barton Estate Association Estates Ltd	No	Skylift UAV Ltd currently operate over livestock with no impact on them.	N/A
Economic - Property will be devalued	Estates Ltd	No	UAS are legally allowed to operate, within CAA regulations Aircraft will be at high altitude (the TDA ceiling is 600ft above ground level (AGL)) and will not be recording any footage, therefore, negligible infringement on landowners overflown. No expected impact on property value.	N/A

Theme "You said"	Stakeholder(s)	Potential impact the design	Rationale "We did"	Design change
Economic - Wide TDA is only required to be able to sell more services to other clients in the future	Estates Ltd	No	As per the Summary of Project, more than one operator may fly within the TDA as part of this trial. This trial is being led by Solent Transport who are funded by the Department for Transport, Skylift UAV Ltd are the UAS operator. This TDA is not about profiteering or selling future services. Future trials would require their own ACP which would be assessed on its own merits.	N/A
Engagement / Consultation - Consultation is flawed	Estates Ltd Kings Quay Nature Reserve	No	As per CAP1616 ^(Ref 1) paragraph 317, trial airspace changes are required to complete targeted engagement with aviation stakeholders to make sure the trial is safe and operable. There is no requirement for formal consultation.	N/A
Engagement / Consultation - Engagement is written as a directive	Bembridge Airport	No	Engagement is on the proposed TDA, all feedback will be reviewed.	N/A

Theme "You said"	Stakeholder(s)	Potential impact the design	Rationale "We did"	Design change
Engagement / Consultation - Not consulted or engaged on this proposal	Barton Estate Association Estates Ltd GA Alliance Kings Quay Nature Reserve	No	As per CAP1616 (Ref 1) paragraph 317, trial airspace changes are required to complete targeted engagement with aviation stakeholders. There is no requirement for formal consultation. GA Alliance was notified as per Appendix: Engagement Activities. Having said that, all responses, from anyone will be reviewed and analysed.	N/A
Engagement / Consultation - Suggestion of additional landowners / relevant bodies to be added to the stakeholder lists	Hampshire & Isle of Wight Wildlife Trust Kings Quay Nature Reserve Estates Ltd	No	Item 4 in the Assessment Meeting ^(Ref 4) requires Skylift UAV Ltd to "...engaging relevant stakeholders, namely airspace users, air navigation service providers and airports...". These have been identified and listed in Appendix: Stakeholder List. Having said that, all responses, from anyone will be reviewed and analysed.	N/A
Engagement / Consultation - Unaware of communications with Solent Transport on the proposed trial	Barton Estate Association	No	As noted in the Statement of Need (Ref 6) , Solent Transport are overseeing this trial with support from other agencies such as Skylift UAV Ltd. Solent Transport have overseen all activities and will continue to do so.	N/A

Theme "You said"	Stakeholder(s)	Potential impact the design	Rationale "We did"	Design change
Environmental - Full ecological assessment should be completed for the designated landscapes and supporting features	Hampshire & Isle of Wight Wildlife Trust	No	As per CAP1616 (Ref 1) , paragraph B89, there is no requirement to assess this type of environmental consequence because impacts are expected to be negligible for a short-term change.	N/A
Environmental - Number of designated landscapes (such as Ramsar sites) within the TDA	Chichester Harbour Conservancy Hampshire & Isle of Wight Wildlife Trust Kings Quay Nature Reserve Estates Ltd	Yes	<p>Skylift UAV Ltd currently operate over livestock with no impact on them. Within the TDA Skylift UAV Ltd will make best endeavours to either:</p> <ul style="list-style-type: none"> • route away from identified nature sites. • Or avoid overflying sites at low tide (to minimise impact of feeding) and will fly at low speed (to allow birds to move away from the UAS). <p>No change to TDA design.</p>	No

Theme "You said"	Stakeholder(s)	Potential impact the design	Rationale "We did"	Design change
Environmental - Overflights could be detrimental to nature including the birds at the nature reserve, migrating birds and breeding cattle	Chichester Harbour Conservancy Hampshire & Isle of Wight Wildlife Trust Kings Quay Nature Reserve Estates Ltd	Yes	<p>Skylift UAV Ltd currently operate over livestock with no impact on them. Within the TDA Skylift UAV Ltd will make best endeavours to either:</p> <ul style="list-style-type: none"> • Route away from identified nature sites. • Or avoid overflying sites at low tide (to minimise impact of feeding) and will fly at low speed (to allow birds to move away from the UAS). <p>No change to TDA design.</p>	No
Environmental – Trial will cause noise nuisance	Estates Ltd	No	<p>UAS are legally allowed to operate, within CAA regulations. Aircraft will be at high altitude (the TDA ceiling is 600ft above ground level (AGL)). The UAS are expected to significantly quieter than other light aircraft who may operate at that height when the TDA is not in place.</p>	N/A

Theme "You said"	Stakeholder(s)	Potential impact the design	Rationale "We did"	Design change
Legal - Access to private land to recover crashed UAS will not be granted, and stakeholder will sue for costs relating to damage and / or contamination to property	Estates Ltd	No	The OSC will be submitted and reviewed by the CAA. All possible mitigations to avoid crashing have been implemented. All cargo will be securely packaged and attached to the UAS, resulting in almost no risk to cargo being dropped. Furthermore, the packaging has been subject to drop tests and proven as leak proof.	N/A
Legal - Do not allow access to airspace over their land up to 1,000ft	Estates Ltd	Yes	UAS are legally allowed to operate, within CAA regulations. Aircraft will be at high altitude (the TDA ceiling is 600ft above ground level (AGL)) and will not be recording any footage, therefore, negligible infringement on landowners overflown. However, TDA section C redesigned away from property as a good will gesture.	Yes
Legal - Happy to contest the trial via solicitors	Estates Ltd	No	UAS are legally allowed to operate, within CAA regulations. Aircraft will be at high altitude (the TDA ceiling is 600ft above ground level (AGL)) and will not be recording any footage, therefore, negligible infringement on landowners overflown.	N/A

Theme “You said”	Stakeholder(s)	Potential impact the design	Rationale “We did”	Design change
Legal - Trespass has already occurred	Estates Ltd	No	Skylift UAV Ltd believe that no trespass has occurred.	N/A
Legal - Reducing the buffer zone does not resolve concerns	Estates Ltd	No	TDA has been redesigned to avoid overfly their property (see “Do not allow access to airspace over their land up to 1,000ft”). There will be no change to the buffer zone (within the TDA). The TDA reduction reduces the area for flight operations, but still includes the required buffer zones between the operating area and the TDA edge.	N/A
Miscellaneous - ACP makes no reference to the private airstrip at the Barton Estate	Bembridge Airport	No	Barton Estate had been previously contacted and were re-engaged at this point and provided with an update on the ACP ³ .	N/A
Miscellaneous - Proposed trial will impede upon local privacy, safety and security values	Barton Estate Association Estates Ltd	No	UAS are legally allowed to operate, within CAA regulations. Aircraft will be at high altitude (the TDA ceiling is 600ft above ground level (AGL)) and will not be recording any footage. Overall, negligible infringement on landowners overflown.	N/A

³ As a private residence, Barton Estate, were not part of the wider stakeholder engagement but had been previously contacted as a potential landing / take-off site. In response to feedback, Barton Estate were re-engaged via phone and were provided all engagement documents via email. For transparency, this is recorded under Other Engagement Activities in Appendix: Engagement Activities.

Theme "You said"	Stakeholder(s)	Potential impact the design	Rationale "We did"	Design change
Miscellaneous - Suggestion to use uncrewed boats or a hydrofoil	Estates Ltd	No	Alternative modes of transport are out of scope of this airspace trial.	N/A
Miscellaneous - Temporary Danger Area (TDA) term may cause concern to the local community	Barton Estate Association	No	A TDA is a temporary airspace of defined dimensions within which specific activities – such as this UAS trial – may require a degree of segregation for the protection of other airspace users. Further information can be found in the CAA's policy for this type of airspace (Ref 5) .	N/A
Operations - Aircraft routinely fly between 500 – 1,000ft around the Isle of Wight	Bembridge Airport	Yes	The 600ft TDA includes a buffer between the top of the TDA and UAS. TDA base cannot be lowered due to moving ground risk of tall ships. Operating below 600ft allows us to minimise impact on other airspace users who have to be higher over the sea to allow a safe glide height back to land, in emergencies. If the TDA is approved, then other airspace users would have to operate above 600ft whilst the relevant section(s) are active. No change to TDA design.	No
Operations - Concern about positioning of company's control buildings on Thorney Island	Chichester and District Model Aero Club	No	Take-off and landings will be supported with mobile vehicles, no requirement for buildings on the land.	N/A

Theme "You said"	Stakeholder(s)	Potential impact the design	Rationale "We did"	Design change
Operations - Concern temporary airspace may become permanent later	Barton Estate	No	In line with CAP1616 ^(Ref 1) , paragraph 325, if Skylift UAV Ltd wish to make a trial airspace a permanent design, they will have to complete a full airspace change proposal. In this instance, that is not the intention.	N/A
Operations - Confirmation of height of data	GA Alliance	No	TDA will be up to 600ft (AGL). Therefore, any data gathered will be from surface – 600ft AGL.	N/A
Operations - Details of dates / days / times of activations are too vague	GA Alliance	No	Table 3 in Appendix: Trial Plan provide details of activities. Activating the TDA will be by notice to aviation (NOTAMs) with a minimum of 24-hours' notice.	N/A
Operations - Ensure FLARM / collision avoidance and HISL visual acuity are available for operations	Bembridge Airport	No	Activating the TDA by NOTAMs is the required means of communicating the activity. Furthermore, UAS will have FLARM and ADS-B, allowing the exact location of the UAS to be located.	N/A
Operations - Height of UAS (above 500ft AGL) would increase risk of collision with GA	Bembridge Airport	Yes	The 600ft TDA includes a buffer between the top of the TDA and UAS. Therefore, the UAS will be operating at between 400 and 500ft (AGL). The UAS cannot operate too low due to moving ground risk of tall ships. No change to TDA design.	No

Theme "You said"	Stakeholder(s)	Potential impact the design	Rationale "We did"	Design change
Operations - Little objection if kept below 500ft	Bembridge Airport	Yes	<p>The 600ft TDA includes a buffer between the top of the TDA and UAS. The UAS cannot operate too low due to moving ground risk of tall ships. However, operating below 600ft allows us to minimise impact on other airspace users (who have to be higher over the sea to allow a safe glide height back to land, in emergencies).</p> <p>No change to TDA design.</p>	No

Theme "You said"	Stakeholder(s)	Potential impact the design	Rationale "We did"	Design change
Operations - Location (proximity to Solent CTA, Lee-on-Solent ATZ, Barton Estate, Bembridge and Sandown) would increase risk of collision	Barton Estate Bembridge Airport	Yes	<p>It would not be possible to avoid any impact on all airfields / airstrips in the area. Therefore, the proposed TDA is designed to minimise impact on neighbouring airfields:</p> <ul style="list-style-type: none"> ● The main section of the TDA (TDA section B) is across the Solent. ● And TDA is designed to avoid common operating procedures at these airfields, to reduce risk to aircraft whilst in climb / descent. <p>Impact assessment with Southampton ATC has been completed, see Safety Assessment. TDA section C narrowed to be 300m further south from Barton Estate's airstrip.</p>	Yes
Operations – Move TDA south away from airstrip at Barton Estate	Barton Estate	Yes	TDA section C narrowed to be 300m further south from Barton Estate's airstrip.	Yes

Theme "You said"	Stakeholder(s)	Potential impact the design	Rationale "We did"	Design change
Operations - N504446 W0011451 [Barton Estate's runway] is active and often used for missed approaches / training and is a 'known' diversion for Island based aircraft	Bembridge Airport	Yes	TDA section C narrowed to be 300m further south from Barton Estate's airstrip.	Yes
Operations - Overflights at a minimum of 600ft AGL and AMSL across Chichester Harbour National Landscape would minimise impact to nature	Chichester Harbour Conservancy	Yes	The proposed TDA extends up to 600ft AGL and UAS must fly safely within that height, so the UAS are likely to be at 500 ft. However, Skylift UAV Ltd currently operate over livestock with no impact on them. Within the TDA Skylift UAV Ltd will make best endeavours to route away from identified nature sites. No change to TDA design.	No

Theme "You said"	Stakeholder(s)	Potential impact the design	Rationale "We did"	Design change
Operations - Request for routings to be moved to the south of Wootton Creek or directly over water up the Medina River	Estates Ltd	Yes	Moving the TDA south of Wootton Creek would position it between the populations of Fishbourne and Ryde. Moving TDA section C further west – over the Medina River – would disproportionately increase the length of crossings and therefore, a larger environmental impact of the UAS and impact on other airspace users. It would also overfly / fly very close to Cowes which is currently not impacted. Overflying / flying near Cowes, Fishbourne or Ryde is considered a disproportionate safety risk. No change to TDA design.	No
Operations - Request review of TDA over Thorney Island as Thorney Island is not being used as a landing / take-off site	MoD via DAATM	Yes	TDA section A moved east of Thorney Island, following the river.	Yes
Operations - Search and Rescue helicopters require 24/7 short notice requirement to get airborne	HM Coastguard	Yes	TDA is designed to avoid common operating procedures at Lee-on-Solent airfield, to reduce risk to aircraft whilst at in climb / descent. Priority will always be given to emergency aircraft movements. No change to TDA design.	No

Theme "You said"	Stakeholder(s)	Potential impact the design	Rationale "We did"	Design change
Operations - Size and weight of UAS would be a risk to GA	Bembridge Airport	No	The operating size and weight are not included in the engagement materials, as specific aircraft to be used (and therefore weight) has not been confirmed at this point.	N/A
Operations - UAS have hi-visibility cameras allowing them to fly in narrow vertical corridors	Estates Ltd	Yes	UAS have highly accurate GPS systems allowing them to fly to a very high level of accuracy. This enables Skylift UAV Ltd to fly very tight flight routes where required. Considering multiple UAS and the required buffer (within the TDA) the TDA is considered as small as practical. No change to TDA design.	No
Operations - Why is the duration six-months instead on three-months?	GA Alliance	No	Trail airspaces are allowed to be up to six-months. This allows the more opportunity to achieve the trials objectives compared to three-months. In this instance, the TDA is proposed for five-months.	N/A
Operations - Will TDA be cancelled when activities have finished for the day?	GA Alliance	No	TDA's will only be activated as per the flying schedule.	N/A

Theme "You said"	Stakeholder(s)	Potential impact the design	Rationale "We did"	Design change
Operations - Will DACS be provided? Where from?	GA Alliance	No	Special Use Airspace Crossing Service (SUACS) ⁴ will not be provided as part of this ACP as the TDA is below the radar base.	N/A
Operations - Will there be a minimum cloud base for activation?	GA Alliance	No	There is no proposed minimum cloud base. However, activation will be limited to suitable days for the purpose of the tests.	N/A
Operations - Wish to pre-tactically deconflict high priority traffic – including military / search and rescue – within the trial airspace	HM Coastguard MoD via DAATM	No	LoA will be agreed with the Aeronautical Rescue team to explain deconfliction details. A LoA is not required with the MoD due as the TDA has been moved east to avoid Thorney Island.	N/A
Safety - Cattle and / or military may attack UAS	Estates Ltd	Yes	Skylift UAV Ltd currently operate over livestock with no impact on them. MoD have been engaged and are aware of the proposal. No change to TDA design.	No

⁴ SUACS were previously known as a Danger Area Crossing Service (DACs).

Theme "You said"	Stakeholder(s)	Potential impact the design	Rationale "We did"	Design change
Safety - Chemotherapy drugs are radioactive and poisonous hence regulation says they should not be carried	Estates Ltd	No	There are no plans to carry dangerous goods within this trial. All cargo will be securely packaged and attached to the UAS. Furthermore, the packaging has been subject to drop tests and proven as leak proof.	N/A
Safety - Flight safety / risk assessment has not been correctly evaluated and lacks details and understanding of the operating environment	Bembridge Airport	No	The operational safety case (OSC) will be submitted and reviewed by the CAA.	N/A
Safety - Flying over Medina River would mean cargo could be quickly recovered if dropped / aircraft crash	Estates Ltd	Yes	The Medina River increases route miles and increases risk due to proximity to a large population. All cargo will be securely packaged and attached to the UAS, resulting in almost no risk to cargo being dropped. The OSC will be submitted and reviewed by the CAA. All possible mitigations to avoid crashing have been implemented. No change to TDA design.	No

Theme "You said"	Stakeholder(s)	Potential impact the design	Rationale "We did"	Design change
Safety - GA may not correctly interpret the routes / days / dates of NOTAMs	Bembridge Airport	No	Activating the TDA by NOTAMs is the required means of communicating the activity. Furthermore, UAS will have ADS-B, allowing the exact location of the UAS to be located. Dissemination of NOTAMs to all airfield users, by airfield operator, could help interpretation.	N/A
Safety - Risk to GA cannot be managed via technology / NOTAMs	Bembridge Airport	No	Activating the TDA by NOTAMs is the required means of communicating the activity. UAS will have ADS-B, allowing the exact location of the UAS to be located. The aircraft are very visible, bright white and orange, and have navigation strobes fitted.	N/A
Safety - UAS can glide / crash up to 1 mile from their flight path	Estates Ltd	No	The UAS has onboard geofencing and flight termination system to limit it from drifting, and the TDA has the inbuilt buffer zone as per the CAA stipulations.	N/A

Theme "You said"	Stakeholder(s)	Potential impact the design	Rationale "We did"	Design change
No comment / no impact on operations	Fleetlands Lee-on-Solent Airport NATS RSPB Southampton ATC	No	No impact on TDA design or operating procedures.	N/A
No impact if operated on weekdays	Chichester and District Model Aero Club	No	Trial is operating Monday to Friday. No impact on TDA design or operating procedures.	N/A

4. Final Airspace Design

As a result of the feedback, three changes were made to the TDA design: TDA section A was moved away from Thorney Island and TDA section C was redesigned to avoid both Barton Estate’s airstrip and overflying Estates Ltd’s property. Additionally, for operational reasons, one landing site was considered no longer suitable and, therefore, one stub was removed from the design.

For safety / operational reasons the TDA presented in the Update to ACP email, had to be widened on advice from the CAA. The concern was how narrow the area was around C1 / C6; this area had been narrowed to avoid overflying Estate Ltd’s property. When considering the need for a safety buffer; a contingency area; and an operating area within the TDA the design was considered too narrow. Therefore, it was widened. The redesign still avoids overflying Estates Ltd’s property and Barton Estate’s airstrip.

As a result of all the above changes, there will be no significant change to new stakeholders overflown, or impacts, compared to the engagement. Therefore, it is considered that no further engagement is required.

The final TDA complex will consist of three main areas and two stubs (to allow access to / from take-off and landing sites). Only the area(s) required for each flight or series of flights will be activated to minimise impact to other airspace users. The required TDAs will be notified, by NOTAM, for activation no less than 24-hours prior to the planned flights.

The final design is shown in Figure 1 with further supporting textual information and the geometrical details provided in Table 2. This also constitutes the draft Aeronautical Information Circular (AIC).

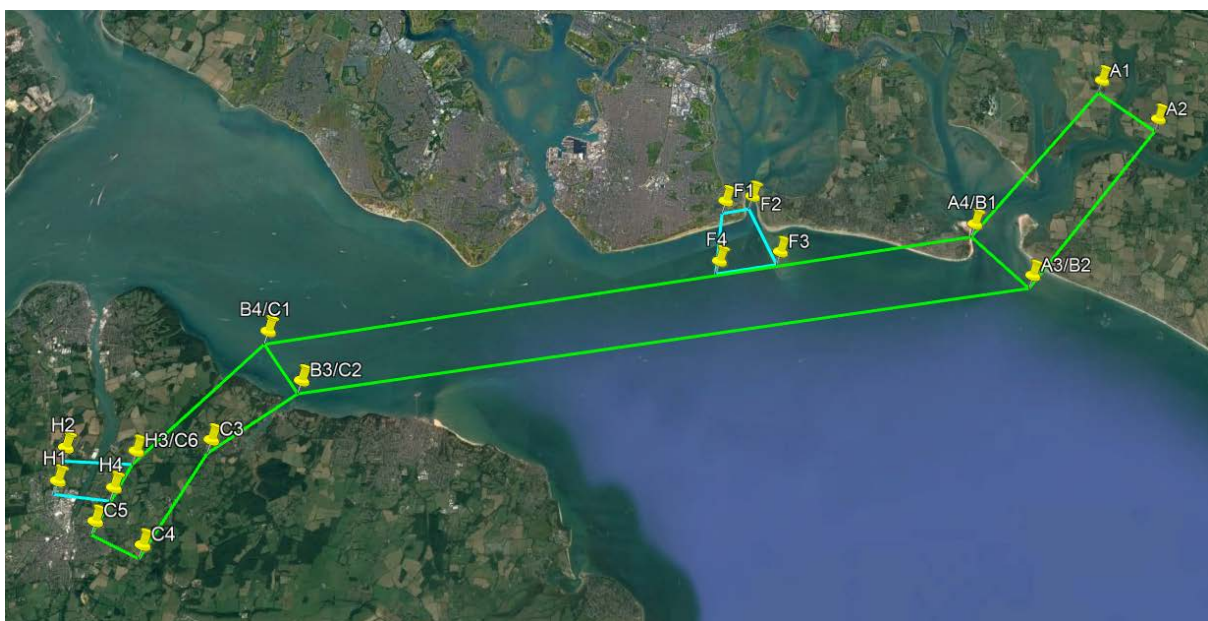


Figure 1 – Final TDA Design

Table 2 – Details of Final TDA Design

Point	Latitude	Longitude	Activation Height (AGL)	Activation Altitude (AMSL) ⁵
TDA Section A				
A1	50°49'32.43"N	000°52'39.82"W	sfc – 600ft	620ft
A2	50°48'54.86"N	000°51'27.02"W		
A3	50°46'13.39"N	000°54'53.34"W		
A4	50°46'58.23"N	000°56'11.72"W		
TDA Section B				
B1	50°46'57.23"N	000°56'11.72"W	sfc – 600ft	600ft
B2	50°46'13.39"N	000°54'53.34"W		
B3	50°44'19.88"N	001°12'29.12"W		
B4	50°45'5.84"N	001°13'24.74"W		
TDA Section C				
C1	50°45'5.84"N	001°13'24.74"W	sfc – 600ft	840ft
C2	50°44'19.88"N	001°12'29.12"W		
C3	50°43'24.30"N	001°14'30.30"W		
C4	50°41'29.96"N	001°15'49.62"W		
C5	50°42'9.91"N	001°17'59.62"W		
C6	50°43'12.94"N	001°16'14.88"W		
Fort Stub				
F1	50°47'18.84"N	001°02'16.22"W	sfc – 600ft	600ft
F2	50°47'26.14"N	001°01'29.99"W		
F3	50°46'16.43"N	001°2'28.58"W		
F4	50°46'24.63"N	001°1'6.15"W		
Hospital Stub				
H1	50°42'45.95"N	001°17'59.25"W	sfc – 600ft	710ft
H2	50°43'17.31"N	001°17'54.86"W		
H3	50°43'12.94"N	001°16'14.88"W		
H4	50°42'40.27"N	001°16'37.83"W		

The proposed design will provide sufficient airspace in which to safely accommodate flying operations for the trial whilst imposing minimal impact on other airspace users. Skylift UAV Ltd will continue to undertake regular engagement with stakeholders during the five-month trial and report any complaints to the CAA.

⁵ AMSL has been calculated by adding 600ft to the highest point of land within that TDA volume.

5. Impacts

Noise from Operations within the Trial

Day flights (0700 – 2300) are normally presented with 65dBA L_{max} footprints, and night flights (2300 – 0700) with 60dBA L_{max} footprints. Within this trial, there will be no operations between 2300 and 0700 and weekdays only. Furthermore, the TDA has been designed with minimal operations over the land and avoids overflying populations. Therefore, it is deemed disproportionate to produce noise footprints. Therefore, spot noise metrics for the UAS have been provided. Full details can be found in Appendix: Noise Assessments.

In summary, the UAS will operate at no more than 65dB during cruise and for the closest non-involved party to the take-off / landing sites. At 10m (32ft) AGL the maximum detected from the UAS was 60dB, at 60m (196ft) AGL the maximum was 38.0dB and by 80m (262ft) AGL the UAS was no longer detectable. During this trial, UAS will cruise above this height.

During the trial, the expected operating hours of the airspace will be Monday to Friday, predominantly in daylight hours, with four return flights per day during the week but not every week. More details can be found in Appendix: Trial Plan.

CAP1616^(Ref 1) requires equivalent footprints that illustrate where the traffic would have flown if they had not been participating in the trial. However, there is no current operation, and without the trial the UAS would not operate. Therefore, no comparison footprint is available.

Appendix: Trial Plan explains the expected frequency and timing of flights. As the operation is being set up for the purposes of the trial, there are no alternative routings / options, therefore 100% of associated traffic will operate within the bounds of the trial airspace.

Figure 1 shows the TDA which all trial activities will operate within, this can be used as a substitute to a swathe for the trial flights.

Operational Impacts on Other Airspace Users

The trial aims to minimise operational impacts on other airspace users, while avoiding overflying inhabited areas, where possible.

The TDA will be split into three sections and two stubs, so that only the smallest area needed for that specific trial is activated. These TDAs are uniformed shapes to minimise the number of latitude / longitude points to make them easier for other traffic to manage.

The TDA ceiling is 600ft, which is outside of radar coverage. Therefore, there is no accurate data on the number of flights operating in the airspace. However, aircraft generally operate at / below 600ft only whilst ascending / descending into an airfield. The TDA avoids neighbouring airfields' usual

arrival / departure routings. Therefore, it is expected that the number of impacted flights could be minimal.

The main TDA (section B) is over the Solent, at which point other airspace users should be higher to allow a safe glide height back to land, in emergencies. Therefore, it is expected that the number of impacted aircraft would likely opt to go above the TDA, rather than around, as this would involve additional low level flight overland.

High priority traffic, such as military or emergency services, will be given priority over traffic participating in the trial. The TDA can be collapsed very quickly if necessary.

Noise from Other Airspace Users

As noted above, it is expected that the number of impacted aircraft would be minimal, and these aircraft would likely opt to go above the TDA rather than around. Therefore, the noise from other airspace users, operating in the vicinity of the TDA (see Figure 1), will likely decrease as they'll be operating higher.

Other Environmental Metrics

This ACP does not include any further environmental assessments, such as local air quality or fuel burn, as these are anticipated to be negligible for such a short-term trial that will only affect a small proportion of current airspace users and associated traffic. This is corroborated and in accordance with CAP1616^(Ref 1) guidance.

6. Safety Assessment

Two safety assessments were considered for this airspace trial.

Uncrewed Air Systems Operations

Skylift UAV Ltd, the UAS manufacturers, have provided an Operational Safety Case (OSC), this has been shared with and approved by the CAA. Safety measures include but are not limited to: trained staff operating BVLOS activities; and communication with other airspace users for activation of the TDA and to provide emergency services access.

A Special Use Airspace Crossing Service (SUACS⁶) will not be provided as part of this ACP as the TDA is below the radar base.

⁶ SUACS were previously known as a Danger Area Crossing Service (DACs).

Solent CTA Buffer Zone

Points H1 and H2 are located between 2 and 3nm of the Solent CTA. At the time of the Assessment Meeting [\(Ref 4\)](#), the buffer policy required 3nm between the CTA and other activities, which would have required additional safety work / mitigations. This policy was superseded in February 2024 by the “Policy for the Establishment and Operation of Special Use Airspace” [\(Ref 5\)](#) which reduced the buffer to 1nm, removing the need for additional mitigations. Having said that, Skylift UAV Ltd have still actively engaged with Southampton ATC to make sure they are aware of and happy with the trial. As per their engagement response, they have no concerns, therefore, no additional safety work is required.

7. Next Steps and Summary

Next Steps

As noted in Appendix: Trial Plan, Skylift UAV Ltd aim for the trial to be operational from June 2024. In the meantime, the following activities remain to be completed:

- This ACP needs to be approved by the CAA.
- Letters of Agreement(s) (LoA) need to be finalised.
- Complete AIC submission.

Summary

This document aims to provide the evidence to satisfy the Stage 4 Submit Gateway, for an airspace trial as per CAP1616 [\(Ref 1\)](#). As a result of stakeholder engagement, three changes were made to the proposed TDA; a fourth for operational reasons; and a final change for safety / operational reasons. The final design can be found in Figure 1 and Table 2. Upon approval, the trial will operate from July to November 2024, as described in Appendix: Trial Plan.

8. Appendix: Trial Plan

The TDA will support the gathering of operational experience incrementally in order to support the CAA's future airspace roadmap and convince the general public of the safety and viability of logistics applications for UAS in the Solent region. This trial will build evidence and experience in support of the CAA's ambition to migrate BVLOS operations from segregated airspace to non-segregated airspace, as outlined under the Airspace Modernisation Strategy [\(Ref 3\)](#). The TDA will be used as an opportunity to test the available detect and avoid (DAA) solutions to support the route to approval with the CAA. To achieve this, Skylift UAV Ltd will collect and monitor air traffic data across the Solent area. For this trial a network of sensors will be in operation to allow for situational awareness and to allow radar type data to be gathered, across the TDA. This will provide operational experience in an incremental way, which can be used to support future operations and airspace strategies. This trial will be considered a success when aircraft have successfully flown BVLOS across the Solent and have gathered a practical amount of information, relating to the trial's aims (see Summary of Project).

There is no current operation, and without the trial the UAS would not operate and the TDA would not exist. The noise impacts of the trial can be found in the Impacts chapter and Appendix: Noise Assessments.

Table 3 provides details of what activities occur within each period of the trial.

Trials will run sequentially, however, to allow for planned non-operational days, weather, other events etc, it is not the case that flying days will run continuously. Therefore, the flying days will be spread across the five-month trial period, from July to November 2024. During the trial, the expected operating hours of the airspace will be Monday to Friday, predominantly in daylight hours. The airspace will be activated by NOTAM with at least 24 hours' notice.

Table 3 – ACP Trial Plan: July to November 2024

Week	Trial Number	Phase	Description	Payload	RPAS Type	Altitude	Purpose
1	1	VLOS	VLOS No payload Up to 20 mins flying	None	Multicopter or Hybrid	400 – 600ft	Test procedural manoeuvres and communications ability.
	2	VLOS	VLOS No payload Up to 60 mins flying	None	Multicopter or Hybrid	400 – 600ft	Building on previous, shorter, flying times.
	3	VLOS	VLOS Progressively heavier payloads Up to 20 mins flying	Up to 6kg	Multicopter or Hybrid	400 – 600ft	Testing aircraft operability with payloads.
	4	VLOS	VLOS Small full dummy load Up to 60 mins flying	Up to 6kg	Multicopter or Hybrid	400 – 600ft	Building on previous, shorter, flying times whilst testing aircraft operability with payloads.
2	5	BVLOS	BVLOS No payload 1km distance	None	Multicopter or Hybrid	400 – 600ft	Testing communications incrementally from take-off site until midway point when safety pilot at landing site can take over communications.
	6	BVLOS	BVLOS No payload 2.5km distance	None	Multicopter or Hybrid	400 – 600ft	Testing communications incrementally from take-off site until midway point when safety pilot at landing site can take over communications.
	7	BVLOS	BVLOS No payload 5km distance	None	Multicopter or Hybrid	400 – 600ft	Testing communications incrementally from take-off site until midway point when safety pilot at landing site can take over communications.

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Week	Trial Number	Phase	Description	Payload	RPAS Type	Altitude	Purpose
3	8	BVLOS	BVLOS No payload 7.5km distance Multiple aircraft	None	Multicopter or Hybrid	400 – 600ft	Testing communications incrementally from take-off site until midway point when safety pilot at landing site can take over communications.
	9	BVLOS	BVLOS No payload 10km distance Multiple aircraft	None	Multicopter or Hybrid	400 – 600ft	Testing communications incrementally from take-off site until midway point when safety pilot at landing site can take over communications.
	10	BVLOS	BVLOS No payload 15km distance Multiple aircraft	None	Multicopter or Hybrid	400 – 600ft	Testing communications incrementally from take-off site until midway point when safety pilot at landing site can take over communications.
	11	BVLOS	BVLOS No payload 20km distance Multiple aircraft	None	Multicopter or Hybrid	400 – 600ft	20km is approximately mid-way distance, therefore landing site will be able to take over communications.
4	12	BVLOS	BVLOS Small empty dummy load Full distance Multiple aircraft from different locations	3kg	Multicopter or Hybrid	400 – 600ft	Full day of flying Minimum 3 x return flights
	13	BVLOS	BVLOS Small full dummy load Full distance Multiple aircraft from different locations	Up to 6kg	Multicopter or Hybrid	400 – 600ft	Full day of flying Minimum 3 x return flights
5	14	BVLOS	BVLOS Small full dummy load Full distance Multiple aircraft from different locations	Up to 6kg	Multicopter or Hybrid	400 – 600ft	Full day of flying Minimum 3 x return flights

Week	Trial Number	Phase	Description	Payload	RPAS Type	Altitude	Purpose
	15	BVLOS	BVLOS representative payload To Isle of Wight and return Multiple aircraft from different locations	Up to 6kg	Multicopter or Hybrid	400 – 600ft	Full day of flying Minimum 3 x return flights
6	16	BVLOS	BVLOS No payload To Isle of Wight and return Multiple aircraft from different locations	None	Multicopter or Hybrid	Designated altitudes issued to each aircraft, within 400 - 600ft.	Full day of flying Minimum 3 x return flights
7	17	BVLOS	BVLOS No payload To Isle of Wight and return Multiple aircraft from different locations	None	Multicopter or Hybrid	Designated altitudes issued to each aircraft, within 400 - 600ft.	Proving communications, sensor network and procedures for multiple aircraft and multiple take-off and landing sites.

9. Appendix: Stakeholder List

Stakeholders Identified for Engagement

Table 4 provides a list of all stakeholders that were contacted by Skylift UAV Ltd. It notes whether stakeholders responded or not and if so, whether their response resulted in a change to the final design. For clarity, those stakeholders that responded have been highlighted in blue.

Where stakeholders were identified using the National Air Traffic Management Advisory Committee (NATMAC) list, their name has been suffixed with “NATMAC”. Other stakeholders were included as the trial could have a potential impact on their operations due to geographical proximity.

Table 4 – Stakeholder List for Engagement

Stakeholder	Response received	Subsequent design change
Aircraft Owners and Pilots Association (AOPA) – NATMAC	No	No
Airspace Change Organising Group (ACOG) – NATMAC	No	No
Association of Remotely Piloted Aircraft Systems UK (ARPAS-UK) – NATMAC	No	No
Aviation Environment Federation (AEF) – NATMAC	No	No
Baker Barracks, Thorney Island	No	No
Bembridge Airport	Yes	Yes
British Balloon and Airship Club – NATMAC	No	No
British Business and General Aviation Association (BBGA) – NATMAC	No	No
British Gliding Association (BGA) – NATMAC	No	No
British Helicopter Association (BHA) – NATMAC	No	No
British Microlight Aircraft Association (BMAA) – NATMAC	No	No
British Skydiving – NATMAC	No	No
Chichester/Goodwood Airport	No	No
Chichester Harbour Conservancy	Yes	No
Chichester and District Model Aero Club	Yes	No
Drone Major – NATMAC	No	No
Fleetlands Heliport	Yes	No
General Aviation Alliance (GA Alliance) – NATMAC	Yes	No
Hampshire and Isle of Wight Air Ambulance	No	No
Hand gliding (near to Little Atherfield)	No	No
Helicopter Club of Great Britain (HCGB) – NATMAC	No	No
Heliair (pipeline patrol)	No	No
Helicentre (pipeline patrol)	No	No
HM Coastguard, Solent Airport	Yes	No

Stakeholder	Response received	Subsequent design change
Honourable Company of Air Pilots (HCAP) – NATMAC	No	No
Isle of Wight Airport Sandown	No	No
Lee-on-Solent Airport	Yes	No
Light Aircraft Association (LAA) – NATMAC	No	No
Military Aviation Authority (MAA) – NATMAC	No	No
Ministry of Defence – Defence Airspace and Air Traffic Management (MoD DAATM) – NATMAC	Yes	Yes
NATS – NATMAC	Yes	No
National Grid Electricity Transmission UK	No	No
National Police Air Service	No	No
Navy Command HQ – NATMAC	No	No
PDG Helicopters (Railtrack survey)	No	No
Portsmouth Harbour	No	No
PPL/IR (Europe) – NATMAC	No	No
Royal Society for the Protection of Birds (RSPB) Langstone Harbour	Yes	No
Southampton Airport ATC	Yes	No
Specialist Aviation Services (Children’s Air Ambulance)	No	No
UK Airprox Board (UKAB) – NATMAC	No	No
UK Flight Safety Committee (UKFSC) – NATMAC	No	No

Rationale for Removal of Selected NATMAC Members

In line with the Assessment Meeting [\(Ref 4\)](#) the current NATMAC list was rationalised. Only members operating in the vicinity of the trial, or who may have a specific interest based on their area of work were included on the stakeholder list. Table 5 explains which members were not included and why.

Table 5 – Rationale for Exclusion of NATMAC Members

NATMAC Member	Rationale for Exclusion
Airlines UK	TDA is not in the same airspace as airlines.
Airport Operators Association (AOA)	Specific airports / airfields added to stakeholder list for direct contact.
Airfield Operators Group (AOG)	Specific airports / airfields added to stakeholder list for direct contact.
British Airways (BA)	TDA is not in the same airspace as airlines.
BAE Systems	Trial has no impact on their organisation’s purpose.
British Airline Pilots Association (BALPA)	TDA is not in the same airspace as airlines.
Guild of Air Traffic Control Officers (GATCO)	Specific airports / airfields added to stakeholder list for direct contact.

NATMAC Member	Rationale for Exclusion
Isle of Man CAA	Out of scope of the impacted area.
Low Fare Airlines	TDA is not in the same airspace as airlines.
United States Visiting Forces (USVF) HQ United States Country Rep-UK	Trial has no impact on their organisation's purpose.

Other Stakeholders

Table 6 depicts the additional stakeholders who engaged with Skylift UAV Ltd during the engagement period. Stakeholders on this list are either:

- Stakeholders who Skylift UAV Ltd became aware of, and then contacted. This engagement is recorded in Other Engagement Activities in Appendix: Engagement Activities.
- Or, stakeholders who provided feedback, but had not been initially contacted by Skylift UAV Ltd.

Table 6 – Other Stakeholders

Stakeholder	Response received	Subsequent design change
Barton Estate	Yes	Yes
Barton Estate Association	Yes	No
Estates Ltd	Yes	Yes
Hampshire & Isle of Wight Wildlife Trust	Yes	No
Kings Quay Nature Reserve	Yes	No

10. Appendix: Engagement Activities

Initial Engagement Email

The following email was sent to stakeholders listed in Table 4 on the 2nd February 2024:

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 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 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-mile buffer from previous TDA surrounding St Mary's Hospital on the IOW to allow for complete End to End Medical 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. Previous TDA was 2 months, current ACP is for 3 – 6 months. (Depending on CAA approval of TDA or trial)*
- Agreement to remove section A 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 that are as small as possible to accommodate our flying operation and are “VFR-friendly”. We will have a comprehensive communications system in place, which can automatically text, for example, ATDs and ETAs to anyone that requires that information, and we can also provide Pre-Flight Information for the TDA via a dedicated telephone number. In the event of the emergency services requiring access to the airspace within the trial airspace, they will be given priority over RPA traffic, and we can collapse the airspace very quickly if necessary. Our RPA is equipped with ADS-B and a Mode S Transponder for electronic conspicuity. We will also Geofence the RPA’s Flight Volume (see CAP 1915 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, and the airspace will be activated by NOTAM with at least 24 hours’ notice. We anticipate 4 return flights per day 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:

Addendum and Reminder to Initial Engagement Email

The addendum and reminder, below, was sent to all stakeholders, identified for engagement, on 20th February 2024.

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.

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.

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. Dry Medication was flown on at least one test flight over the Solent. Live Chemotherapy drugs 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 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 with stub examples.



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.

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 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 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.*

Trial Aims:

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. 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 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 during the week but not every week.

Update to ACP

The email below was sent to the majority of stakeholders⁷ on 3rd April 2024 to inform them of the updated TDA image and coordinates as proposed after engagement⁸.

Dear Stakeholder,

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

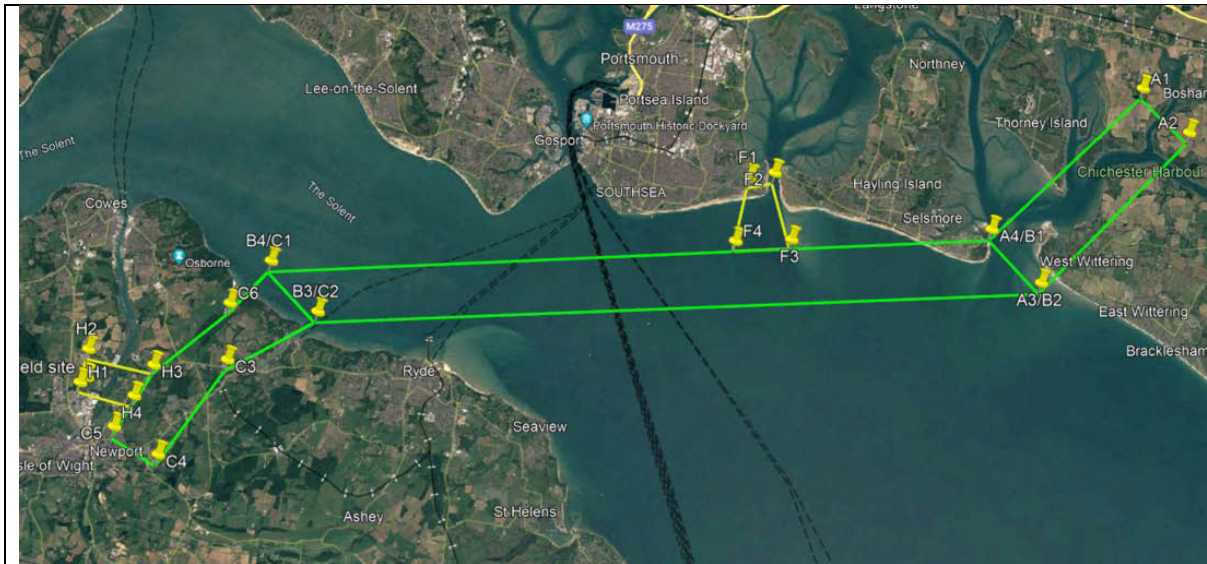
Below is the final design of the proposed airspace with updates based on the feedback from the engagement. The date for submission has been moved to Friday 12th April with the intention to start flying from the beginning of July.

Kind regards,

Skylift UAV.

⁷ Three stakeholders did not receive this email because two-way engagement was still happening around that time and they received a very similar, but personalised, email as part of those conversations.

⁸ After engagement the TDA design was updated as per the email. However, on recommendation from the CAA the TDA was updated again for safety / operational reasons. The final TDA information can be found in the Final Airspace Design chapter.



TDA Coordinates:

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

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

These coordinates are no longer correct and should not be used for flight planning purposes. The final TDA can be found in the Final Airspace Design chapter.

Other Engagement Activities

Skylift UAV Ltd has been actively involved in stakeholder engagement including submitting relevant information to all stakeholders, responding to bespoke questions, and providing stakeholder-wide updates. Skylift UAV Ltd’s responses to questions / queries within individual stakeholders’ feedback have been summarised in Summary of Engagement Responses in Stakeholder Engagement.

Table 7 lists the activities which Skylift UAV Ltd (or NATS or Consortiq on behalf of Skylift UAV Ltd) have initiated above the formal engagement activities noted above.

Table 7 – Ad Hoc Engagement Activities

Date	Subject and / or Outcome	Meeting With
4 th January 2024	Introduction of the proposed TDA area to Southampton ATC. This early engagement was to allow Southampton ATC to consider the TDA, in line with the buffer policy ⁹ , prior to formal engagement starting in February.	NATS Southampton ATC

⁹ In January 2024, the buffer policy required 3nm between the CTA and other activities. This policy was superseded in February 2024 by the “Policy for the Establishment and Operation of Special Use Airspace” [\(Ref 5\)](#) and the buffer reduced to 1nm, which the TDA remains outside of.

Date	Subject and / or Outcome	Meeting With
15 th February 2024	<p>Meeting held between the project team and NATS. Request made for a quick update on the ACP progress as some of the NATS team had changed since the previous trial ACP was engaged on. This was facilitated over a TEAMs call.</p> <p>Further information agreed to be sent out to all stakeholders, including more detail on affected airspace; after which a formal response will be provided by NATS.</p>	NATS
27 th February 2024	<p>Skylift UAV Ltd offered some background information and highlighted the key elements of the application in terms of its progression from a TDA to a trial. Agreed to notify Southampton ATC by email when the TDA will be active, as this could be helpful additional information for them.</p>	Consortiq NATS Southampton ATC Skylift UAV Ltd
29 th February 2024	<p>Provided a verbal update on the ACP to date. Email sent with ACP documentation.</p>	Barton Estate Consortiq
4 th March 2024	<p>Sponsor / stakeholder conversation to provide further understanding of the proposed TDA.</p>	Barton Estate Skylift UAV Ltd
5 th March 2024	<p>Introduced the ACP to stakeholder and checked if they had received, read and reviewed the emails.</p>	Lee-on-Solent Airport Consortiq
6 th March 2024	<p>Follow up conversation and email sent with ACP documentation.</p>	Lee-on-Solent Airport Consortiq
12 th March 2024	<p>Follow up conversation. Stakeholder confirmed they have no concerns regarding the trial.</p>	Lee-on-Solent Airport Consortiq



11. Appendix: Noise Assessments

Day flights (0700 – 2300) are normally presented with 65dBA L_{max} footprints, and night flights (2300 – 0700) with 60dBA L_{max} footprints. As per Item 4 of the Assessment Meeting ^(Ref 4) noise metrics “can be scaled down if the sponsor believes that the trial presents minimal noise impact”. Therefore, Skylift UAV Ltd believe reduced requirements are appropriate because:

- As per the Appendix: Trial Plan, there will be a maximum of 7-weeks of flying, in daylight hours only and with no weekend flying.
- On average there will be only 6 to 8 flights per operating day.
- Take-off and landing sites have been agreed with the landowners and are rural locations.
- Record distances to nearest residence.
- The majority of the TDA (both sections A and B) are over water.
- UAS will cruise at 400ft AGL above the 220ft high point in TDA section C.
- TDA ceiling is 600ft AGL. Therefore, very little impact on crewed aviation, expect possibly upwards (see Operational Impacts on Other Airspace Users and Noise from Other Airspace Users).
- Plan to climb immediately on entering TDA section C (840ft AMSL) from TDA section B (600ft AMSL) in order to cross the coast with as much altitude as possible (640ft AMSL minimum).
- Multiple landing points mean that each section will be overflown less than the full 7 weeks of the trial.

As agreed with the CAA, spot noise metrics for the UAS have been provided.

Report - V23 Noise Data

Date	Approved by
12/04/2024	
Author	
	

Introduction

In this report, we present noise data for the V23, a fixed-wing VTOL aircraft with an MTOM of 12kg. We record noise in both multirotor and fixed-wing modes at a range of distances. We also record background noise shielded from the wind but in direct line of sight of the aircraft.



The flights for this experiment were carried out on April 12, 2024, under optimal weather conditions conducive to the test's objectives. The wind speed during the tests was recorded between 5 and 9 metres per second, originating from the East (080 deg). This provided a stable environment for the UAS to operate in.

WEATHERLINK
bulletin
chart
data
map
mobilize

Current station: **Marston Lodge**

Device Tier: **Basic**

Last updated: April 12, 2024 / 12:39

Marston Lodge

Marston Lodge					
	Current	Daily Highs		Daily Lows	
Barometer	1027.7 mb	1028.2 mb	11:48	1026.1 mb	02:47
Bar Trend	Steady				

Marston Lodge					
	Current	Daily Highs		Daily Lows	
Temperature	14 °C	15 °C	00:00	10 °C	06:57
Humidity	65 %	88 %	02:52	65 %	12:38
Heat Index	14 °C	15 °C	00:00		
THW Index	11 °C	15 °C	00:00	6 °C	07:56
Wind Chill	12 °C			6 °C	07:56
Dew Point	8 °C	12 °C	00:00	7 °C	07:28
Wet Bulb	10 °C			8 °C	07:28
Wind Speed	4 m/s	11 m/s	02:54		
Wind Direction	E 80°				
Wind	2 Minutes	10 Minutes			
Avg Wind Speed	5 m/s	5 m/s			
Wind Gust Speed	6 m/s	9 m/s			
Rain	Rate	Storm	day	month	year
Rain	0.0 mm/h	0.0 mm	0.0 mm	23.4 mm	270.2 mm

The entire operation was monitored and controlled via SkyFleet, Skylift's proprietary Ground Control System (GCS). This system allowed for precise management and coordination of the UAS during the test flights, ensuring that all parameters were adhered to and that the data collected was of high integrity.

Observations

The aircraft was below the 65db LAmax for all hover heights. The aircraft also meets the 65 LAmax limits for the cruise at 60 m AGL. This is well below the typical minimum cruise height of 90m or more.

Height (m)	Slant Range (m)	Max (dB)	Min (dB)	Avg (dB)
Background		38.4	24.0	32.9
HOVER				
10	15.98	60.0	36.1	40.6
20	23.01	55.4	38.2	43.5
30	31.67	53.6	38.5	39.0
ON THE WING				
60	60.21	38.0	24.4	31.0
80		No Detection	No Detection	No Detection
100		No Detection	No Detection	No Detection
120		No Detection	No Detection	No Detection

H = Hover height - Microphone height of 1.3m

D = Microphone distance of 13.4m

Slant range was calculated using $\text{SQRT}((H)^2+(D)^2)$

12. Appendix: Acronym List

The following acronyms have been used within this document.

Table 8 - Acronym List

Acronym	Meaning
ACP	Airspace change proposal
ADS-B	Automatic dependant surveillance - broadcast
AGL	Above ground level
AIC	Aeronautical Information Circular
AMSL	Above mean sea level
ATC	Air traffic control
ATD	Actual time of departure
BVLOS	Beyond visual line of sight
CAA	Civil Aviation Authority
CTA	Control area
DAA	Detect and avoid
DAATM	Defence Airspace and Air Traffic Management
DACS	Danger area crossing service
dB	Decibel
ETA	Estimated time of arrival
E2E	End to end
ft	Feet
FTZ	Future Transport Zone
IOW	Isle of Wight
LoA	Letter of Agreement
MoD	Ministry of Defence
NATMAC	National Air Traffic Management Advisory Committee
nm	Nautical mile(s)
NOTAM	Notice to aviation
OSC	Operational safety case
RPA	Remotely piloted aircraft
RPAS	Remotely piloted aircraft systems
RSPB	Royal Society for the Protection of Birds
sfc	Surface
SUACS	Special use airspace crossing service
TDA	Temporary danger area
UAS	Uncrewed air systems
UAV	Unmanned aerial vehicle
UTM	Unmanned aircraft system traffic management
VFR	Visual flight rules
VLOS	Visual line of sight
VTOL	Vertical take-off and landing