

# **UAVE Ltd**

**Airspace Change – ACP-2020-049**

**UAS BVLOS in Segregated Airspace (Newton Stewart)**

**Summary Report**

**Targeted Aviation Stakeholder Engagement**

**(REDACTED)**

**Version 1.5**

**Dated: 17th August 2021**

## Amendment record

| Issue | Amendment                              | Date       |
|-------|--|------------|
| V1.0  | Initial Issue                          | 27/04/2021 |
| V1.1  | Amended Copy                           | 10/05/21   |
| V1.2  | Amended Copy                           | 13/05/21   |
| V1.3  | Amended Copy                           | 30/06/21   |
| V1.4  | Amended Copy (revised airspace design) | 02/07/21   |
| V1.5  | Amended Copy following CAA Feedback    | 17/08/21   |

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

## Referenced Documents

| Document               | Version  | Version & Date               | Source                   |
|------------------------|--|------------------------------|--------------------------|
| 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<br>March 2021    | <a href="#">CAP 1616</a> |
| DA/TDA Policy 20200721 | CAA Policy for the Establishment of Permanent and Temporary Danger Areas   | Version 1.0<br>21 July 2020  | DA/TDA Policy 20200721   |
| CAP1827                | Beyond Visual Line of Sight (BVLOS) operations of unmanned aircraft systems (UAS) in unsegregated airspace: Sandbox brief  | Version 1.0<br>1 August 2019 | CAP 1827                 |

## Acronyms and abbreviations

|       |  |
|-------|--|
| ACP   | Airspace Change Proposal                     |
| AFISO | Aerodrome Flight Information Service Officer |
| AMSL  | Above Mean Sea Level                         |
| ASU   | Air Support Unit                             |
| ATC   | Air Traffic Control                          |
| ATIS  | Air Traffic Information Service              |
| BMFA  | British Model Flying Association             |
| BVLOS | Beyond Visual Line of Sight                  |
| CAA   | Civil Aviation Authority                     |

|       |  |
|-------|--|
| CAP   | Civil Aviation Publication               |
| DAAIS | Danger Area Activity Information Service |
| FIS   | Flight Information Service               |
| Freq  | Frequency                                |
| FRZ   | Flight Rules Zone                        |
| GA    | General Aviation                         |
| HLS   | Helicopter Landing Site                  |
| LTD   | Limited                                  |
| MCA   | Maritime Coastguard Agency               |
| MOD   | Ministry of Defence                      |
| NHS   | National Health Service                  |
| NOTAM | Notice to Airman                         |
| POC   | Proof of Concept                         |
| RA(T) | Restricted Area (Temporary)              |
| SFC   | Surface                                  |
| SUA   | Small Unmanned Aircraft                  |
| TDA   | Temporary Danger Area                    |
| TIO   | Temporary Information Order              |
| TOLP  | Take-off & Landing Point                 |
| UA    | Unmanned Aircraft                        |
| UAS   | Unmanned Aircraft System                 |
| VFR   | Visual Flight Rules                      |

## 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. <a href="http://www.ais.org.uk">www.ais.org.uk</a> |
| 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   |

|                                     |   |
|-------------------------------------|---|
|                                     | <p>Strategy. It is a requirement of the Air Navigation Directions 2017.</p> <p><a href="https://www.caa.co.uk/Commercialindustry/Airspace/Airspace-ModernisationStrategy/Aboutthe-strategy/">https://www.caa.co.uk/Commercialindustry/Airspace/Airspace-ModernisationStrategy/Aboutthe-strategy/</a></p>  |
| Airspace structure                  | <p>Designated volumes of airspace within identified characteristics, including the equipment aircraft wanting to enter that airspace must carry and actions pilots must carry out before entering that airspace.</p> <p>The volumes of airspace are designed to ensure the safe and optimal operation of aircraft.</p> <p>Airspace structures consist of:</p> <p>(a) controlled airspace, namely control zones, control areas, terminal control areas and airways;</p> <p>(b) airspace restrictions, namely danger, restricted and prohibited areas;</p> <p>(c) radio mandatory zones, transponder mandatory zones;</p> <p>(d) other airspaces specified by the CAA when defining the airspace change process, such as, for example, flight information zones, aerodrome traffic zones, temporary segregated areas, temporary reserved areas or free-route airspace</p> |
| Beyond Visual Line of Sight (BVLOS) | <p>An operation in which the remote pilot or observer does not use visual reference to the remotely piloted aircraft in the conduct of flight.</p>  |
| Consultation                        | <p>Formal process seeking input into a decision, undertaken in line with the Gunning Principles, and government guidance</p>  |
| Danger Area                         | <p>Airspace within which activities dangerous to the flight of aircraft may exist at notified times.</p>  |
| Design principles                   | <p>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.</p>  |
| Engagement                          | <p>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 fora, workshops and town hall meetings &amp; discussions.</p>   |
| Feedback                            | <p>Informal response to engagement – change sponsors may be expected to seek feedback from stakeholders in addition to formally consulting them.</p>  |
| Military operations                 | <p>Operations undertaken by military aircraft, or military aerodromes.</p>  |

|                                |  |
|--------------------------------|--|
| 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. <a href="http://www.caa.co.uk/cap1498">www.caa.co.uk/cap1498</a>  |
| 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. <a href="https://airspacechange.caa.co.uk">https://airspacechange.caa.co.uk</a>  |
| 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 LAA).  |
| 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. |

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# 1 Introduction

UAVE Ltd (the change sponsor) is seeking a temporary airspace change to support its 2-3 week-long fixed wing UAV geophysical air survey between September to November 2021. The airspace change process, CAA CAP 1616, mandates that all airspace change – temporary or permanent – can only be requested and implemented once due consideration has been given to the possible positive and negative impacts of the change on other airspace users. Following an assessment meeting with CAA Airspace Regulation to discuss UAVE Ltd’s Statement of Need, it was agreed that to facilitate its operations a Temporary Danger Area (TDA) would be required, the proposals for which would be subject to a formal targeted aviation stakeholder engagement exercise. This document provides a summary of UAVE Ltd’s formal targeted aviation stakeholder engagement exercise that UAVE Ltd completed between September 2020 and June 2021 to allow aviation stakeholders to comment formally on UAVE Ltd’s TDA design and operational proposals.

## 1.1 Executive Summary

The Airspace Change process, CAA CAP 1616, mandates that all airspace change – temporary or permanent – can only be requested and implemented once due consideration has been given to the possible positive and negative impacts of the change on other airspace users.

Following an Assessment Meeting with CAA Airspace Regulation to discuss UAVE Ltd’s Statement of Need, it was agreed that to facilitate its operations a Temporary Danger Area (TDA) would be required, the proposals for which would be subject to a formal targeted aviation stakeholder engagement exercise.

This document provides a summary of UAVE Ltd’s 2020-049 Airspace Change design to allow aviation stakeholders to comment formally on UAVE Ltd’s TDA design and operational proposals.

## 1.2 Current Airspace Description

Class G uncontrolled airspace – see imagery below:

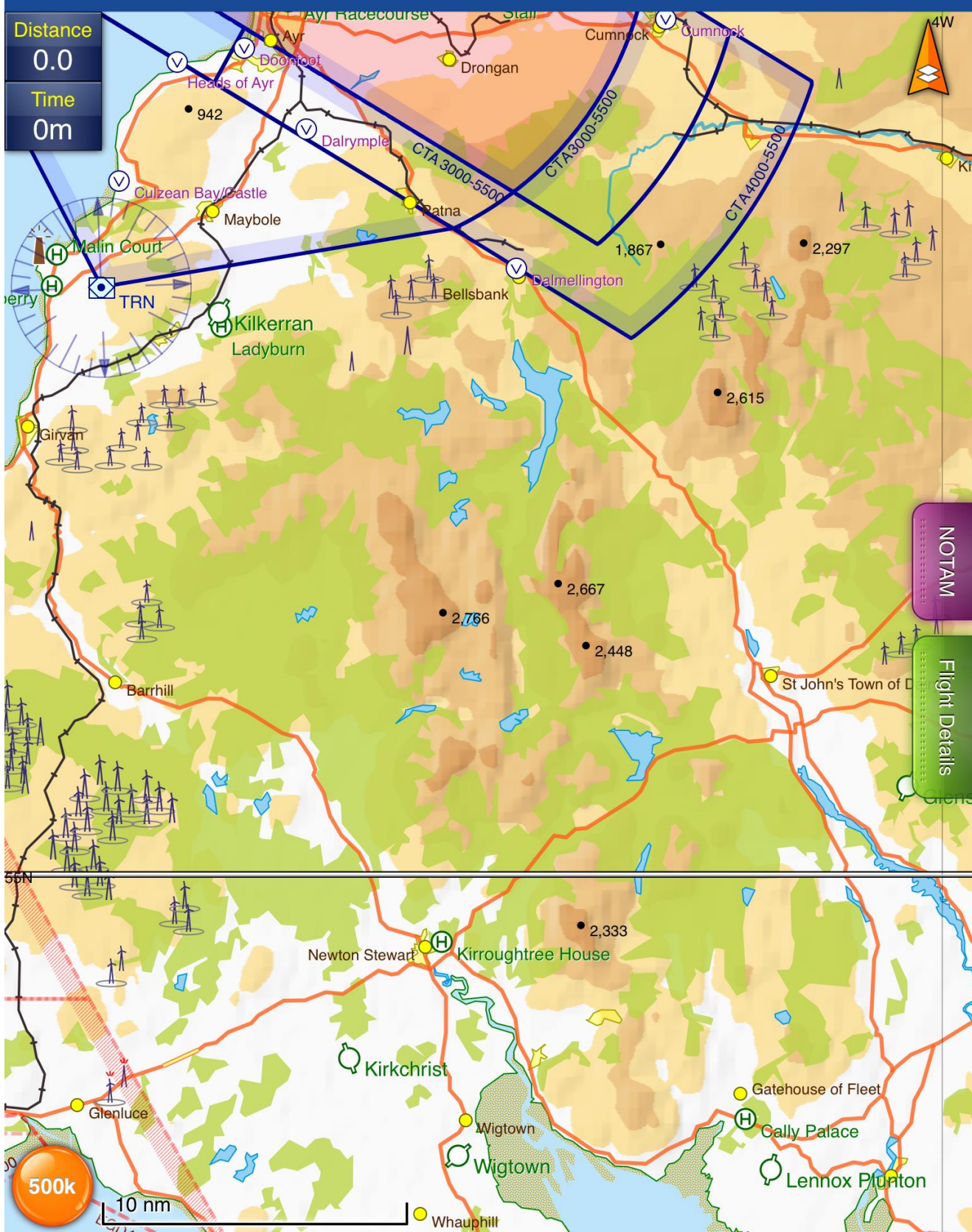


Route

Reverse Undo Redo Mapping Pilot Log

Help

Distance  
0.0  
Time  
0m



## 2 UAVE Ltd's Statement of Need/justification

UAVE Ltd requires a volume of segregated airspace within which to safely execute its operations, namely the use of its current planned unmanned aircraft platform (Prion MK3) to carry out a geophysical flight survey of an area of land situated to the N, NE & NW of the town of Newton Stewart, Dumfries, Scotland during the period of 1<sup>st</sup> September & November 29<sup>th</sup> 2021. UAVE's current Unmanned Operation Safety Case allows for UAV BVLOS flights during daylight hours.

## 3 Proposed Airspace Description

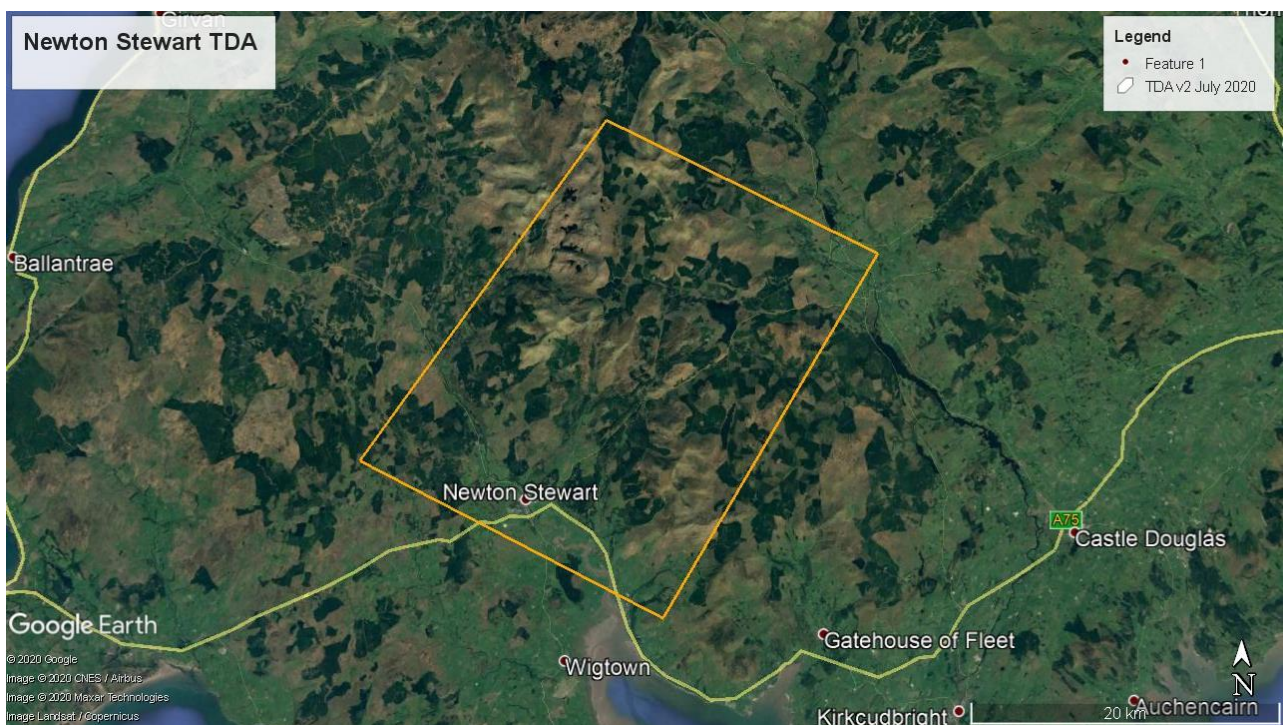
### 3.1 Segregated airspace

UAVE Ltd have presented the following proposed airspace design to local airspace users:

| Identification and Lateral Limits |         |          | Upper Limit<br>Lower Limit                       | Remarks   |
|-----------------------------------|---------|----------|--|---|
| 1                                 |         |          | 2  | 3   |
| <b>TDA 1: Newton Stewart</b>      |         |          | Lower Limit: SFC<br>Upper Limit: 3670 ft<br>AMSL | Activity: UAS Beyond Visual Line of Sight (BVLOS)<br>Hours: 09.00-17.00<br>DAAIS: Prestwick Information<br>FREQ: Prestwick<br>Approach: 129.450<br>121.500 Emergency, Prestwick Information<br>ATIS: 121.130, Prestwick Radar<br>124.630.<br>TEL: UAVE Ltd Flight Crew<br>Sponsor: UAVE Ltd |
| Point                             | Lat     | Long     |  |   |
| 1                                 | 55.1019 | -4.12846 |  |   |
| 2                                 | 55.179  | -4.40217 |  |   |
| 3                                 | 54.9823 | -4.65009 |  |   |
| 4                                 | 54.8918 | -4.34535 |  |   |
|                                   |         |          |  |   |

**FIGURE 1: TOP DOWN VIEW(S) OF PROPOSED AIRSPACE DESIGN**





### 3.2 Notification

CAA Airspace Regulation will promulgate TDA activations by NOTAM for the period of planned use.

### 3.3 TDA activation

| Date   | Time                        |
|--|-----------------------------|
| Monday to Friday 1 <sup>st</sup> September- 29th November 2021 | 09.00-17.00 hrs. Mon-Friday |

## 4 Engagement & consultation overview

### 4.1 Stakeholder identification

UAVE Ltd engaged with the same aviation stakeholders as those identified & previously contacted during the informal engagement exercise, with some additional stake holders added & engaged following recommendations from the CAA & other stakeholders who actively identified themselves to the change sponsor following the publication of the updated ACP2020-049 CAA portal.

### 4.2 Engagement Material: Stakeholders

UAVE Ltd shared the engagement material containing details and a map of the proposed TDA, as well as the proposed process to enable the safe operation of the TDA.

Materials containing technical information were presented in an accessible way as possible so as not to create a barrier to the provision of feedback.

### 4.3 Communications

UAVE Ltd shared engagement material with stakeholders by uploading copies to the CAA Airspace Change portal ([ACP-2020-049](#)) and providing a copy by email, which was completed during May-June 2021. Where an email was not available, through submission of enquiries to websites with details of the engagement exercise, UAVE Ltd offered to send the material upon receipt of a valid email address.

Many phone calls were made both from UAVE Ltd & from individual stakeholders to discuss & review the information contained in the engagement materials up to and including the 30<sup>th</sup> June 2021.

UAVE Ltd proactively encouraged stakeholders to provide feedback, even if they had already provided feedback during the informal engagement process or, if there was no impact, to confirm no impact.

### 4.4 Timing of events

23<sup>rd</sup> July 2020: ACP portal activated, Assessment Meeting Agenda published

28<sup>th</sup> July 2020: UAVE TACA Meeting

10<sup>th</sup> August 2020: UAVE TACA Meeting minutes and Statement of Need published to ACP Portal

14<sup>th</sup> October 2020: Informal Stakeholder engagement starts

23<sup>rd</sup> November 2020: Informal stakeholder engagement ends

24<sup>th</sup> November 2020: ACP paused

30<sup>th</sup> March 2021: Unpause request CAA questions answered

19<sup>th</sup> April 2021: Unpause request questions answered published to ACP Portal

20<sup>th</sup> April 2021: ACP un-paused

27<sup>th</sup> April 2021: Targeted Engagement period start

7<sup>th</sup> May 2021: UAVE TACA timeline published to ACP Portal

13<sup>th</sup> May 2021: Targeted Stake Holder Engagement document published to ACP Portal

30<sup>th</sup> June 2021: Targeted Engagement period ends ( 65 days )

2<sup>nd</sup> July 2021: V1.4 Submitted to CAA for review and a redacted version uploaded to ACP portal

16<sup>th</sup> July 2021: Last day for data from information sponsor to AIS/NATS

17<sup>th</sup> August 2021: V1.5 Submitted to CAA following feedback and a redacted version uploaded to ACP portal

TBC: CAA Decision Date

TBC: Sponsor start draft check

TBC: AIC/SUP Finalised

26<sup>th</sup> August 2021: AIC/SUP Publication date

1<sup>st</sup> September 2021: Implementation / Activity Start, TDA open, areas to be activated on a daily basis by NOTAM

29<sup>th</sup> November 2021: TDA closes

## 4.5 Feedback

Where stakeholders asked that we share their feedback in full with the CAA, UAVE Ltd provided this information at Step 3d Collate & Review Responses stage of the Airspace Change process during June 2021.

All feedback was collated and stored on UAVE Ltd's & contractors secure server as a record of the activity and ready for sharing with the CAA where necessary.

Where stakeholders requested that UAVE Ltd keep them updated with progress of the airspace change, UAVE Ltd will do this.

During the targeted engagement process which commenced on 27<sup>th</sup> April 2021 and closed on 30<sup>th</sup> June 2021, a period of 65 days or 9 weeks and 2 days, 3 individual stakeholders who had not been previously identified in the informal 2020 stakeholder consultative time period contacted UAVE Ltd. The 3 stakeholders were a member of the xxx Gliding Club, a local GA Farm Airstrip Owner, and a Seaplane Operator based at Prestwick Airfield. The 3 stakeholders engaged with UAVE Ltd by way of phone calls & emails within the 6 week targeted engagement period and collectively & individually their questions were answered either by way of phone call

and or email within the engagement period, see Appendices E, H & N.

The consultation period for each of these stakeholders was as follows:

xxx Gliding Club ( 58 days / 8 weeks, 2 days)

Local GA Farm Airstrip Owner ( 52 days / 7 weeks, 3 days )

Seaplane Operator based at Prestwick Airfield ( 58 days / 8 weeks, 2 days )

The GA Farmstrip Owner, xxx xxx xxx, was not initially identified as a stakeholder by UAVE but was identified as a stakeholder by the xxx Gliding Club ( Appendix E ) and so did not receive the initial email. When this was rectified it still left 52 days ( 7 weeks, 3 days ) to formally respond during which time a significant discussion over email and phone was undertaken ( Appendix H ) in so much as their concerns were fully considered as part of the proposed TDA revision as submitted.

## **4.6 Monitoring and Reporting**

During operations UAVE will actively monitor and log any further comments or complaints from the airspace community with a report provided at the end of the operations to the CAA. The [xxx@uave.co.uk](mailto:xxx@uave.co.uk) email address will be advertised within the AIC for this specific purpose.



# 5 Original Airspace Change Proposal Design

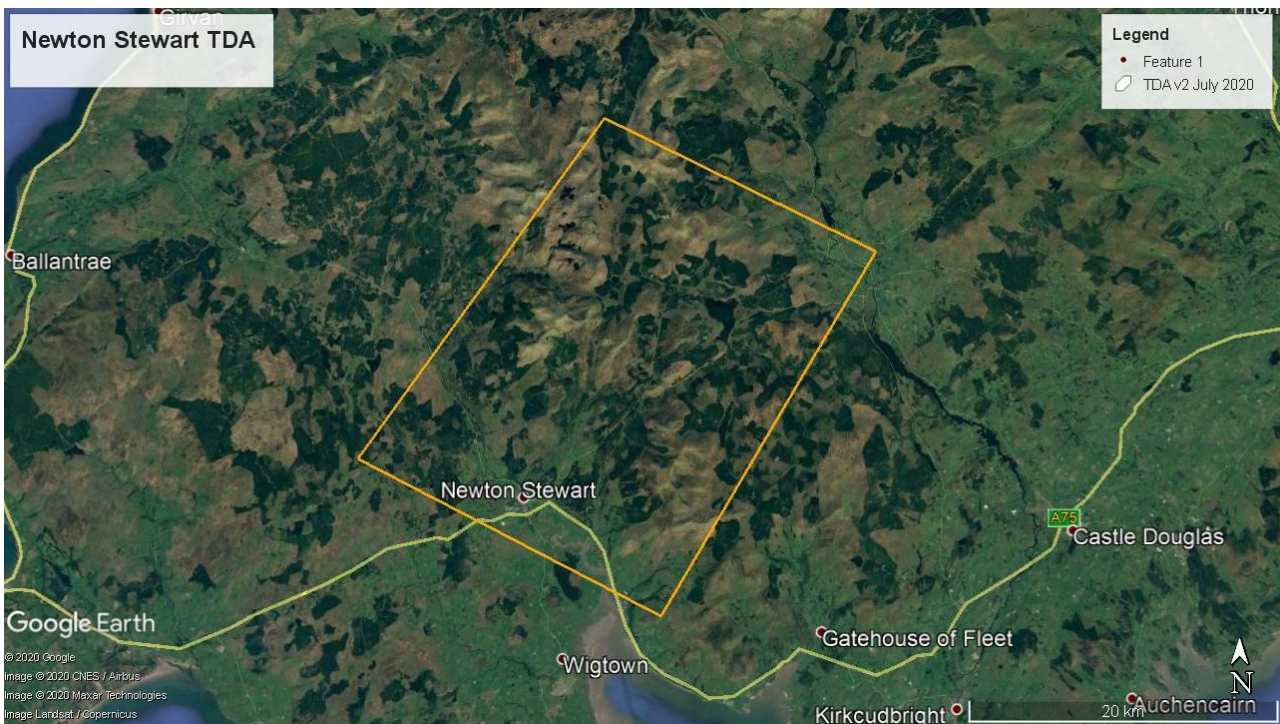
## 5.1 Segregated airspace

UAVE Ltd requires a volume of segregated airspace within which to safely execute its operations and presented the following proposed airspace design to local airspace users:

| Identification and Lateral Limits  |         |          | Upper Limit<br>Lower Limit | Remarks  |      |   |         |          |   |        |          |   |         |          |   |         |          |  |   |
|--|---------|----------|----------------------------|----------|------|---|---------|----------|---|--------|----------|---|---------|----------|---|---------|----------|--|---|
| <b>1</b>   |         |          | <b>2</b>                   | <b>3</b> |      |   |         |          |   |        |          |   |         |          |   |         |          |  |   |
| <b>TDA 1: Newton Stewart</b> <table border="1" data-bbox="156 645 534 853"> <thead> <tr> <th>Point</th> <th>Lat</th> <th>Long</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>55.1019</td> <td>-4.12846</td> </tr> <tr> <td>2</td> <td>55.179</td> <td>-4.40217</td> </tr> <tr> <td>3</td> <td>54.9823</td> <td>-4.65009</td> </tr> <tr> <td>4</td> <td>54.8918</td> <td>-4.34535</td> </tr> </tbody> </table> |         |          | Point                      | Lat      | Long | 1 | 55.1019 | -4.12846 | 2 | 55.179 | -4.40217 | 3 | 54.9823 | -4.65009 | 4 | 54.8918 | -4.34535 | Lower Limit: SFC<br>Upper Limit: 3670 ft<br>AMSL | Activity: UAS Beyond Visual Line of Sight (BVLOS)<br>Hours: 09.00-17.00<br>DAAIS: Prestwick Information<br>FREQ: Prestwick<br>Approach: 129.450<br>121.500 Emergency, Prestwick Information<br>ATIS: 121.130, Prestwick Radar<br>124.630.<br>TEL: UAVE Ltd Flight Crew<br>Sponsor: UAVE Ltd |
| Point  | Lat     | Long     |                            |          |      |   |         |          |   |        |          |   |         |          |   |         |          |  |   |
| 1  | 55.1019 | -4.12846 |                            |          |      |   |         |          |   |        |          |   |         |          |   |         |          |  |   |
| 2  | 55.179  | -4.40217 |                            |          |      |   |         |          |   |        |          |   |         |          |   |         |          |  |   |
| 3  | 54.9823 | -4.65009 |                            |          |      |   |         |          |   |        |          |   |         |          |   |         |          |  |   |
| 4  | 54.8918 | -4.34535 |                            |          |      |   |         |          |   |        |          |   |         |          |   |         |          |  |   |

**FIGURE 1: TOP DOWN VIEW(S) OF PROPOSED AIRSPACE DESIGN**





## 5.2 Notification

CAA Airspace Regulation will promulgate TDA activations by NOTAM on the days of planned use.

## 5.3 TDA activation

| Date  | Time                        |
|---|-----------------------------|
| Monday to Friday : 1 <sup>st</sup> September – 29 <sup>th</sup> November 2021 | 09.00-17.00 hrs. Mon-Friday |

## 6 Summary of feedback

UAVE Ltd received feedback in written form from 15 stakeholders. Virtually all of the Stakeholders who engaged in the process were broadly supportive of the proposed TDA and raised no issues and/or were willing to work with UAVE Ltd to find a workable solution that enables a safe manned and unmanned mix of operations.

Emergency service operators & the MoD have been supportive to the proposals.

Concerns were raised by 3 individual (GA) stakeholders & one GA representative body regarding the overall design & implementation of the original proposed design & suggestions were received on an alternative airspace design from these stakeholders.

Emergency services and their operators are understandably concerned about how UAVE Ltd's operations will safely deconflict with their operations, given their need for airspace primacy at all times and at very short notice.

A Temporary Operating Instruction, Appendix R, has been drafted (TOI) and is awaiting their final approval.

UAVE Ltd has included email confirmations of agreement/acceptance in the Appendices below.

UAVE Ltd provides the following summary of responses from aviation stakeholders on the TDA complex proposals.

Full, unredacted versions of the 15 written responses to the formal targeted aviation stakeholders engagement exercise can be viewed in section: [8 Appendices](#)



## 6.1 Emergency services

- Aerial emergency services or providers of aerial emergency services required routine access or transit through the airspace in question, sometimes with minimal or no notice.
- MOD authorized military air traffic may require transit or landing within the area.
- Police Scotland ASU may require access to or transit through the TDA in an emergency situation.
- HM Coastguard/MCA aircraft may require transit or activity within the TDA.
- Clearance into the TDA must be available to emergency service aircraft with as little as 10 minutes notice, including when emergency service aircraft are already airborne.
- If short-notice clearances are not available, more pre-emptive clearances whenever emergency aircraft are tasked into the area would be required when the weather is poor.

## 6.2 Schedule services and general aviation

- The proposals would not directly affect scheduled services but may have some local affect to general aviation, a commercial float-plane operation based at Prestwick Airport, a local farm-strip/airfield owner & local glider pilots transiting the area whilst flying in competitions or BGA award based flying tasks.
- The proposed TDA does not take place in an area known to be on the approach to Prestwick, Castle Kennedy (GA) or West Freugh (MOD) airfields.
- Both Castle Kennedy Airfield (GA) & the Dumfries & Galloway Gliding Club based to the far East of the area have been advised of the proposals. Castle Kennedy are supportive of the TDA application & the UAV Project. Some individual members of the Gliding Club have mooted some concerns as noted above.

## 6.3 Unmanned aircraft (UA)

- There is always a risk that members of the public could be flying UAV's in the area, the NOTAM & TDA area are believed to be sufficient to create awareness & mitigate the risk of collision or conflict with the survey drone operations, in addition the BMFA & UAV membership bodies have been advised of this proposal & would advise their membership via their communications (both web-based & hard copy publications) of the survey flights in advance.

## 6.4 Deconfliction

- All stakeholders expected to see a deconfliction process addressed in a mutually agreed Tactical Operating Instruction (TOI) a copy of which is shown in the Appendix below.

Several stakeholders recommended & requested that UAVE Ltd should email them directly on the planned daily flying programme for our activities.

## 7. UAVE Ltd response

### 7.1 UAVE Ltd responses to change proposal feedback

UAVE Ltd appreciates the feedback that other airspace users took the time to provide and looks forward to working with them (and the CAA) to agree an airspace design and robust deconfliction process that satisfies everyone where reasonably practicable.

#### Engagement Loop Matrix

| Stakeholder                      | We Asked  | You Said   | We Did  |
|----------------------------------|---|--|---|
| Babcock International            | For TDA approval/drone flights within the TDA Airspace Design | Priority for Emergency Services over Drone Ops when tasked to fly into the TDA area  | Gave assurance & agreed that UAVE would terminate drone flying by way of RTH if requested by Emergency Services to access the TDA   |
| Bristow Group                    | For TDA approval/drone flights within the TDA Airspace Design | That UAVE email their HQ the day before with planned flight programme, that a direct line from the ARCC be available to the Drone flight Ops Crew, that a robust way to land the drone if requested is in place        | Agreed that the Flight Ops Manager/Crew email their HQ the day before to advise planned Drone flight Ops, a landline will be available for contact to the Flight Ops crew, that the Drone is pre-programmed to RTH if requested in a timely manner  |
| British Gliding Association      | For TDA approval/drone flights within the TDA Airspace Design | Requested that UAVE contact the Dumfries Gliding Club to advise them of the proposals  | Contacted the Dumfries Gliding Club to make them aware of the TDA proposals   |
| Castle Kennedy Airfield          | For TDA approval/drone flights within the TDA Airspace Design | As not within the TDA had no concerns but stated that they would advise local GA pilots of activities when live  | Ensured that Castle Kennedy would be advised by way of draft AIC when available to pre-warn their pilots  |
| Dumfries & District Gliding Club | For TDA approval/drone flights within the TDA Airspace Design | Will the TDA be active Monday-Friday? Can the southern border of the TDA be moved north of Newton Stewart? Can the TDA upper altitude be reduced? Why use a drone when a conventional a/c could be used without a TDA? | Reviewed the design of the TDA & agreed that it will only be active as required freeing up airspace for gliders.<br>Reviewed the design but could not move the southern most border as it is required as a safe area of drone TOLP & climb to survey area/transit height. The TDA height allows safe flight & climb to height |

|                                  |  |  |   |
|----------------------------------|--|--|---|
|                                  |  |  | above the surface. Use drone as greener, less impact to environment & proven model for this type of survey  |
| Gamma Aviation                   | For TDA approval/drone flights within the TDA Airspace Design  | Requested that emergency flights have priority over the drone Ops & ability for the drone to be RTH as a priority if emergency flights/access to TDA are required during drone flights   | Confirmed & agreed that all Emergency flights have precedence over drone missions & the drone will be RTH & mission terminated until the emergency aircraft has completed its task & cleared the TDA  |
| Glasgow Prestwick Airport        | For TDA approval/drone flights within the TDA Airspace Design & ATC to provide TDA support/Flight Information Service for aircraft wishing to enter/cross the active TDA | Requested that UAVE Ltd supply all information on the final design of the airspace design together with the proposed Flight Ops Crew contact information & advance details of drone flight programme dates & times   | Agreed to supply this information in a timely manner.   |
| Glen Swinton Farm                | For TDA approval/drone flights within the TDA Airspace Design  | Asked who proposed a TDA? On what basis was a TDA required? Did UAVE consider or make a formal risk assessment? Did the risk assessment consider the knock-on effects of the TDA? What alternatives were considered to a TDA & why were the alternatives rejected? Why was Scotia Seaplanes & Glenswinton ignored in the initial decision to go for a TDA? How will compliance with the TDA be enforced given the topography ? | UAVE listened & noted all of these comments through both phone conversations & email correspondence & advised the stakeholder that these views would be forwarded to the CAA for review & discussion during the TDA application review process. After the review UAVE Ltd will re-engage with the stakeholder to discuss the answers/replies to these questions from the review consultative process. |
| Maritime Coastguard Agency (MCA) | For TDA approval/drone flights within the TDA Airspace Design  | Requests that a robust system is in place to ensure that when an SAR aircraft is   | UAVE Ltd agreed & accepted that a robust system be in place that allows a quick response  |

|                       |   |   |  |
|-----------------------|---|---|--|
|                       |   | scrambled & enters the TDA the drone can be landed in a timely manner. The SAR aircraft will not enter the TDA until the drone has landed, need a direct comms from MCA/ARCC to drone flight Ops Team to confirm this activity is completed. That the Operator communicates the drone flight programme by email to both the ARCC & Prestwick SAR base.  | from the drone flight crew to RTH/land the drone when requested by the ARCC. UAVE agreed to supply the MCA/ARCC with all contact numbers of the flight team & will provide a landline back-up comms facility to the flight crew to allow them to communicate to the ARCC when the drone has landed. The flight crew will email ARCC/Prestwick SAR with the daily flight programme.   |
| MoD DAATM<br>Airspace | For TDA approval/drone flights within the TDA Airspace Design | Requested that the TDA activity be notified by NOTAM,UAVE operational crew contact details are known,DAAIS frequency is known, that forward warning via draft AIC is available so that RAF(U) Swanwick Radar maps can mark the TDA in advance of the TDA going live   | Confirmed that TDA activity will be pre-advised together with draft AIC, containing UAVE Ops Crew contact details & DAAIS frequency to enable DAATM to advise its partners in a timely manner.   |
| Police Scotland       | For TDA approval/drone flights within the TDA Airspace Design | Asked if the planned Ops had changed?<br>Asked that their new Ops team be advised of the planned activities, asked if the a/c would be carrying a transponder? How its position will be tracked & advised to other a/c, what comms are there between Prestwick ATS & Flight Crew,should an a/c enter the TDA/fail to respond to ATC,Have NATS Prestwick been informed of the proposed TDA?Are MoD/DAAIS/RAF, West Freugh aware of | No apart from timescales, passed on the project plans of the TDA to the new Police Scotland Ops Team & spoke with the new IC officer about the plans .Confirmed that a mode S transponder will be fitted for the flights. A/C tracked by Preswick ATC & position advised to other a/c by them during the hours of Operations 09.00-17.00 Mon-Friday. Prestwick Comms to Flight crew by airband radio/mobilephone/land line at Ops base. Prestwick have been informed/aware of TDA.MoD/RAF/West Freugh are aware of TDA application. Flight Ops |

|  |  |  |  |
|--|--|--|--|
|  |  | <p>the plans?How long does each flight last/how many flights per day,Are the take-off &amp; landing sites the same?What is the rate of climb of the a/c?The plans show take-off vector towards Newton Stewart is this the case? How much flying will take place above the town (NS)?What height will be a/c be when above Newton Stewart town? Requested sight of Prion MK3 hazard sheet, What are the a/c flight parameters with regards to windspeed/rain? What is the a/c MTOW/mass ?Is there a parachute recovery system installed in the a/c?What is the a/c's descent rate/kinetic energy value?Is the aircraft flight mode autominous with human back up?What RTH/failsafe backup reduncancies are built into the a/c systems?Is there a second back-up TOLP ? What procedures are in place should another aircraft threaten the drones flight path/landing?Has UAVE taken into account the wildlife impact of the flights in the TDA area?</p> | <p>daily, Mon-Friday, 2 flights of 4 hours duration between 09.00-17.00. No of flights to be advised. TOLP the same at Farm site south of Newton Stewart. Rate of climb approx: 200ft/min @40kg MTOW. Flight path after take-off away from A75 &amp; Newton Stewart,a/c to loiter/climb to Op cruise altitude within TOLP before departing on survey flights. No flights above or near to Newton Stewart town. The a/c will not fly at any height above Newton Stewart town. Typical survey flight altitudes 75-150m above the surface.Hazard sheet sent to Police Scotland. Prion MK3 flight in wind/rain parameters:Max wind speed 20kts,no flight in rain/icing/cloud. MTOW configured for NS survey flights: 40kg.No parachute recovery system fitted. Descent rate:1/7, 1164 Joules energy value. Prion MK3 can be flown manually. t by safety pilot &amp; automated mode by ground station operator (2<sup>nd</sup> pilot) Autopilot can be programmed to provide RTH/land/loiter/emergency flight profiles. A 2<sup>nd</sup> TOLP is available within the primary TOLP for use in an emergency. Options are available in an emergency should immediate action be required including manual pilot takeover to kill the a/c engine &amp; terminate the flight. Yes wildlife &amp; raptor impact assessment has been made in conjunction with Forestry Land Scotland with a permit to fly being obtained from FLS by xxx xxx/UAVE.</p> |
|--|--|--|--|

|                                    |   |   |   |
|------------------------------------|---|---|---|
| Police Scotland (Air Support Unit) | For TDA approval/drone flights within the TDA Airspace Design | Asked that they be kept advised of progress (see Police Scotland)   | Maintained contact & will keep them advised accordingly of all developments of the TDA application & likely timescales.   |
| Scotia Seaplanes Ltd               | For TDA approval/drone flights within the TDA Airspace Design | Asked about EC capabilities & proposed daily survey scan size, asked if the Prion MK3 was fitted with ADS-B type transponder ?Asked that the a/c be fitted with an ADS-B transponder, requested an LoA allowing access to the TDA, that the TDA be sub-divided into smaller blocks, that drone operations be conducted at night or delayed until the end of October 2021, what procedures are in place should there be a loss of signal/control to the a/c & it leaves the TDA, can the drone detect any unplanned fog or cloud ahead of it? Stated that although UAVE Ltd had a legitimate commercial focus but it conflicts directly with the established commercial practices of Scotia Seaplanes Ltd, that the ACP does nothing to resolve the detect & avoid issue, Objects to ACP-2020-049 as they stand. | Due to timescales & COVID-19 effecting staff availability, UAVE Ltd were unable to answer all of these questions in a timely manner but advised Scotia Seaplanes Ltd that their observations, comments & requests were noted & taken on-board and would be included in the targeted engagement review statements & pending the ACP review by the CAA would be pleased to re-engage to work with them to come to a satisfactory resolution for both parties. |
| West Freugh Quinetiq/MoD           | For TDA approval/drone flights within the TDA Airspace Design | Thanked UAVE Ltd for copies of the TDA application & advised that they should maintain direct (daily) contact by phone call with them regarding potential 2.4GHz jamming trials later in  | Confirmed & thanked them for their support & information & agreed to contact West Freugh Project Offices on a daily contact phone call to ensure that there would be no conflict of the 2.4 GHz radio spektrum that could   |

|                           |   |  |  |
|---------------------------|---|--|--|
|                           |   | the year which may impinge of the planned drone survey flights.  | cause a safety risk to UAVE's Flight Ops in the region.  |
| West Scotland Strut (LAA) | For TDA approval/drone flights within the TDA Airspace Design | Formally objected to the ACP/TDA application in its present form, that the upper airspace altitude limit is excessive, that the proposed timescales & length of the Operation is excessive, recommend a shorter time-scale with an extension of the TDA at a later date if required, UAVE Ltd have not justified why they should fly during daylight hours & should consider night operations instead, requested a sub-division of the TDA into smaller more manageable zones, that the TDA application is based on a simplified approach without proper regard for other commercial operators safety, without proper consultation as in CAP1616, not a detailed design that encompasses all relevant factors & available opportunities, | Due to timescales & COVID-19 effecting staff availability, UAVE Ltd were unable to answer all of these questions in a timely manner but advised West Scotland Strut (LAA) that their observations, comments & requests were noted & taken on-board and would be included in the targeted engagement review statements & pending the ACP review by the CAA would be pleased to re-engage to work with them to come to a satisfactory resolution for both parties. |

Having reviewed this valued feedback, UAVE Ltd considers and/or proposes the following:

### 7.1.1 Deconfliction process

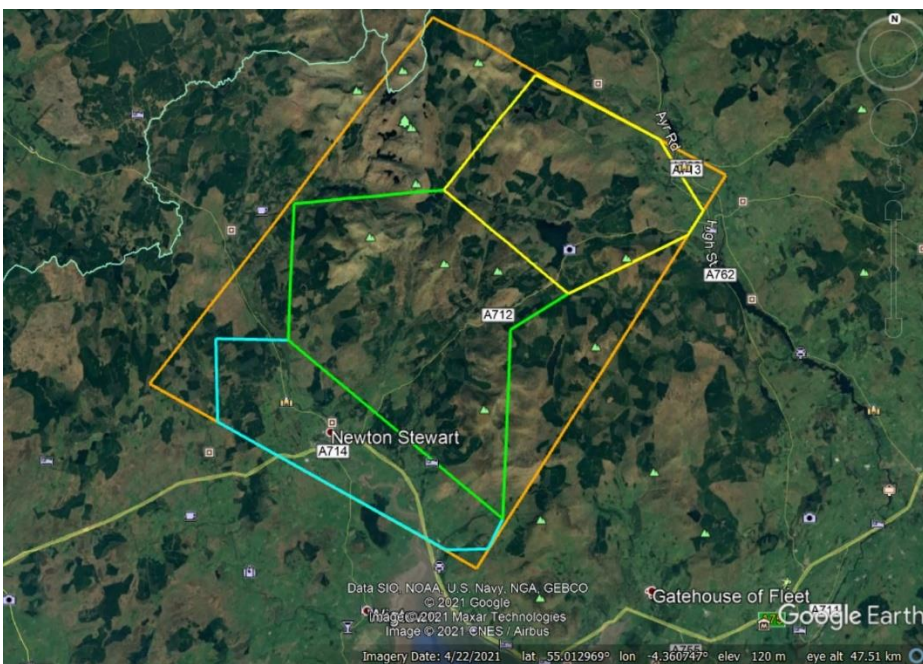
UAVE Ltd is in the process of confirming its deconfliction process and intends to produce a comprehensive and robust Temporary Operating Instruction (TOI) that secures the approval of relevant stakeholders and the CAA.

### 7.1.2 Airspace change

- Having reviewed the feedback response from stakeholders & wishing to work with all stakeholders in a mutually productive safe manner, UAVE Ltd considers & or proposes to change the design of the TDA as detailed below.

### Details of the volume of airspace required including coordinates:

Following consultation, the original proposed TDA (Orange Polygon) has been reduced in size and split into three areas which UAVE propose will be notified by NOTAM's on a daily basis meaning only airspace required for the days UAV flights will be active.



Comparison of original proposed TDA (Light Orange Polygon) with revised TDA A B & C.

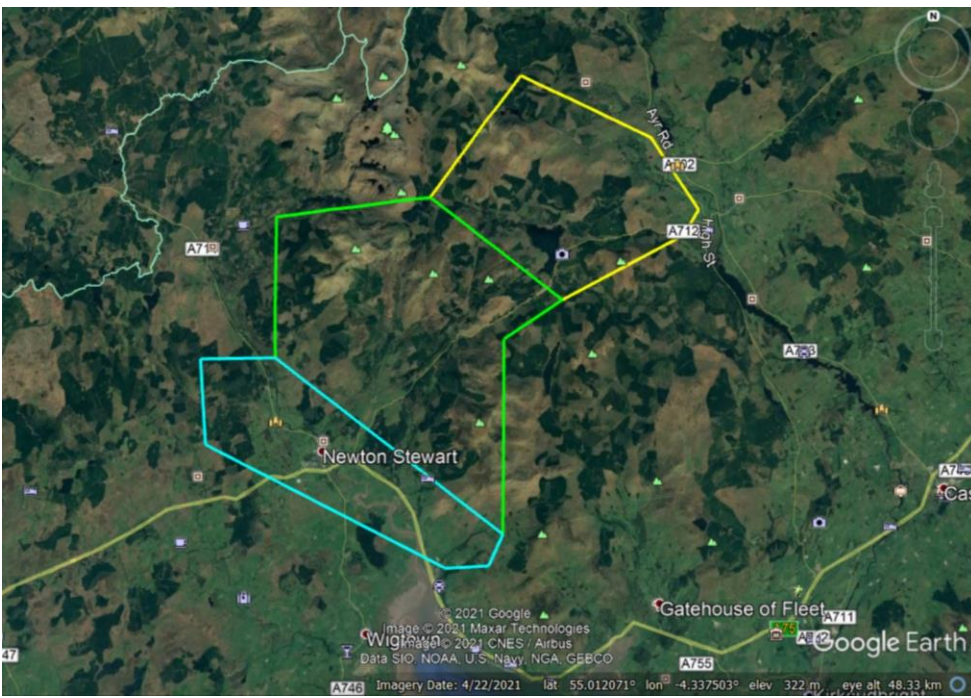
This smaller revised area now does not cover Loch Enoch, Loch Trool, Loch Valley or Loch Grannoch, leaving these areas open to other airspace users.

The revised TDA comprises three areas TDA A (Blue Polygon), TDA B (Green Polygon) & TDA C (Yellow Polygon).





Revised TDA Area – Blue, Green and Yellow Polygons



Revised TDA Area – Blue, Green and Yellow Polygons

The survey task is for the aircraft to fly at an altitude of between 150-500ft above the surface, allowing for a minimum 500ft vertical separation between the UAV and any other air traffic gives a required segregated airspace height for the TDA of 1,000ft above surface level.

The table below provides the maximum height of the surface within the proposed TDA A, B and C areas.

| <b>TDA</b> | <b>Max Ground Level, ft AMSL</b> | <b>TDA Ceiling Height, ft AMSL</b> |
|------------|----------------------------------|------------------------------------|
| A          | 700                              | 1700                               |
| B          | 2400                             | 3400                               |
| C          | 2400                             | 3400                               |

TDA A has been designed to encompass the low relief part of the survey area to enable a lower TDA ceiling height of 1700ft AMSL to be set which provides a lower crossing height for other airspace users.

The beyond visual line of sight UAS operations will be contained wholly within the TDA.

#### Planned timings of operations

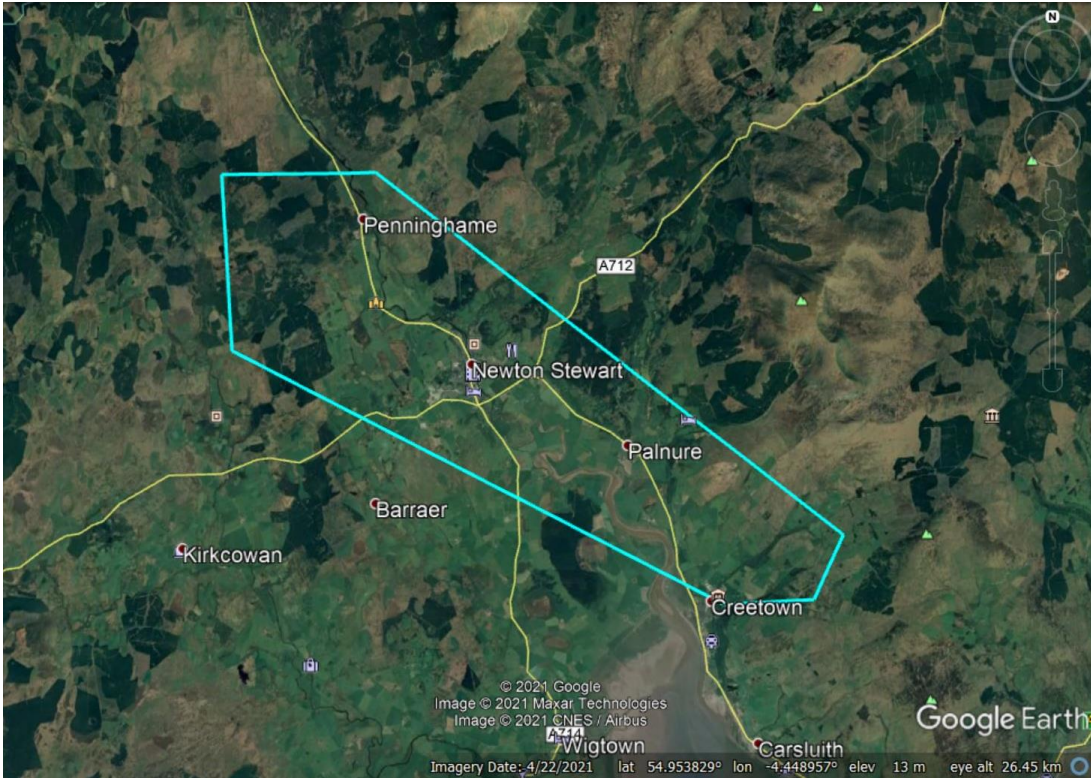
As the UAV remote take off and landing strip is within TDA A, TDA A will be activated by NOTAM on all days where flying is to take place. It will therefore be the most activated zone.

TDA B will only be activated when survey lines within TDA B are to be flown or transit is required to TDA C.

TDA C will only be activated when survey lines within TDA C are to be flown and so will be the least activated.

In the light of the proposed revisions to split the TDA into 3 zones the full 90 days window for all three zones is requested to provide operational flexibility.

TDA A



Map of TDA A – Blue Polygon

| TDA A |         |          |
|-------|---------|----------|
| Point | Lat     | Long     |
| 1     | 54.9181 | -4.32287 |
| 2     | 55.0078 | -4.52461 |
| 3     | 55.0072 | -4.59103 |
| 4     | 54.9636 | -4.58669 |
| 5     | 54.9008 | -4.37437 |
| 6     | 54.9021 | -4.33551 |
| 1     | 54.9181 | -4.32287 |

TDA Ceiling Height: 1,700ft AMSL

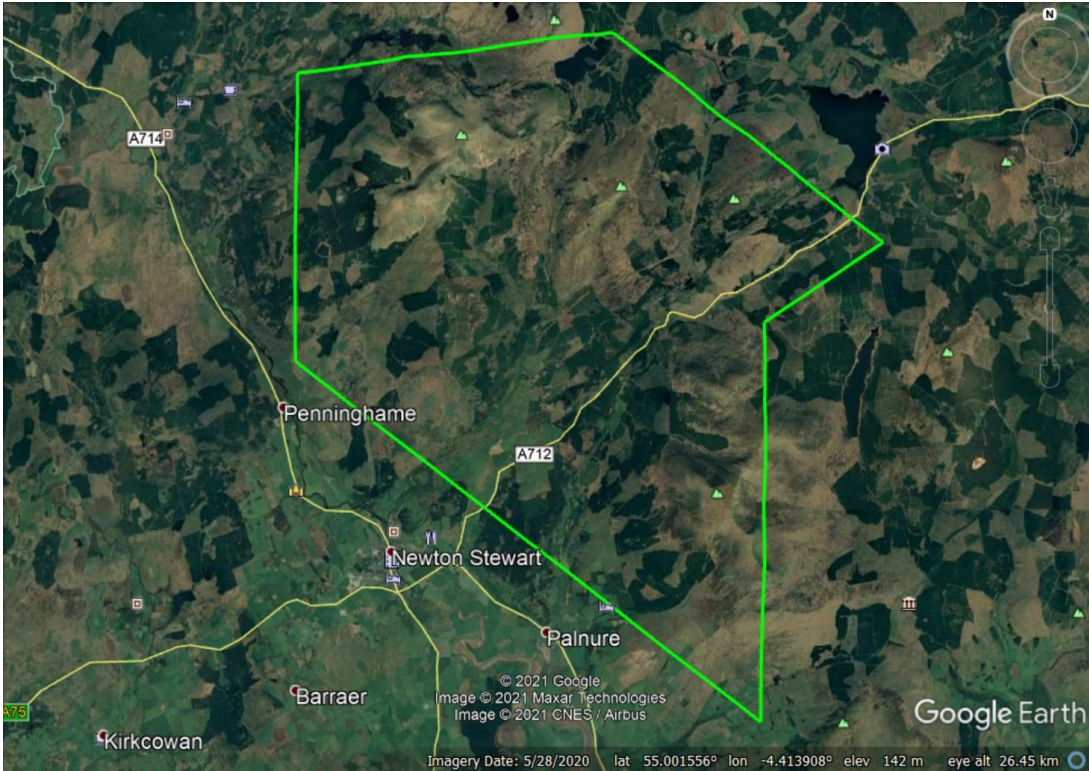
This equates (using the area coordinates shown above) to a total surface footprint of 88.4 sq km. The volume of airspace requested from surface is 1000ft which equates to a volume of 26.9 cubic kilometres. If the volume is calculated from average mean sea level (AMSL) then the volume is 45.8 cubic kilometres of airspace within the TDA.

**Remarks**

Activity: UAS Beyond Visual Line of Sight (BVLOS)  
 Hours: Monday – Friday (inc. public holidays): 09.00-17.00 hrs GMT (Prestwick ATC hours)  
 DAAIS: Prestwick Approach 129.45  
 Other FREQ: Prestwick Information ATIS: 121.130, Prestwick Radar 124.630.  
 TEL: UAVE Ltd Flight Crew  
 Sponsor: UAVE Ltd  
 Duration: 90 days from date of NOTAM approval



TDA B



Map of TDA B – Green Polygon

| TDA B |         |          |
|-------|---------|----------|
| Point | Lat     | Long     |
| 1     | 55.0078 | -4.52461 |
| 2     | 54.9181 | -4.32287 |
| 3     | 55.0173 | -4.32165 |
| 4     | 55.0371 | -4.26981 |
| 5     | 55.0891 | -4.38677 |
| 6     | 55.0794 | -4.5237  |
| 1     | 55.0078 | -4.52461 |

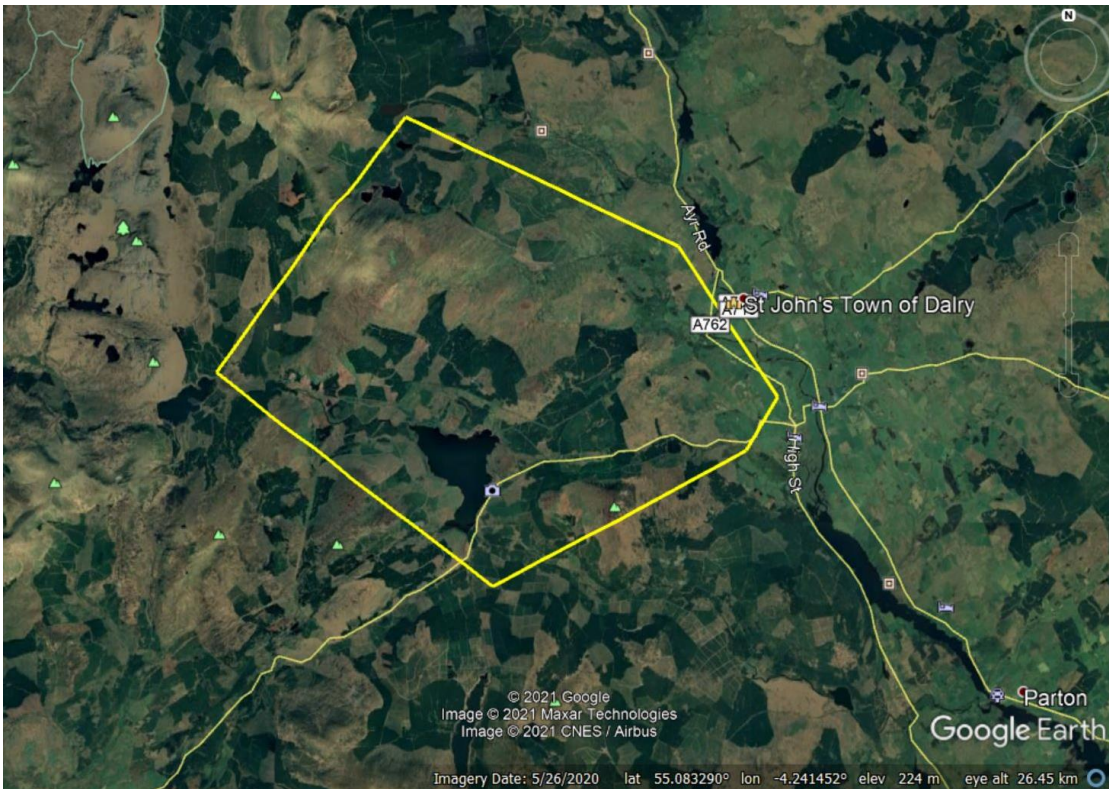
TDA Ceiling Height: 3,400ft AMSL

This equates (using the area coordinates shown above) to a total surface footprint of 178 sq km. The volume of airspace requested from surface is 1000ft which equates to a volume of 54.2 cubic kilometres. If the volume is calculated from average mean sea level (AMSL) then the volume is 184.4 cubic kilometres of airspace within the TDA.

**Remarks**

Activity: UAS Beyond Visual Line of Sight (BVLOS)  
 Hours: Monday – Friday (inc. public holidays): 09.00-17.00 hrs GMT (Prestwick ATC hours)  
 DAAIS: Prestwick Approach 129.45  
 Other FREQ: Prestwick Information ATIS: 121.130, Prestwick Radar 124.630.  
 TEL: UAVE Ltd Flight Crew  
 Sponsor: UAVE Ltd  
 Duration: 90 days from date of NOTAM approval

TDA C



Map of TDA C – Yellow Polygon

| TDA C |          |          |
|-------|----------|----------|
| Point | Lat      | Long     |
| 1     | 55.1195  | -4.19048 |
| 2     | 55.1507  | -4.3062  |
| 3     | 55.0891  | -4.38677 |
| 4     | 55.0371  | -4.26981 |
| 5     | 55.0698  | -4.1618  |
| 6     | 55.08278 | -4.14828 |
| 1     | 55.1195  | -4.19048 |

TDA Ceiling Height: 3,400ft AMSL

This equates (using the area coordinates shown above) to a total surface footprint of 109 sq km. The volume of airspace requested from surface is 1000ft which equates to a volume of 33.2 cubic kilometres. If the volume is calculated from average mean sea level (AMSL) then the volume is 112.9 cubic kilometres of airspace within the TDA.

**Remarks**

Activity: UAS Beyond Visual Line of Sight (BVLOS)  
 Hours: Monday – Friday (inc. public holidays): 09.00-17.00 hrs GMT (Prestwick ATC hours)  
 DAAIS: Prestwick Approach 129.45  
 Other FREQ: Prestwick Information ATIS: 121.130, Prestwick Radar 124.630.  
 TEL: UAVE Ltd Flight Crew  
 Sponsor: UAVE Ltd  
 Duration: 90 days from date of NOTAM approval

## 7.2 Positive and Negative Impacts

The proposed airspace change will negatively impact other air users by restricting access over the proposed group of three TDA's when activated for UAV flights during the 90 day period.

The negative impact has been mitigated by the following measures:

- a) UAV flights will be restricted to the working week, Monday to Friday, 09:00-17:00 to allow the airspace to remain fully open and unrestricted, as usual, on evenings and weekends.
- b) Following consultation the initial TDA has been split into 3 separate TDA areas to allow the height over TDA "A" to be reduced to allow for easier overflight whilst maintaining a safe vertical separation of 500ft.
- c) Following consultation the initial TDA area has been reduced to allow unrestricted overflight of 4 lochs and provide a greater unrestricted area around the identified local GA airfield
- d) The TDA will only be activated by NOTAM on days on which the UAV will be airborne

The proposed airspace change will have a positive impact on:

- a) the provision of cost effective airborne data to assist the exploration for mineral resources in the Newton Stewart area
- b) promoting the UK as a progressive environment for UAV BVLOS operations
- c) helping to build a body of evidence to progress from utilizing segregated airspace to shared airspace for UAV operations

## 8 Stakeholders

### 8.1 Civil Aviation Authority

The CAA is being consulted at every stage of the airspace change process.

### 8.2 Local airspace stakeholders

| Stakeholder                      | Type of Organisation              | Response (Informal)     | Response (Formal)       | Result in Design Change (Y/N) |
|----------------------------------|-----------------------------------|-------------------------|-------------------------|-------------------------------|
| Babcock International            | Aviation Service Provider         | Yes - Written           | Yes – Written           | No                            |
| Bristow (SAR)                    | Aviation Service Provider         | Yes                     | Yes - Written           | No                            |
| Castle Kennedy Airfield          | GA Airfield Operator              | Yes written             | Yes – Written           | No                            |
| Dumfries & District Gliding Club | Sport Gliding Airfield Operator   | Yes – written & phone   | Yes written             | No                            |
| Gamma Aviation                   | Aviation Service Provider         | Yes – Written           | Yes – Written and Phone | No                            |
| Glen Swinton Farm                | GA Airfield                       | Yes -written & phone    | Yes -written            | Yes                           |
| Glasgow Prestwick Airport        | GA Airfield /ATC Service Provider | Yes -Written            | Yes -Written            | No                            |
| Maritime and Coastguard Agency   | Aviation Service Provider         | Yes – Written and Phone | Yes – Written and Phone | No                            |
| Ministry of Defence              | Military                          | Yes – Written and Phone | Yes – Written           | No                            |
| Police Scotland                  | Law Enforcement                   | Yes written & phone     | Yes – Written           | No                            |
| Police Scotland ASU              | Aviation Service Provider         | Yes – Written           | Yes – Written           | No                            |
| Scotia Seaplanes                 | Aviation Service Provider         | Yes – Written & phone   | Yes – Written           | Yes                           |
| Scottish Air Ambulance           | Emergency service provider        | Yes -Written            | Yes -Written            | No                            |
| Scottish Charity Air Ambulance   | Emergency Service Provider        | Yes -Written            | Yes -Written            | No                            |
| West Freugh (MOD)                | Military Airfield Operator        | Yes -Written            | Yes -Written            | No                            |
| West Scotland LAA                | GA Operator Association           | Yes -Written            | Yes -Written            | Yes                           |

### 8.3 Other Stakeholders Contacted

|       |                           |             |               |    |
|-------|---------------------------|-------------|---------------|----|
| ARPAS | UAV Association           | Yes-Written | Yes -Phone    | No |
| BGA   | UK Gliding Governing Body | Yes Written | Yes – Written | No |
| BMFA  | UAV Governing Body        | Yes Written | Yes phone     | No |

## 9 Appendices

Appendix A: Babcock International Group

On 2021-03-25 16:49, xxxxxx wrote:

Dear xxxxx,

Thanks for this update. My reply of 29th Oct 2020 remains valid for the un-paused ACP-2020-049-TDA process.

Best regards,

xxxxxxx

xxxxxxxxxxx | Regional Managing Pilot (Scotland)  
UK Aviation | Aviation  
Babcock International Group  
xxxxxxx Road | GLASGOW | xxxxxxxx  
Tel: +44141xxxxxxx | xxxxxxxx@babcockinternational.com  
[www.babcockinternational.com](http://www.babcockinternational.com)



Please consider the environment before printing this email

Dear xxxxxx,

Many thanks for this information, and for this consultation.

The ambulance and Police aircraft operated by us could require access to this airspace in response to tasking by the Scottish Ambulance Service or Police Scotland. I note that Prestwick ATC would be providing a DACS/DAAIS which would suit our purposes provided that it is understood that such tasking would take priority and that your drone operations would be suspended for the duration of our missions within the TDA.

Experience tells me that two way VHF comms with Prestwick won't be possible for aircraft flying low level within the proposed TDA, but VHF comms would be possible en route when inbound from the north, where our aircraft are based, and we also have means of calling landlines from our aircraft as a fall-back option.



So in summary, I don't anticipate your proposal causing any difficulty for our flying operations provided we have your assurance that we would be given priority over drone operations when tasked into the TDA by the emergency services.

I can't help you with an SP Energy Helicopter Unit contact I'm afraid, we're not acquainted; otherwise your stakeholder list looks comprehensive. I hope the project goes well.

Best regards,

xxxxxxx

xxxxxxxxx| Regional Managing Pilot (Scotland)  
UK Aviation | Aviation  
Babcock International Group  
xxxxxxxx Road | GLASGOW | xxxxxxxx  
Tel: +44141 xxxxxxxx | xxxxxx@babcockinternational.com  
[www.babcockinternational.com](http://www.babcockinternational.com)



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Appendix B: Bristow (SAR)

## **Re: Commercial Drone Survey in West Scotland - CAA Stakeholders Agreement**

To xxxxxx@bristowgroup.com> on 2021-06-28 09:57  
Details Plain text  
Hi xxxx,

I thank-you for your quick reply & detailed questions, which have been noted & shared with the UAVE Ltd, Flight Ops Teams, my replies to your questions are highlighted below:

If you have any further comments or questions regarding this matter please do not hesitate to get back to me.

Kind Regards,

XXXXX

On 2021-06-25 10:26, xxx xxx wrote:

Hi xxx

I think there are a few factors here. Firstly I would request you email the base every day, preferably the day before, with your planned flying activity. Reply: Yes this is possible & we are willing to comply with this request. I also ask that a direct line is made available to the UK ARCC so that they can contact you immediately if we have to fly through the area as they are our tasking authority. Reply: The Flight Teams contact mobile numbers will be known to the ARCC, together with a landline number to the local Farm which is hosting the flight Ops location/base.

We also need a very robust system for ensuring the drone can be landed quickly in the event of SAR operations in the area. We will not fly through an area until the drone is on the ground. The area is only 20 mins from Prestwick if we are having to start the aircraft from base, if already airborne this can be reduced to needing entry within 5-10 mins. Obviously if we can't fly through the area as the drone is airborne then we have to route around, potentially delaying our response to any time critical casualty. Reply: All noted, upon your request the aircrafts current mission flight will be terminated & the aircraft commanded to return to the home base to land.

Whilst I have no direct objections with the proposals, it's open airspace after all, I simply ask that consideration be given to how it may impact on UK airborne emergency service response times and what you can do to mitigate that impact. The area of the proposed TDA can be busy for us, particularly at the time of year you propose, so robust systems must be set in place. Reply: All noted & understood.

Can you please confirm the air ambulance and police have been informed (operating from Glasgow). Reply: Yes I can confirm that Gamma Aviation & Police Scotland/Police Scotland ASU are currently in discussion with UAVE Ltd regarding this proposed TDA.

Craig

**Capt xxx xxx AFC | UK SAR Deputy Flight Operations Manager & Chief Pilot Prestwick SAR Base |**  
xxx, xxx | email: [xxx.xxx@bristowgroup.com](mailto:xxx.xxx@bristowgroup.com) | Direct: xxx xxx | Mob: xxx xxx |

*Confidence in flight. Worldwide.*

**From:** xxx.xxx@uave.co.uk <xxx.xxx@uave.co.uk>

**Sent:** 24 June 2021 15:46

**To:** xxx xxx <xxx.xxx@bristowgroup.com>

**Subject:** Re: Commercial Drone Survey in West Scotland - CAA Stakeholders Agreement

**CAUTION:** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

---

Hi xxx,

I trust you are well.

My apologies for the short notice on re-contacting you with regards to this matter.

As an update I attach the latest information on ACP2020-049, this is now being planned (pending CAA approvals) for a September 2021 activation.

If you have comments on this proposed TDA do please get back to me by the 30th June.

Kind Regards,

xxx

On 2020-10-16 12:50, xxx xxx wrote:

Hi xxx

Please include me in any consultations regarding TDAs on the west coast of Scotland as they could have an impact on our ability to respond in an emergency role.

xxx

**Capt xxx xxx AFC | UK SAR Deputy Flight Operations Manager & Chief Pilot Prestwick SAR Base |**  
xxx, xxx | **email:** xxx.xxx@bristowgroup.com | **Direct:** xxx xxx | **Mob:** xxx xxx |

*Confidence in flight. Worldwide.*

**From:** xxx xxx <xxx.xxx@mcga.gov.uk>  
**Sent:** 16 October 2020 12:04  
**To:** xxx xxx <xxx.xxx@bristowgroup.com>; xxx xxx <xxx.xxx@bristowgroup.com>  
**Subject:** FW: Commercial Drone Survey in West Scotland - CAA Stakeholders Agreement

Hi xxx

Please see the following for information and a heads up. I've forwarded it to the ARCC as they are required to have involvement in the setting up of any of these activities and the CAA won't issue permissions without that consultation.

I know that the crew will see any of the NOTAMS, but advanced notice is always helpful

Best regards

xxx

-----Original Message-----

**From:** xxx xxx <[xxx.xxx@mcga.gov.uk](mailto:xxx.xxx@mcga.gov.uk)>  
**Sent:** 16 October 2020 10:33  
**To:** xxx xxx <[xxx.xxx@mcga.gov.uk](mailto:xxx.xxx@mcga.gov.uk)>  
**Cc:** xxx xxx <[xxx.xxx@mcga.gov.uk](mailto:xxx.xxx@mcga.gov.uk)>  
**Subject:** FW: Commercial Drone Survey in West Scotland - CAA Stakeholders Agreement

Hello xxx,

I thought probably you might want to be made aware of this for HM Coastguard side of things...

xxx

-----Original Message-----

From: [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk) <[xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)>  
Sent: 16 October 2020 10:29  
To: xxx xxx <[xxx.xxx@mcga.gov.uk](mailto:xxx.xxx@mcga.gov.uk)>  
Subject: Commercial Drone Survey in West Scotland - CAA Stakeholders Agreement

Dear Sir/Madam,

UAVE Ltd have been commissioned to carry out an unmanned aircraft/drone survey of an area of land located in the South of West Scotland later this year.

As part of our application(s) with the CAA for a temporary danger area application we need to advise the MCA & other stake-holders of our intentions & activities in a timely manner before our temporary danger area application can be submitted.

Can I please request that you forward my email to the correct office within your Scottish Air Operations sector to enable our discussions to commence.

Kind Regards,

xxx

xxx xxx  
Contractor  
UAVE Limited

[www.uave.co.uk](http://www.uave.co.uk)  
M +44 (0) xxx xxx

A xxx

Appendix C: British Gliding Association

## **Fwd: RE: ACP-2020-049: Commercial Drone Survey in West Scotland - CAA Stakeholders Targeted Engagement**

To [xxx@aol.com](mailto:xxx@aol.com) on 2021-06-24 12:39  
[Details](#)

- [CAA ACP-2020-049 Targeted Stake Holder Engagement May 2021 V1.2.pdf \(~271 KB\)](#)

Hi xxx,

Please see the email below asking me to ensure that you are kept advised of this activity, please let me know if you need any additional info ?

Kind Regards,

xxx

----- Original Message -----

Subject: RE: ACP-2020-049: Commercial Drone Survey in West Scotland - CAA Stakeholders Targeted Engagement

Date: 2021-06-08 13:05

From: xxx xxx <[xxx@gliding.co.uk](mailto:xxx@gliding.co.uk)>

To: "[xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)" <[xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)>

Thanks. Although this is unlikely to impact gliding operations in the round, we strongly suggest you engage with the Dumfries Gliding Club. xxx xxx might be a good contact [xxx@aol.com](mailto:xxx@aol.com)

Kind regards

xxx xxx

British Gliding Association

-----Original Message-----

From: [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk) <[xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)>

Sent: 11 May 2021 13:43

To: xxx xxx <[xxx@gliding.co.uk](mailto:xxx@gliding.co.uk)>

Subject: ACP-2020-049: Commercial Drone Survey in West Scotland - CAA Stakeholders Targeted Engagement

Hi xxx,

As part of the process facilitated by the CAA, I am contacting you & your BGA membership to pre-advise you that an application to fly a large UAV/change in the airspace (TDA) in the Newton Stewart area of land in SW Scotland in September 2021 is currently under review by the CAA.

I attach more information for you to review, please get back to me if you need any more details at this stage of the process.

Kind Regards,

xxx

xxx xxx

Contractor (Flight Ops)

0xxx xxx

[www.uave.co.uk](http://www.uave.co.uk)

## Appendix D: Castle Kennedy Airfield

On 2020-05-11 13:28, Castle Kennedy Airfield wrote:

Thank you for your enquiry.

Sadly Castle Kennedy probably has not had ATC since Silver City Airline departed in 1950's!

We currently have a reasonable runway of 600 metres, and nearby a large hanger from WW2, as the only service we can offer. If you are NE of Newton Stewart you will be approx 30 miles away, and Scottish info, or even Prestwick approach will be more relevant.

However if you let me know approx dates you are operating we can include a warning, verbal, in our briefing for pilots wanting PPR.

xxxxxx

Sent from my iPad

Appendix E: Dumfries & District Gliding Club

xxx,

Thanks for your engagement with this process.

Please can you provide further information on the BGA Newton Stewart turning point (number 2) below:

- a) the latitude and longitude and radius of the BGA Newton Stewart turning point
- b) the expected upper and lower altitudes of gliders whilst using the turning point

Best regards,

xxx xxx  
Business Development  
UAVE Limited



W [www.uave.co.uk](http://www.uave.co.uk)

M +44 (0) xxx xxx

T +44 (0) xxx xxx

A xxx

V <https://www.youtube.com/watch?v=KkEOoTriAx8>

----- Original Message -----

**Subject:**Re: ACP2020-049: TDA: UAVE Ltd: Newton Stewart: Stakeholders Targeted Engagement

**Date:**2021-05-14 17:14

**From:**[xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)

**To:**[xxx@westergate.com](mailto:xxx@westergate.com)

**Copy:**[xxx@aol.com](mailto:xxx@aol.com), 'xxx xxx' <[xxx@btinternet.com](mailto:xxx@btinternet.com)>

Hi xxx,

Thanks for your email & comments I will forward to colleagues @UAVE Ltd for their review & a reply will be sent to you after the review has been made.

Kind Regards,

xxx

On 2021-05-14 11:38, [xxx@westergate.com](mailto:xxx@westergate.com) wrote:

Hi xxx,

I have discussed your reply with my colleagues, and we have a few questions:

1. The duration is from Monday to Friday every week, will this be required, or do you intend to only notify days which are required. As we imagine the drone will have restrictions on flying conditions, will unsuitable days be cleared for other users?
2. As this TDA covers a BGA turning point which is used by pilots from remote clubs doing badge flights, and the TDA cover the town, can the southern edge be moved to north of Newton Stewart to clear the A75 roundabout to allow access to the turning point and give a route west avoiding having to cross Wigtown Bay?
3. The upper level of the TDA is well above the levels used frequently by gliders who have no ability to climb on demand. Is this to clear the higher ground to the north? If this is the case can the upper level be changed to AGL or at least stepped down over lower terrain?
4. If a conventional aircraft was used for this operation a TDA would not be required. This inconvenience to other airspace users is to allow financial savings for the prospector who will make profit from mining. Can we be advised what other scenarios have been considered and why this particular restriction has been decided on?

Regards,

Xxx xxx

Dumfries and District Gliding Club

**From:** [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk) <[xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)>

**Sent:** 11 May 2021 10:30

**To:** [xxx@westergate.com](mailto:xxx@westergate.com)

**Subject:** Fwd: Re: ACP2020-049: TDA: UAVE Ltd: Newton Stewart: Stakeholders Targeted Engagement

Hi xxx,

Attachment now attached.

Kind Regards,

xxx

----- Original Message -----

**Subject:**Re: ACP2020-049: TDA: UAVE Ltd: Newton Stewart: Stakeholders Targeted Engagement

**Date:**2021-05-11 10:27

**From:**[xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)

**To:**xxx <[xxx@westergate.com](mailto:xxx@westergate.com)>

**Copy:**Xxx xxx <[xxx@glenswinton.co.uk](mailto:xxx@glenswinton.co.uk)>, 'xxx xxx' <[xxx@aol.com](mailto:xxx@aol.com)>, 'xxx xxx' <[xxx@btinternet.com](mailto:xxx@btinternet.com)>, [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk), [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)

Dear xxx,

Thank you for copying me & my colleagues @ UAVE Ltd, into your recent email regarding UAVE Ltd's current ACP 2020-049 application which is now a "live" application on the CAA portal.

In answer to you, & your colleagues questions & concerns, it is my role to facilitate stakeholders responses to this application, and I am available to discuss matters, with the assistance of key UAVE Ltd colleagues, in greater detail through my contact details below with a view to assisting you in this process to get an agreement on the best way forward to obtain a mutually beneficial conclusion to the process.

I can confirm that the D&G Gliding Club have been consulted in this process.

I attach more information you & your colleagues review.

Kind Regards,

xxx

xxx xxx

Contractor (Flight Ops)

0778 9991120

[www.uave.co.uk](http://www.uave.co.uk)

On 2021-05-10 18:21, xxx wrote:

Hi xxx,

Thanks for the feedback, I have emailed UAVE with an initial request for recognition so we'll see what response we get.

Regards,

xxx

Sent from my Galaxy

----- Original message -----

From: xxx xxx <[xxx@glenswinton.co.uk](mailto:xxx@glenswinton.co.uk)>

Date: 10/05/2021 17:50 (GMT+00:00)

To: [xxx@westergate.com](mailto:xxx@westergate.com), 'xxx xxx' <[xxx@aol.com](mailto:xxx@aol.com)>, 'xxx xxx' <[xxx@btinternet.com](mailto:xxx@btinternet.com)>

Cc: [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk), [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk), [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)

Subject: RE: TDA Newton Stewart



Dear xxx, xxx and xxx,

I wondered about that, and I suggest that the Dumfries & District Gliding Club should contact UAVE Ltd to be added as a local aviation "stakeholder" consultee, bearing in mind that few of our gliders carry transponders or even radios capable of more than very short-range communication.

See below for my initial thoughts, and those of another stakeholder who conducts seaplane training in the proposed Temporary Danger Area. At the moment, the consensus seems to be that excluding all traffic from such a large TDA up to nearly 4,000 ft altitude is an unacceptably clumsy solution.

I have contacted UAVE as operator of a neighbouring chartered airfield (Glenswinton). I think they are keen to find a technical solution which offers an acceptable level of safety with minimum impact on other airspace users, but I have yet to receive their detailed impact mitigation proposals.

Best wishes,  
xxx xxx.

--

Glenswinton, xxx **Tel:** xxx xxxx **Fax:** xxx xxx  
**Aerodrome info:** [www.glenswinton.co.uk](http://www.glenswinton.co.uk)

**Email:** [xxx@glenswinton.co.uk](mailto:xxx@glenswinton.co.uk) or call/text xxx xxx

**From:** [xxx@westergate.com](mailto:xxx@westergate.com) [<mailto:xxx@westergate.com>]  
**Sent:** 10 May 2021 16:24  
**To:** xxx xxx; xxx xxx; xxx xxx  
**Subject:** TDA Newton Stewart

The link is to a drone TDA for mineral surveys. This will cause problems for anyone going west for a 50k flight.

xxx

-----  
  
Dear xxx and xxx,

Thanks for the "heads-up" about this proposed temporary danger area (TDA).

We have not been consulted about this proposal.

Glenswinton aerodrome (clearly marked on CAA/NATS and other charts) is less than 4 nm from the proposed TDA boundary which is therefore well within the CAA-recommended 13 km birdstrike circle on our LPA-approved voluntary safeguarding map.

I will contact the developer and in the meantime offer full support for the views and solutions which xxx has proposed.

With increasing commercial UAV use, ADSB-emitting drones and light GA already have smart ways to share airspace safely and efficiently. The "blunt instrument" of a TDA is an unacceptable 20th-century solution to a 21st-century "problem".

Kind regards,

xxx xxx MA CEng MICE

--

Glenswinton, xxx

Tel: xxx xxx Fax: xxx xxx

Aerodrome info: [www.glenswinton.co.uk](http://www.glenswinton.co.uk)

Email: [xxx@glenswinton.co.uk](mailto:xxx@glenswinton.co.uk) or call/text xxx xxx

-----Original Message-----

Subject: FW: Newton Stewart ACP-2020-049

I have just been made aware about yet another drone TDA request, (ACP-202-049 Newton Stewart). This is a geological survey, planned for Sept-Oct 2021, using Prion Mk3 drones - <https://www.uave.co.uk/> -

It blocks off a huge amount of airspace, 160 square miles, from surface up to 3700ft amsl - I have included screenshots from Skydemon showing its size relative to the D402/D403/D405 complexes nearby.

It is about 25nm south of Prestwick, in an area hemmed in by D402, D403, D405 Danger Areas, and as such is used frequently by VFR traffic transiting from down south to the West coast of Scotland (avoiding D402/D403), offering a couple of low-level routes through the Galloway mountains in the event of cloud being below 4000'. (It is also sits slap bang over 4 of the 6 lochs that we do seaplane training on).

This ACP has now been 'unpaused' from last year, and enters a 6 week consultation period. From exactly which date I am not sure, but the letter on the CAA Portal is dated 31 March 21, which would suggest 6 weeks actually ends on 12 May 21 - that is next Wednesday !!

Here is a link to the CAA ACP Portal -

<https://airspacechange.caa.co.uk/PublicProposalArea?pID=265>

Scotia Seaplanes Ltd was notified to UAVE Ltd as a stakeholder back in January, and I received an email from the ACP Sponsor (UAVE Ltd, based at Llanbedr) today - 4 May 21. They said they had sent one earlier, but I cannot find it. I telephoned the contact [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk) (also of [www.xxx.org.uk](http://www.xxx.org.uk)) who said he was a 'sub-contractor' who is dealing with the UAVE Ltd proposal and was assured that my 6 weeks starts today. (He also happens to teach the training courses at UAVE Ltd.) You may want to register an interest now so that you have a decent period to respond.

I have asked for a list of the aviation stakeholders that have already been contacted and I am also drawing it to your attention as a possible interested party.

I think this is the kind of drone operation that has been going on for many years (unlike all the new kids on the block), and in the past it may well have elicited little comment, but the whole TDA thing has now got out of control and I don't think it is acceptable now to just constantly let it slide.

My own view is, if it has to be, then we should be refusing TDAs and substituting with some kind of temporary TMZs (to the minimum size required and for the minimum period necessary) as the next best option - whilst it still excludes non-EC equipped aircraft, it is better than a TDA which excludes everyone.

It also puts more onus on the drone companies to fit EC Detect and Avoid (DAA). Drone companies should be required to ensure ADSB-out is transmitting before launching, and supplement ground based ADSB/ATOM/OGN relays so that coverage of the drone position is freely available on FR24, PilotAware, FLARM etc .. - this would provide feedback that their drone is visible.

Anyone with PilotAware, FR24, Skyecho2 etc... can then see where the specific drone is at any given time.

Another alternative in one-off cases like this is for the drone operator to provide a live website which shows the current drone position/activity - anyone could access that on a smart phone and confirm the area is not occupied or active.

Thanks for listening.

Appendix F: Gamma Aviation

## **Re: Commercial Drone Survey in West Scotland - ACP-2020-049: CAA Targeted Stakeholder Engagement: 2021 Update**

From [xxxxxxxx@gamaaviation.com](mailto:xxxxxxxx@gamaaviation.com) on 2021-04-29 18:36

[Details](#) [Plain text](#)

xxxxxxx,

Thank you for your email and we are happy with your measures you have put in place which are in line with our operational requirements in case we need to transit or land within your TDA.

When you have finalized everything regarding your drone operations can you please send me the latest ACP just a week or two before you go live, than I will brief all our crew members accordingly.

Many thanks,

Kind regards,

XXXXXXXXXX

Get [Outlook for iOS](#)

**XXXXXXXXXX: Base Manager**

XXXXXXXXXXXX, Glasgow Airport, Paisley, Renfrewshire, XXXXXXXX GB

Your mission, our passion.  
**[gamaaviation.com](http://gamaaviation.com)**

Appendix G: Glasgow Prestwick Airport/ATC/Services

## **Re: DACS/DAAIS/ ATC Coverage - TDA Application: Unmanned Aircraft: ACP2020-049**

----- Original Message -----

**Subject:**Re: Danger Area Activity Information Service ( DAAIS): CAA feedback on ACP2020-049 (DAAIS Service)

**Date:**2021-07-19 11:02

**From:**[xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)

**To:**xxx xxx <[xxxx@glasgowprestwick.com](mailto:xxxx@glasgowprestwick.com)>

**Copy:**[xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)

Hi xxx,

Many thanks for your advice & quick reply, xxx & I will revert back to xx with this information & I thank you for your ongoing support in this matter.

Kind Regards,

xxx

On 2021-07-19 10:43, xxx xxx wrote:

xxx,

The frequency would be Prestwick Approach on 129.450 Mhz.

As previously mentioned, Scottish Information on 119.875 should also be considered for a DAAIS provider (if not already). They are probably contacted more routinely by light aircraft in the vicinity of your proposed TDA than Prestwick.

Kind Regards,

xxx

Get [Outlook for Android](#)

---

**From:** [xxx.xxxx@uave.co.uk](mailto:xxx.xxxx@uave.co.uk) <[xxx.xxxx@uave.co.uk](mailto:xxx.xxxx@uave.co.uk)>

**Sent:** Monday, July 19, 2021 10:13:26 AM

**To:** xxx xxx <[xxx@glasgowprestwick.com](mailto:xxx@glasgowprestwick.com)>

**Subject:** Re: Danger Area Activity Information Service ( DAAIS): CAA feedback on ACP2020-049 (DAAIS Service)

Hi xxx,

I trust you all @ Prestwick are keeping well.

Further to your recent correspondence with xxx xxx, I have been asked to re-contact you with some observations from the CAA, xxx xxx, who is reviewing the next stage of UAVE Ltd's ACP 2020-049 application, please see the forwarded email below from xxx & a copy of the draft AIC:-

"Can you contact Prestwick next week and discuss with them a suitable frequency to host the DAAIS.

xxx at the CAA thinks that the Prestwick Information ATIS on 121.130 MHz will be a pre-recorded message, whereas he would like a frequency on which to speak directly to an Air Traffic controller and have them provide an update on the danger area activity for any particular day or time.

xxx will need this info by 6<sup>th</sup> August at the latest as that is when the AIC will be set in stone."

Best regards,

xxx

Business Development  
UAVE Limited

W [www.uave.co.uk](http://www.uave.co.uk)

Can you please review xxx comments & come back to me either by phone or email with your recommendations on the way forward to accommodate the CAA's latest request ?

Thanks xxx,

xxx

Contractor (Flight Ops)

xxx xxx

On 2021-07-13 16:01, xxx xxx wrote:

xxx,

If you are able to update us with timings on the status of your TDA we can certainly add that information to our ATIS broadcast.

Can I ask that you email this information to [xxx@glasgowprestwick.com](mailto:xxx@glasgowprestwick.com) and [xxx@glasgowprestwick.com](mailto:xxx@glasgowprestwick.com) with as much notice as practicable.

I trust the information will also of course be more widely disseminated via the UK NOTAM process?

I would suggest also that Prestwick Area Control Centre may also be able to provide a DAAIS via their FIS as detailed in the UK AIP at ENR 6-33.

They provide services, on frequency 119.875 Mhz in the area you are planning to operate within, to GA aviation operating predominantly VFR.

A copy of the finalised AIC when published would also be most useful.

Kind Regards,

xxx xxx

**From:** xxx xxx <[xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)>  
**Sent:** 13 July 2021 13:54  
**To:** xxx xxx <[xxx@glasgowprestwick.com](mailto:xxx@glasgowprestwick.com)>  
**Cc:** [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk); xxx xxx <[xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)>  
**Subject:** Danger Area Activity Information Service ( DAAIS)

xxx,

UAVE are finalising our Temporary Danger Area submission documentation with the CAA for BVLOS RPAS operations around Newton Stewart and are compiling a draft Aeronautical Information Circular.

Further to your discussions with xxx xxx, copy attached, please can you confirm that any Danger Area Activity Information Service (DAAIS) hosted by Prestwick ATC would be on:

Prestwick Information ATIS: 121.130 MHz

A swift response to confirm would be appreciated.

Best regards,

xxx xxx  
Business Development  
UAVE Limited



W [www.uave.co.uk](http://www.uave.co.uk)

M +44 (0) xxx xxx  
T +44 (0) xxx xxx  
A xxx

V <https://www.youtube.com/watch?v=KkEOoTriAx8>

To [xxx <xxx@glasgowprestwick.com>](mailto:xxx@glasgowprestwick.com) on 2021-06-30 13:23

[Details](#) [Plain text](#)

Dear xxx,

Many thanks for your formal reply which will be used in our TDA stakeholders summary submission later this week.

Kind Regards,

xxx

On 2021-06-30 12:49, xxx xxx wrote:

xxx,

I can formally confirm that Glasgow Prestwick ATC are prepared to support your survey flight programme as previously intimated.

Kind regards,

Xxx xxx

**From:** xxx.xxx@uave.co.uk [mailto:xxx.xxx@uave.co.uk]

**Sent:** 24 June 2021 15:06

**To:** xxx xxx <xxx@glasgowprestwick.com>

**Cc:** xxx <xxx@glasgowprestwick.com>; xxx xxx <xxx@glasgowprestwick.com>; xxx xxx <xxx@glasgowprestwick.com>; xxx xxx <xxx@gmail.com>

**Subject:** Re: DACS/DAAIS/ ATC Coverage - TDA Application: Unmanned Aircraft: ACP2020-049



Hi xxx,

I trust you and all @ Prestwick are well.

I am writing to let you know that UAVE Ltd are requesting from the CAA that their proposed unmanned survey flights project (as detailed before) start this coming September 2021, please see the attached update.

Can you please formally reconfirm your kind offer to support UAVE Ltd by way of your ATC/DAAIS services as agreed last year ?

Nothing has changed with regard to the TDA area, aircraft type or mission profile since our previous discussions last year.

I need to send all stake holder's formal responses back to CAA by this time next week, my apologies for the short notice in my request.

Kind Regards,

xxx

On 2020-11-19 09:06, xxx xxx wrote:

xxx,

Thanks for the update and sorry to hear of your delay.

Please feel free to re-engage once you have worked on a restart timeline.

Let's hope that spring 2021 sees an improvement in the current situation for all!

Kind Regards,

xxx xxx

**From:** [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk) [<mailto:xxx.xxx@uave.co.uk>]

**Sent:** 18 November 2020 15:10

**To:** xxx <[xxx@glasgowprestwick.com](mailto:xxx@glasgowprestwick.com)>

**Cc:** xxx xxx <[xxx@glasgowprestwick.com](mailto:xxx@glasgowprestwick.com)>; xxx xxx <[xxx@glasgowprestwick.com](mailto:xxx@glasgowprestwick.com)>; xxx xxx <[xxx@glasgowprestwick.com](mailto:xxx@glasgowprestwick.com)>

**Subject:** Re: DACS/DAAIS/ ATC Coverage - TDA Application: Unmanned Aircraft

Hi xxx & xxx,

I write to advise you that due to various factors, UAVE Ltd have decided to postpone their TDA application/Newton Stewart UAV Project until sometime in 2021.

I thank you for your support in this matter, I will advise you in 2021 of any further progress regarding this Projects development time-line.

Kind Regards,

xxx

xxx xxx (Contractor)

UAVE Ltd

[www.uave.co.uk](http://www.uave.co.uk)

On 2020-10-21 13:21, xxx wrote:

Hi xxx,

Xxx is currently out of the office, But as previously stated, the TDA does not appear to encroach on Prestwick's Controlled Airspace we will support the trial as would normally be the case for unusual activities in Class G Airspace.

This would consist of providing a Flight information service to affected Aircraft which would include the status and information on any established Temporary Danger Area.

Rgds

xxx xxx

**From:** [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk) [<mailto:xxx.xxx@uave.co.uk>]

**Sent:** 21 October 2020 13:05

**To:** xxx xxx <[xxx@glasgowprestwick.com](mailto:xxx@glasgowprestwick.com)>

**Cc:** xxx xxx <[xxx@glasgowprestwick.com](mailto:xxx@glasgowprestwick.com)>; xxx xxx <[xxx@glasgowprestwick.com](mailto:xxx@glasgowprestwick.com)>; xxx <[xxx@glasgowprestwick.com](mailto:xxx@glasgowprestwick.com)>

**Subject:** Re: DACS/DAAIS/ ATC Coverage - TDA Application: Unmanned Aircraft

Hi xxx,

I was last in contact with you & your colleagues back in May 2020, regarding a potential commercial drone activity in the Newton Stewart area & your kind provision of ATC service to

any new TDA supporting this commercial drone flying.

Due to delays, the project has been pushed back to (subject to CAA approval) a November-December 2020 timescale, UAVE Ltd have made the initial TDA application & I now need to formally contact you & your colleagues again with regard to stake-holder engagement to re-confirm that your offer to provide DACS/DAAIS/ ATC Coverage would still be available on the new timescales?

Please see my email below & attachments that should give you & your colleagues more information on the proposed TDA:

UAVE Ltd have been commissioned to carry out an unmanned aircraft/drone survey of an area of land (Newton Stewart) located in the South of West Scotland later this year.

As part of our application(s) with the CAA for a temporary danger area application we need to advise Prestwick ATC & other stake-holders of our intentions & activities in a timely manner before our temporary danger area application can be submitted.

Can I please request that you forward my email to your colleagues & interested associates within Prestwick ATC/Airfield Management to enable our discussions to commence.

Kind Regards,

xxx

xxx xxx  
Contractor  
UAVE Limited

[www.uave.co.uk](http://www.uave.co.uk)  
M +44 (0) xxx xxx

A xxx

On 2020-05-27 11:38, xxx xxx wrote:

xxx,

Many thanks for the supplementary information you have provided.

As this will be subject to the Non-Standard Flight (NSF) Notification Process which involves NATS and the CAA and does not appear to encroach on Prestwick's Controlled Airspace we will support the trial as would normally be the case for unusual activities in Class G Airspace.

This would consist of providing a Flight information service to affected Aircraft which would include the status and information on any established Temporary Danger Area.

Once you have concluded the required process with the CAA please send us a copy of any Approval documents you receive along with full details on the dates, times & dimensions of any associated Temporary Airspace.

I hope that this is suitable for your requirements.

Please don't hesitate to contact me if you have any further questions.

Kind Regards,

xxx xxx

---

Glasgow Prestwick Airport  
Ltd.  
xxx

**xxx xxx**  
Senior Air Traffic Control Officer  
Glasgow Prestwick Airport Ltd.

**T:**xxx xxx

[xxx@glasgowprestwick.com](mailto:xxx@glasgowprestwick.com)  
[www.glasgowprestwick.com](http://www.glasgowprestwick.com)

---

**From:** [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk) <[xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)>  
**Sent:** 20 May 2020 10:00  
**To:** xxx  
**Cc:** xxx xxx; xxx xxx; xxx xxx  
**Subject:** Re: DACS/DAAIS/ ATC Coverage - TDA Application: Unmanned Aircraft

Hi xxx,

I thank you for your quick reply to my email enquiry.

I am employed by UAVE Ltd ([www.uave.co.uk](http://www.uave.co.uk)) as a consultant to assist with this Project in terms of liaising with all the stakeholders involved in UAVE Ltd's application to the CAA for permissions for an un-manned large UAV aerial survey aircraft (Prion MK3) to carry out BVLOS flights in the region of Newton Stewart, Dumfries, (North & North W/E of the town), in addition to the Operational Safety Case Application, a Temporary Danger Airspace application is being drafted for submission to the CAA in the next few weeks.

Please feel free to call me to discuss any of my replies to your questions below, I have also attached imagery & information to give you & your colleague's a better idea of the proposed project definitions.

I am contacting you as well as the MOD West Freugh facility, the Operators at Castle Kennedy Airfield recommended that I contact you as the nearest manned ATC radar service to the proposed area of operations.

Clearly, UAVE Ltd's application for unmanned BVLOS operations will be rigorously examined by the CAA, the Prion MK3 will be equipped with an CAA approved transponder for these flights. I am also aware that the survey area is part of the UK day low flying area & has active military traffic down to 100' agl.

Kind Regards,

xxx xxx

xxx xxx

On 2020-05-19 16:42, xxx wrote:

Dear xxx,

In response to your request for support regarding the potential survey work if you could provide a little more detail we will be able to make a better assessment of our ability to support the operation.

Can I ask for some more detail on the proposed dimensions of the survey area and maximum operating level amsl. xx Reply: Please see information attached for geographic area of the survey. Max operating height for the survey would be 100-150M above the surface, given the topography & high ground the application for the max height of the TDA would be 3500' above the surface for all of the survey area.

The proposed dates and times. xx Reply: Subject to the TDA application being approved, August September 2020, 09.00-17.00 Weekdays only.

Approx. size and weight of the UAV. xx Reply: 3.8 M Span Fixed Wing - i.c. powered up to 43Kg fully laden (see UAVE Ltd info attached)

Kind Regards,

xxx xxx

---

Glasgow Prestwick Airport  
Ltd.  
xxx

**xxx**  
ATS Watch Manager  
Glasgow Prestwick Airport Ltd.

**T:**(+44) xxx xxx

[xxx@glasgowprestwick.com](mailto:xxx@glasgowprestwick.com)  
[www.glasgowprestwick.com](http://www.glasgowprestwick.com)

Appendix H: Glen Swinton Farm

## Re: ACP-2020-049: Commercial Drone Survey in West Scotland - CAA Stakeholders Targeted Engagement

To [xxx xxx <xxx@glenswinton.co.uk>](mailto:xxx.xxx@glenswinton.co.uk) on 2021-06-25 18:51

[Details](#)

Hi xxx,

All read, understood & noted, I quite understand the rationale behind your comments & I also appreciate this additional email from you today to further elaborate your thoughts & views.  
My colleague, xxx & I will be back with our reply to your communications next week, in the meantime I also wish you a good weekend, Saturday looks flyable in my location - I hope the weathers good for you also in Scotland.  
Kind Regards,  
xxx

On 2021-06-25 17:48, xxx xxx wrote:  
Thanks xxx,

In case my email seems unduly critical I would like to add that I'm hugely supportive of your project to survey our region's mineral resources. This region relies heavily on primary industries for "real" productive jobs and mining seems a perfect fit alongside farming, forestry and renewable power generation.

My principal reservation about the proposed temporary danger area is that it seems a knee-jerk "CYA" regulatory sledgehammer to address a perceived risk of mid-air collision which may be (a) insignificant in comparison with commonly accepted risks associated with General Aviation (for instance at busy microlight and glider sites) and (b) which could be more safely and efficiently mitigated by means other than a large airspace exclusion zone in which there is practically no ATC/FIS radio or radar service.

Best wishes, and have a great weekend,  
xxx xxx.

--

Glenswinton, xxx  
Tel: xxx xxx Fax: xxx xxx  
Aerodrome info: [www.glenswinton.co.uk](http://www.glenswinton.co.uk)  
Email: [xxx@glenswinton.co.uk](mailto:xxx@glenswinton.co.uk) or call/text xxx xxx

-----Original Message-----

From: [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk) [mailto:[xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)]  
Sent: 25 June 2021 14:12  
To: xxx xxx  
Cc: [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)  
Subject: Re: ACP-2020-049: Commercial Drone Survey in West Scotland - CAA Stakeholders Targeted Engagement

Hi xxx,  
Thanks for your email, to confirm that UAVE Ltd now have a copy of your mail & we will get a reply back to you ASAP.  
Kind Regards,  
xxx

On 2021-06-25 11:48, xxx xxx wrote:  
Dear xxx,

Thank you for your email and stakeholder consultation document dated 13 May 2021 which I received yesterday.

Your consultation document states at paragraph 3 of the introduction:

"Following an Assessment Meeting with CAA Airspace Regulation to discuss



UAVE Ltd's Statement of Need,  
it was agreed that to facilitate its operations a Temporary Danger Area  
(TDA) would be required, the  
proposals for which would be subject to a formal targeted aviation  
stakeholder engagement exercise."

Please could you provide some background/elaboration to the Assessment  
Meeting Minutes published on 10 August 2020:

1. Who proposed, and who agreed, that "a Temporary Danger Area (TDA)  
would  
be required"?
2. On what basis did they agree this?
3. Did they make and consider a formal written risk assessment?
4. Does their risk assessment (formal or otherwise) take into account  
"knock-on" effects outside the proposed TDA (in the same way that civil  
engineers consider knock-on effects of any partial closure of a  
transport  
network)?
5. What alternatives to a TDA did they consider, and why were those  
alternatives rejected?
6. What effect did the initial decision to ignore local stakeholders  
such as  
Scotia Seaplanes and Glenswinton aerodrome have on the conclusion that  
a TDA  
"would be required"?
7. Given that much of the airspace concerned has no VHF and/or ATC  
radar  
cover, to what extent was difficulty of monitoring or enforcing  
compliance  
with a TDA taken into account?

If you could kindly answer the above questions, I will respond as soon  
as  
practicable. However, time is now rather short for meaningful  
consultation  
and response by the end of this month.

Kind regards,  
xxx xxx.

--

Glenswinton, xxx  
Tel: xxx xxx Fax: xxx xxx  
Aerodrome info: [www.glenswinton.co.uk](http://www.glenswinton.co.uk)  
Email: [xxx@glenswinton.co.uk](mailto:xxx@glenswinton.co.uk) or call/text xxx xxx

-----Original Message-----

From: [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk) [mailto:[xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)]

Sent: 24 June 2021 12:51

To: [xxx@glenswinton.co.uk](mailto:xxx@glenswinton.co.uk)

Subject: ACP-2020-049: Commercial Drone Survey in West Scotland - CAA  
Stakeholders Targeted Engagement

Hi xxx,

I sent you an email recently regarding the proposed Drone Survey flights

- I attach the latest update, can you please get back to me with any comments you may wish to make regarding these proposals to enable your comments to be uploaded to the CAA portal at the end of this month.

Kind Regards,

xxx

----- Original Message -----

**Subject:**Re: ACP2020-049: TDA: UAVE Ltd: Newton Stewart: Stakeholders Targeted Engagement

**Date:**2021-05-11 10:27

**From:**[xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)

**To:**xxx <[xxx@westergate.com](mailto:xxx@westergate.com)>

**Copy:**xxx xxx <[xxx@glenswinton.co.uk](mailto:xxx@glenswinton.co.uk)>, 'xxx xxx' <[xxx@aol.com](mailto:xxx@aol.com)>, 'xxx xxx' <[xxx@btinternet.com](mailto:xxx@btinternet.com)>, [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk), [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)

Dear xxx,

Thank you for copying me & my colleagues @ UAVE Ltd, into your recent email regarding UAVE Ltd's current ACP 2020-049 application which is now a "live" application on the CAA portal.

In answer to you, & your colleagues questions & concerns, it is my role to facilitate stakeholders responses to this application, and I am available to discuss matters, with the assistance of key UAVE Ltd colleagues, in greater detail through my contact details below with a view to assisting you in this process to get an agreement on the best way forward to obtain a mutually beneficial conclusion to the process.

I can confirm that the D&G Gliding Club have been consulted in this process.

I attach more information you & your colleagues review.

Kind Regards,

xxx

xxx xxx

Contractor (Flight Ops)

xxx xxx

[www.uave.co.uk](http://www.uave.co.uk)

On 2021-05-10 18:21, xxx wrote:

Hi xxx,

Thanks for the feedback, I have emailed UAVE with an initial request for recognition so we'll see what response we get.

Regards,

xxx

Sent from my Galaxy

----- Original message -----

From: xxx xxx <[xxx@glenswinton.co.uk](mailto:xxx@glenswinton.co.uk)>

Date: 10/05/2021 17:50 (GMT+00:00)

To: [xxx@westergate.com](mailto:xxx@westergate.com), 'xxx xxx' <[xxx@aol.com](mailto:xxx@aol.com)>, 'xxx xxx' <[xxx@btinternet.com](mailto:xxx@btinternet.com)>

Cc: [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk), [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk), [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)

Subject: RE: TDA Newton Stewart

Dear xxx, xxx and xxx,

I wondered about that, and I suggest that the Dumfries & District Gliding Club should contact UAVE Ltd to be added as a local aviation "stakeholder" consultee, bearing in mind that few of our gliders carry transponders or even radios capable of more than very short-range communication.

See below for my initial thoughts, and those of another stakeholder who conducts seaplane training in the proposed Temporary Danger Area. At the moment, the consensus seems to be that excluding all traffic from such a large TDA up to nearly 4,000 ft altitude is an unacceptably clumsy solution.

I have contacted UAVE as operator of a neighbouring chartered airfield (Glenswinton). I think they are keen to find a technical solution which offers an acceptable level of safety with minimum impact on other airspace users, but I have yet to receive their detailed impact mitigation proposals.

Best wishes,  
xxx xxx.

--

Glenswinton, xxx

**Tel:** xxx xxx **Fax:** xxx xxx

**Aerodrome info:** [www.glenswinton.co.uk](http://www.glenswinton.co.uk)

**Email:** [xxx@glenswinton.co.uk](mailto:xxx@glenswinton.co.uk) or call/text xxx xxx

**From:** [xxx@westergate.com](mailto:xxx@westergate.com) [<mailto:xxx@westergate.com>]

**Sent:** 10 May 2021 16:24

**To:** xxx xxx; xxx xxx; xxx xxx

**Subject:** TDA Newton Stewart

The link is to a drone TDA for mineral surveys. This will cause problems for anyone going west for a 50k flight.

xxx

-----

Dear xxx and xxx,

Thanks for the "heads-up" about this proposed temporary danger area (TDA).

We have not been consulted about this proposal.

Glenswinton aerodrome (clearly marked on CAA/NATS and other charts) is less than 4 nm from the proposed TDA boundary which is therefore well within the CAA-recommended 13 km birdstrike circle on our LPA-approved voluntary safeguarding map.

I will contact the developer and in the meantime offer full support for the views and solutions which xxx has proposed.

With increasing commercial UAV use, ADSB-emitting drones and light GA already have smart ways to share airspace safely and efficiently. The "blunt instrument" of a TDA is an unacceptable 20th-century solution to a 21st-century "problem".

Kind regards,

xxx xxx MA CEng MICE

--

Glenswinton, xxx

Tel: xxx xxx Fax: xxx xxx

Aerodrome info: [www.glenswinton.co.uk](http://www.glenswinton.co.uk)

Email: [xxx@glenswinton.co.uk](mailto:xxx@glenswinton.co.uk) or call/text xxx xxx

-----Original Message-----

Subject: FW: Newton Stewart ACP-2020-049

I have just been made aware about yet another drone TDA request, (ACP-202-049 Newton Stewart). This is a geological survey, planned for Sept-Oct 2021, using Prion Mk3 drones - <https://www.uave.co.uk/> -

It blocks off a huge amount of airspace, 160 square miles, from surface up to 3700ft amsl - I have included screenshots from Skydemon showing its size relative to the D402/D403/D405 complexes nearby.

It is about 25nm south of Prestwick, in an area hemmed in by D402, D403, D405 Danger Areas, and as such is used frequently by VFR traffic transiting from down south to the West coast of Scotland (avoiding D402/D403), offering a couple of low-level routes through the Galloway mountains in the event of cloud being below 4000'. (It is also sits slap bang over 4 of the 6 lochs that we do seaplane training on).

This ACP has now been 'unpaused' from last year, and enters a 6 week consultation period. From exactly which date I am not sure, but the letter on the CAA Portal is dated 31 March 21, which would suggest 6 weeks actually ends on 12 May 21 - that is next Wednesday !!

Here is a link to the CAA ACP Portal -

<https://airspacechange.caa.co.uk/PublicProposalArea?pID=265>

Scotia Seaplanes Ltd was notified to UAVE Ltd as a stakeholder back in January, and I received an email from the ACP Sponsor (UAVE Ltd, based at Llanbedr) today - 4 May 21. They said they had sent one earlier, but I cannot find it. I telephoned the contact [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk) (also of [www.xxx.org.uk](http://www.xxx.org.uk)) who said he was a 'sub-contractor' who is dealing with the UAVE Ltd proposal and was assured that my 6 weeks starts today. (He also happens to teach the training courses at UAVE Ltd.) You may want to register an interest now so that you have a decent period to respond.

I have asked for a list of the aviation stakeholders that have already been contacted and I am also drawing it to your attention as a possible interested party.

I think this is the kind of drone operation that has been going on for many years (unlike all the new kids on the block), and in the past it may well have elicited little comment, but the whole TDA thing has now got out of control and I don't think it is acceptable now to just constantly let it slide.

My own view is, if it has to be, then we should be refusing TDAs and substituting with some kind of temporary TMZs (to the minimum size required and for the minimum period necessary) as the next best option - whilst it still excludes non-EC equipped aircraft, it is better than a TDA which excludes everyone.

It also puts more onus on the drone companies to fit EC Detect and Avoid (DAA). Drone companies should be required to ensure ADSB-out is transmitting before launching, and supplement ground based ADSB/ATOM/OGN relays so that coverage of the drone position is freely available on FR24, PilotAware, FLARM etc .. - this would provide feedback that their drone is visible.

Anyone with PilotAware, FR24, Skyecho2 etc... can then see where the specific drone is at any given time.

Another alternative in one-off cases like this is for the drone operator to provide a live website which shows the current drone position/activity - anyone could access that on a smart phone and confirm the area is not occupied or active.

Thanks for listening.

## Re: ACP 2020-049: UAVE Ltd: TDA Application un-paused: Targeted Engagement: MCA

To xxx xxx <xxx.xxx@mcga.gov.uk> on 2021-06-24 11:02

[Details](#) [Plain text](#)

Hi xxx,

I appreciate your rapid response on this matter, my replies to your questions are below:

Kind Regards,

xxx

On 2021-06-23 15:39, xxx xxx wrote:

Hello again xxx,

Having look at the attached documents I have a couple of questions:

1. I note that the A-B timing is 24 minutes, and that the proposed area is only about 15 minutes flying time for a SAR aircraft from Prestwick, added to the 15 minute aircraft readiness state, we need to ensure that there is a robust system in place to ensure that the drone lands expeditiously in the event of a SAR tasking. Reply: All noted, the aircraft will be either returned to base/landed, or put into a holding orbit in a pre-determined holding airspace that the ground station operator will have pre-planned into the flight mission parameters.
1. The SAR aircraft will not enter the TDA until the operator has confirmed that the drone is on the ground. We will need to ensure that there is a direct line between the ARCC and the GOS that is dedicated to the purpose. Reply: All noted, its anticipated that cell-phone coverage will be satisfactory to allow direct comms to the Flight Crew, comprising of a Flight Ops Manager, Safety Pilot & Ground Station Operator (second Pilot) these mobile numbers will be known to you & the ARCC. As a backup - again it is anticipated that a land line will be made available at the temporary operating base (Farm Land & farmers house) which is located approx 200 meters from the aircrafts Flight Ops Team. The flight Ops team have airband radios to communicate with the Prestwick ATC (if the local topography permits this)
1. It would be preferable that the operator communicate a daily flying plan to both the ARCC and Prestwick SAR base by email. Reply: All noted & yes UAVE are happy to provide this information in advance to the ARCC/Prestwick SAR locations as required to ensure good communications are maintained at all times.

The detail you will need is;

ARCC –



Email: [xxx@hmcg.gov.uk](mailto:xxx@hmcg.gov.uk)  
Telephone: xxx

Prestwick SAR Base: [xxx@bristowgroup.com](mailto:xxx@bristowgroup.com)

Regards

xxx

**From:** xxx.xxx@uave.co.uk <xxx.xxx@uave.co.uk>

**Sent:** 23 June 2021 12:18

**To:** xxx xxx <xxx.xxx@mcga.gov.uk>

**Subject:** Re: ACP 2020-049: UAVE Ltd: TDA Application un-paused: Targeted Engagement: MCA

**CAUTION:** This email originated from outside the UK Government. Do not click links or open attachments unless you recognise the sender and know the content is safe. Please use the Report Message function to report suspicious messages.

Hi xxx,

As per our phone conversation today, I need you to review our proposals & let me know by next Wednesday (30th) your formal email response to ACP-2020-049.

I attach the latest update for your review.

Again, my apologies for the short notice.

Kind Regards,

Jeremy

----- Original Message -----

**Subject:** Re: ACP 2020-049: UAVE Ltd: TDA Application un-paused: Targeted Engagement: MCA

**Date:** 2021-05-11 13:18

**From:** [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)

**To:** xxx <[xxx@hmcg.gov.uk](mailto:xxx@hmcg.gov.uk)>

Hi xxx,

Many thanks.

Kind Regards,

xxx

On 2021-05-11 11:49, xxx wrote:

Good morning,

I have forwarded this to xxx xxx who will take the subject on following the departure of xxx xxx.

[xxx.xxx@mcga.gov.uk](mailto:xxx.xxx@mcga.gov.uk)

Regards

*xxx*

JRCC Tactical Commander

UK Aeronautical Rescue Coordination Centre

Joint Rescue Coordination Centre

Maritime and Coastguard Agency

Directorate of HM Coastguard

xxx

Tel +44 (0)xxx | E-mail [xxx@hmcg.gov.uk](mailto:xxx@hmcg.gov.uk)

**Safer Lives, Safer Ships, Cleaner Seas**

**From:** [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk) <[xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)>

**Sent:** 11 May 2021 09:03

**To:** xxx <[xxx@hmcg.gov.uk](mailto:xxx@hmcg.gov.uk)>

**Subject:** Re: ACP 2020-049: UAVE Ltd: TDA Application un-paused: Targeted Engagement: MCA

FAO; HMCG,

Can you please forward this email & attachments to the correct person who has taken over the role of:

**UK JRCC Controller (Desig) HM Coastguard**

**UK ARCC Development, Assurance & Plans Lead**

from xxx xxx.

Kind Regards,

xxx

**xxx xxx (Contractor Flight Ops)**

**UAVE Ltd**

**xxx xxx**

----- Original Message -----

**Subject:**Re: ACP 2020-049: UAVE Ltd: TDA Application un-paused.

**Date:**2021-03-24 12:22

**From:**[xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)

**To:**xxx xxx <[xxx.xxx@mcga.gov.uk](mailto:xxx.xxx@mcga.gov.uk)>

Dear xxx,

I trust you, your associates & all @ HM Coastguard Scotland are keeping safe & well.

I am touching base with you to advise you that UAVE Ltd have contacted the CAA to un-pause their ACP-2020-049 - TDA process, with a view to re-starting their UAV Flying Ops Project for later this year.

I will of course update you on this process & formally write to advise you that the 6 week stakeholder consultation is re-starting today.

Please contact me with any questions or concerns that you or your colleagues may have over this proposed activity which is slated to commence in Aug-Sept 2021.

Kind Regards,

xxx

**xxx xxx (Contractor Flight Ops)**

**UAVE Ltd**

**xxx xxx**

On 2020-10-28 13:59, xxx xxx wrote:

Hello xxx,

Thank you for taking the time to chat and I must apologise for the interruptions and what may have seemed rushed.

Please find attached a previous TOI. This is the kind of thing, outside of the ACP, we require to ensure we can deconflict operations.

The final TOI acts as a LoA (Letter of Agreement) which we and both Police ASUs/NPAS and Air Ambulances use.

With this in mind if you could please provide;

- Background of the Drone used and the company.
- Purpose/Objective or mission.
- Type of sortie and payloads.
- Drone flight path. With; distance & Time A-B. In addition to overall daily operating times.
- Proposed/Approved Airspace protection measures.
- Drone Spec.
- Drone actions in the event of malfunction.
- Abort actions for SAR Operations or transits.
- Contact details for UK ARCC to alert SAR activity and/or grounding/suspension of UAV operations.

Thanks in advance and no doubt chat again soon, but best of luck with the ACP and concept.

Regards

**XXX XXX | UK JRCC Controller (Desig) HM Coastguard**

**UK ARCC Development, Assurance & Plans Lead**

**TRiM Practitioner**

Maritime & Coastguard Agency

National Maritime Operations Centre (NMOC) HM Coastguard

xxx

Direct: xxx xxx (When on duty)

Mobil: xxx xxx (When on Call)

**Safer Lives, Safer Ships, Cleaner Seas**

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Appendix K: Ministry of Defence

## **RE: Commercial Drone Survey in West Scotland : CAA: ACP2020-049: Targeted Stakeholders Engagement**

From [xxxxxxxx Sqn Ldr \(DAATM-AirspaceOpsSO2\) xxxxxxxx@mod.gov.uk](mailto:xxxxxxxx@mod.gov.uk) on 2021-04-29 16:57  
[Details](#)

Hxxxxxxxx,

I am well thanks, hope you are too?

Having reviewed the updated information I can confirm that the MOD have no objections to your proposal. The points raised in my previous response are still valid, but the fact that the activity is activated by NOTAM and there are operational contact details as well as a DAAIS frequency, are suitable mitigations from a MOD point of view. We would still like as much notice as possible to be able to add the TDA to RAF(U) Swanwick's radar maps as per my previous correspondence.

If you need anything else then please let me know.

Regards

xxxxxxx

xxxxxxx | Sqn Ldr | xxxxxx Airspace Operations | Defence Airspace and Air

Traffic Management |  
xxxxx| xxxxxxxx Crawley West Sussex xxxxxx| Civilian Telephone: +44 (0)  
xxxxx| Skype: +44 (0) xxxxxxxx| E-Mail: [xxxxxxx@mod.gov.uk](mailto:xxxxxxx@mod.gov.uk)

Appendix L: Police Scotland

## RE: UAS survey Police Scotland Consulation :UAVE Ltd : ACP2020-049: Un-paused [OFFICIAL]

From xxxxxxxx@scotland.pnn.police.uk> on 2021-04-06 13:46  
[Details](#) [Plain text](#)

**OFFICIAL**

Hello xxxxxx,

Apologies for the late reply but good to hear you will be re-starting flights later this year.

Have the operations changed in any way? Do you want to send through the consulation documents? We now have a small team to deal with avaition matters and it would be good for them to see the aircraft and the proposals and we will inform local police commanders once dates are confirmed.

If you could please use [xxxxxxx@scotland.pnn.police.uk](mailto:xxxxxxx@scotland.pnn.police.uk) as the email address in future as that is our public folder.

Regards,

Xxxxx

xxxxxxx  
**Sergeant xxxxx**  
**Aviation Authorities Liaison Officer /**  
**Air Accident and Incident Advisor**

Police Scotland,  
Aviation Safety and Security Unit,  
xxxxxxxxxx,  
GLASGOW,  
xxxxxxxxxx,  
UNITED KINGDOM.

Direct : +44 (0)xxxxxxxxxx  
Mobile : +44 (0)xxxxxxxxxx  
ISSI : xxxxxxxx

xxxxxxxxxxxx  
Website : <http://www.scotland.police.uk/>

## RE: UAS survey Police Scotland Targeted Engagement

# :UAVE Ltd : ACP2020-049: Un-paused [OFFICIAL]

From [xxxxxxxx@scotland.pnn.police.uk](mailto:xxxxxxxx@scotland.pnn.police.uk) on 2021-04-27 15:57

[Details](#) [Plain text](#)

## OFFICIAL

Hi xxxxxxxx,

Thanks for the updated info. One of the team will look through it and may contact you to ask a couple of questions given they weren't party to our conversations last year.

Regards,

XXXXXXX

XXXXXXX

**Sergeant xxxxxxx**  
**Aviation Authorities Liaison Officer /**  
**Air Accident and Incident Advisor**

Police Scotland,  
Aviation Safety and Security Unit,  
xxxxxxx,  
GLASGOW,  
xxxxxxx,  
UNITED KINGDOM.

Direct : +44 (0)xxxxxxxxxx

Mobile : +44 (0)xxxxxxxxxx

ISSI : xxxxxxxx

e-mail : [XXXXXXXX@scotland.pnn.police.uk](mailto:XXXXXXXX@scotland.pnn.police.uk)

: [XXXXXX@scotland.pnn.police.uk](mailto:XXXXXX@scotland.pnn.police.uk)

## OFFICIAL

Hello xxxxxxxx,

Thank you for providing the Application for Temporary Danger Area - Newton Stewart Geophysical Survey document dated 8th July 2020.

Could you confirm if the aircraft will be transponding its position during flight? Reply: Yes, the aircraft will be fitted with a transponder. Although it is Class G airspace will it still transpond? Reply: YES. How is it's position relayed to other aircraft and how would you know if there was a conflict? Reply: The aircrafts position will be tracked by Prestwick ATC & any conflict will initially be managed by Prestwick ATC, with the UAVE Ltd being advised by Prestwick ATC should any unresolved potential airspace conflict be developing in real-time.

I understand Prestwick ATC will be providing a flight information service to aircraft but what are the communication links between Prestwick ATC and your pilot should an aircraft fail to respond or enter the TDA,



for example the Police Helicopter or HEMS? Reply: The primary communication link from Prestwick ATC to the UAVE Flight Crew ( x 2 pilots & 1 support person ) will be via 3G/4G mobile phone coverage/handset, the Flight Crew also have an AirBand Transceiver which will be programmed to Prestwick ATC, should the 3G/4G phone network fail or the AirBand radio be unable to maintain a communications link with Prestwick, there is a local BT land-line very close to the aircrafts operating site at Newton Stewart. Comms will be available from this land-line (Landowners Premises at Newton Stewart) via 2-way PMR446 hand-portables used by both the land-owner/deputy & the UAVE flight crew to enable emergency back-up comms. Have NATS at Prestwick been informed as they also provide FIS to air users? Reply: Yes, they are one of the stakeholders that UAVE Ltd are in discussion with at this time. As you will no doubt be aware, many G.A. pilots do not subscribe to these services so other communication methods will be vital. Our concern is deconfliction between your aircraft and both manned and unmanned aircraft that could be legally sharing the airspace. As you know a NOTAM does not prohibit other aircraft from entering the airspace.

Are the MOD/RAF aware of the flights given their proximity to Luce Bay and West Freugh Airfield? Reply: Yes both the RAF (via DAATM - Airspace Consultation) & West Freugh Airfield (MOD-Babcock-Qinetiq) are in direct consultation with UAVE Ltd.

How long does each flight last? How many flights per day? Reply: We are working on using available daylight hours from 09.00-17.00 hrs - Monday-Friday, the aircrafts duration & number of flights are not finalised, however the Prion MK3 would be capable of 2 flights of 4 hours duration each working day (with a suitable safety fuel reserve) if required to carry out the survey flights required.

From your plans, is the take off and landing site are one and the same? Reply: Yes What is the rate of climb of the aircraft? Reply: Depending on the air density, the initial rate of climb at 40kg MOTOW is: 200ft/minute when flown at WWA, Aberporth. The plans show a take off vector towards the town of Newton Stewart and a distance of approx 1000m from the main

arterial route east/west - the A75. Reply: Depending on the wind direction, the aircraft will be launched & then after take-off & at a safe altitude, turned away from the A75. It will then orbit the operating base to both gain height & for post take-off & climb-out checks to take place by the flight crew to ensure that the aircraft is performing correctly before departing on its assigned flight path/survey task. There is the main town beyond and how much flying will take place above the town? No flights will be planned to overfly Newton Stewart or any other village or town below the overfly route. What height will the aircraft be at when above the town? Reply: The aircraft will not overfly the town (Newton Stewart) or any other town or village either on departure or return flight paths. The planned flight altitudes when on mission will be typically 75M-150M above the surface.

With regard to the Prion Mk3 UAV, your website provides lots of information but there are a couple of other queries. I am part of a cadre of officers that have been trained by the AAIB and Cranfield University to provide health and safety advice to first responders from all services at the locus of an air accident. We would then attend and assist with any subsequent investigation around evidence gathering, scene recording and specialist knowledge. A hazard sheet for the aircraft around construction materials (MMMF etc), fuel type and volume, kinetic systems, hydraulic systems etc would assist greatly should there be an incident. Reply: Please see Hazard Sheet attached as requested.

What is the aircrafts operational parameters regarding wind speed/rain etc. Reply: Max Operating wind speed 20 knots, no flight in rain/icing conditions/cloud. What is the actual maximum mass of the aircraft with payload - is it 30kg all in or 45kg of aircraft and payload? Reply: Approx 40kg MTOW with the equipment payload to carry out the mission required. It might just be me not getting it! Is there a parachute recovery system in case of failure. Reply: No and if not what is the aircrafts likely descent rate and kinetic energy at ground level? Reply: Unpowered: Approx 1 in 7 glide angle & 1164 Joules velocity. From my knowledge of these systems, am I wrong in saying that it is autonomous with human back up at any point during the flight? Reply: You are correct, apart from using the term autominous, we & the CAA use the term automated, the aircraft can be flown both manually by the manual pilot & in automated flight mode by the 2nd pilot (ground Station Operator) What redundancies are there such as RTH, controlled landing, any other emergency/secondary landing sites should the primary site become inoperative? Reply: The Prion MK3 aircraft's autopilot can be programmed to provide various emergency/failsafe modes which include RTH & return to land/orbit to await new command/other profiles. UAVE Ltd have secondary TOLP within the local Newton Stewart area should the primary operating site become compromised. What are the procedures should another aircraft threaten the flight - holding pattern, return to home, land? Reply: Various emergency flight profiles are available should such a scenario develop, at any time in flight, in an emergency the 2 pilots have an option at any time to command an engine kill switch to shut down the engine & terminate the flight.

Lastly, have you taken into account wildlife in the area? I have spoken to our liaison officer who mentioned various birds of prey in the area but this appears to be outside nesting times and he has no apparent concerns but it may be better to check with the relevant authorities. Reply: Yes, we have taken the wildlife & raptors into our project planning, Forestry Scotland have only permitted flights between September-December as January-August is the bird nesting season.

Apologies for all the questions Jeremy but with this new and emerging sector of BVLOS operations taking place in Scotland, it is good to get reassurance around the flights. This is not the first BVLOS ops we have consulted on, the health care flights in Oban for example, and we are keen to support the plans but have other considerations for the wider public and aviation community. Reply: No need to apologise Iain, we are contacting all prime stakeholders for their views & welcome any questions or further clarifications at this stage of our application.

Thanks,

xxxxxxx

xxxxxxx

**Police Constable xxxxxx**

# RE: UAVE Ltd: ACP 2020-049 Now Live: UAS survey Police Scotland Targeted Engagement :Forwarded to Police Scotland ASU [OFFICIAL]

To [xxx <xxx@scotland.pnn.police.uk>](mailto:xxx@scotland.pnn.police.uk) on 2021-06-24 14:43  
[Details](#) [Plain text](#)

- [CAA ACP-2020-049 Targeted Stake Holder Engagement May 2021 V1.2.pdf \(~271 KB\)](#)

Hi,

FAO: Insp xxx xx/OSD Air Support Police Scotland.

Following on from our previous correspondence (please see below) I am now contacting you to let you know that I will be formally sending the stakeholder response to ACP2020-049 to the CAA at the end of June. Can you please confirm that your reply/response regarding UAVE Ltd's proposals (see attached) remains as per previously advised?

Kind Regards,

xxx

----- Original Message -----

**Subject:**RE: UAVE Ltd: ACP 2020-049 Now Live: UAS survey Police Scotland Consultation  
:Forwarded to Police Scotland ASU [OFFICIAL]

**Date:**2021-03-24 12:17

**From:**"xxx, xxx" <xxx.xxx@scotland.pnn.police.uk>

**To:**"xxx.xxx@uave.co.uk" <xxx.xxx@uave.co.uk>

**Copy:**xxx <xxx@scotland.pnn.police.uk>, "xxx, xxx" <xxx.xxx@babcockinternational.com>, "xxx, xxx" <xxx.xxx@scotland.pnn.police.uk>

**OFFICIAL**

Thanks xxx.

**From:** xxx.xxx@uave.co.uk [mailto:xxx.xxx@uave.co.uk]

**Sent:** 24 March 2021 11:49

**To:** xxx, xxx

**Cc:** xxx; xxx, xxx; xxx, xxx

**Subject:** Re: UAVE Ltd: ACP 2020-049 Now Live: UAS survey Police Scotland Consultation :Forwarded to Police Scotland ASU [OFFICIAL]

Hi xxx,

I trust you, your associates & all @ Police Scotland are keeping safe & well.

I am touching base with you to advise you that UAVE Ltd have contacted the CAA to un-pause their ACP-2020-049 - TDA process, with a view to re-starting their UAV Flying Ops Project for later this year.

I will of course update you on this process & formally write to advise you that the 6 week stakeholder consultation is re-starting today.

Please contact me with any questions or concerns that you or your colleagues may have over this proposed activity which is slated to commence in Sept 2021.

Kind Regards,

xxx

**xxx xxx (Contractor Flight Ops)**

**UAVE Ltd**

**xxx xxx**

[www.uave.co.uk](http://www.uave.co.uk)

On 2020-11-19 11:11, xxx, xxx wrote:

**OFFICIAL**

Thanks for the update xxx.

Cheers

xxx

**Inspector xxx xxx**

Police Scotland

Specialist Services - Air Support Unit

**From:** xxx.xxx@uave.co.uk [mailto:xxx.xxx@uave.co.uk]

**Sent:** 18 November 2020 15:20

**To:** xxx

**Cc:** xxx, xxx; xxx, xxx

**Subject:** Re: UAS survey Police Scotland Consultation :Forwarded to Police Scotland ASU [OFFICIAL]

Hi xxx,

I write to advise you that due to various factors, UAVE Ltd have decided to postpone their TDA application/Newton Stewart UAV Project until sometime in 2021.

I thank you for your support in this matter, I will advise you in 2021 of any further progress regarding this Projects development time-line.

Kind Regards,

xxx

xxx xxx (Contractor)

UAVE Ltd

[www.uave.co.uk](http://www.uave.co.uk)

On 2020-10-17 09:12, xxx wrote:

**OFFICIAL**

Hello xxx,

Thanks for providing the info regarding the proposed TDA.

Can I just clarify that in the event the Police helicopter is required to operate within the TDA, Police aircrew on the day will make contact with your operation on the given contact details, and the RPAS landed until our police activity is completed.

Thanks

xxx

**Inspector xxx xxx**

Police Scotland

Specialist Services - Air Support Unit

**From:** xxx.xxx@uave.co.uk [mailto:xxx.xxx@uave.co.uk]  
**Sent:** 15 October 2020 16:35  
**To:** xxx  
**Subject:** RE: UAS survey Police Scotland Consulation :Forwarded to Police Scotland ASU

Dear Sir/Madam,

Your colleague, xxx xx has asked that I forward my communications (please see below) to you for your review & consideration.

I also attach my original introductory email & attachments already sent to xxx:

Dear Sir/Madam,

UAVE Ltd have been commissioned to carry out an unmanned aircraft/drone survey of an area of land located in the South of West Scotland later this year.

As part of our application(s) with the CAA for a temporary danger area application we need to advise the Police Scotland ASU & other stake-holders of our intentions & activities in a timely manner before our temporary danger area application can be submitted.

Can I please request that you forward my email to the correct office within your Police Scotland, air support unit sector to enable our discussions to commence.

Kind Regards,

xxx

xxx xxx  
Contractor  
UAVE Limited

[www.uave.co.uk](http://www.uave.co.uk)  
M +44 (0) xxx xxx

xxx

----- Original Message -----

**Subject:**RE: UAS survey Police Scotland Consulation :JW Reply(1) [OFFICIAL]  
**Date:**2020-10-15 15:20

**From:**"xxx, xxx" <xxx.xxx@scotland.pnn.police.uk>  
**To:**"xxx.xxx@uave.co.uk" <xxx.xxx@uave.co.uk>

**OFFICIAL**

Hello xxx,

thanks for the update and information you have provided. It sounds like an exciting project with large fixed wing drones, along the lines of the trials by the Coastguard earlier this year.

If you could please forward your email and attachment to [xxx@scotland.pnn.police.uk](mailto:xxx@scotland.pnn.police.uk) and that department can have a look and comment as necessary.

In the meantime, we will look over the proposals and provide feedback. It may be good to have a chat at some point.

Regards,

xxx

**From:** xxx.xxx@uave.co.uk [mailto:xxx.xxx@uave.co.uk]  
**Sent:** 14 October 2020 13:53  
**To:** xxx, xxx  
**Subject:** Re: UAS survey Police Scotland Consultation [OFFICIAL]:JW Reply(1)

Hi xxx,

Thank-you for your prompt reply to my initial email.

I really appreciate your action to advise your colleagues in your manned Air Support Unit of this TDA application as they were on my list of major stakeholders to engage with on this activity, if you could advise me of the correct contact person(s) for your ASU colleagues I will add their details to my list of prime contacts.

In answer to your questions I have attached a copy of UAVE Ltd's initial TDA application, together with the following background information:

The aircraft to be used will be a Prion MK3 fixed wing, large uav which is designed, built & flown by UAVE Ltd, please see [www.uave.co.uk](http://www.uave.co.uk), for more information on the company's history, aircraft & management teams.



In concert with the TDA application, UAVE Ltd have applied for an updated Operational Safety Case to operate within the South West Scotland, (Newton Stewart) area to enable their Permit for Operations (+20kg) to be updated & approved by the CAA to include this new operating area.

Please see the attached (July 2020) information regarding the initial TDA application sent to the CAA, which gives more information & detail of the proposed operations.

Your assistance is requested please, in line with UAVE Ltd's, CAA TDA, DAP1616 process, this has already commenced & we are at stage 4 (Stakeholders Agreement), when we started this process in July our expectations were as follows:

- 1) The Survey Flights to last approx 2-3 weeks.
- 2) Target window for Flight Ops: September-December 2020.

Since July, the major stakeholder (Forestry Commission Scotland) has now granted a permit for the Prime contractor (xxx) limited, to carry out the aerial geophysical survey using UAVE Ltd as sub-contract partner during the period: Sept-Dec 2020.

As I believe there is currently an active MOD (West Freugh/Luce Bay) GPS-2.4 GHz, active jamming trial taking place until the 5th December this unfortunately only leaves a short window for our proposed flight Ops in December 2020.

I'm sure you will have many more questions that you, your colleagues & the Police Scotland ASU, may wish to raise, please feel free to call or mail me to discuss your questions as required.

Thanking you in advance,

xxx  
(xxx xxx)

xxx xxx (Contractor)

UAVE Ltd

On 2020-10-12 14:40, xxx, xxx wrote:

**OFFICIAL**

Hello,

Thank you for your email to OSD Events West regarding the consultation for your planned TDA later this year.

I am one of the officers who form the Police Scotland Aviation Safety and Security Unit, providing information and advice for both manned and unmanned aviation matters to officers. We also are part of the investigation team regarding air accidents and liaise closely with all aviation partners such as the AAIB, the CAA, NATS, local ATC's and commercial operators.

It is interesting to hear of your plans for flights later this year but to provide a better response can you please provide further detail around the operations such as location(s), times and dates, aircraft involved, type of operations i.e.VLOS or BVLOS, payload etc. I note that you are planning to apply for a Temporary Danger Area and was wondering about the rationale as opposed to a simple NOTAM or RA(T). I understand the wide ranging legal implications around the three types

of notice as Police Scotland often sponsor RA(T) for events etc. I am sure your documentation will make this clear.

I look forward to hearing from you and discussing the plans. I have taken the liberty of forwarding your original email to the Air Support Unit who provide helicopter services and RPAS services for Police Scotland. They will also be interested in your plans and may wish to contribute.

Regards,

xxx

**xxx xxx**  
**Police Constable xxx**

**Aviation Authorities Liaison Officer /**

**Air Accident and Incident Advisor**

Police Scotland, Aviation Safety and Security Unit,

National Counter Terrorism Planning (EERP)

xxxx

UNITED KINGDOM.

Direct : +44 (0)xxx xxxx / xxxx xxx

Mobile : +44 (0)xxxx xxxx / xxx xxx

ISSI : xxx xxx

e-mail : xxx.xxx@scotland.pnn.police.uk

: [xxx@scotland.pnn.police.uk](mailto:xxx@scotland.pnn.police.uk)

Website : <http://www.scotland.police.uk/>

Twitter : @policescotland

Facebook : [www.facebook.com/policescotland](http://www.facebook.com/policescotland)

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Tha am fiosrachadh sa phost-d seo, agus ann an ceangal(an) sam bith na chois, prìobhaideach agus dh'fhaodte FO SHOCHAIR LAGHAIL. 'S ann a-mhàin airson an neach-uidhe a tha e.

Mura tusa an neach-uidhe no mura h-eil dleastanas ort a chur air adhart chun an neach-uidhe, thathar le seo a' leigeil fios dhut gu bheil e toirmisgte am post-d seo a chleachdadh air dhòigh sam bith, no fhoillseachadh, no sgrùdadh, no sgaoileadh, no riarachadh, no lethbhreac a dhèanamh dheth.

Ma thàinig am post-d seo thugad air mhearachd, leig fios sa bhad chun an neach a sgaoil e agus cuir às dhan phost-d.

Appendix N: Scotia Seaplanes

## Re: Temporary Danger Area Airspace Change Proposal 2020-049: 2021 Stake-Holder Targeted Engagement

To [xxx@freescotland.com](mailto:xxx@freescotland.com) on 2021-06-24 21:46

[Details](#) [Plain text](#)

Hi xxx,

To confirm receipt of your email response this evening & that this information will be used in UAVE Ltd's submission to the CAA as part of the targeted stakeholders commentary for you & your operation.

Kind Regards,

xxx

On 2021-06-24 18:06, xxx xxx wrote:

Good evening xxx. Please find attached my submission on your proposed ACP-2020-049 (Newton Stewart), I would be grateful if you could acknowledge receipt and confirm that this will be included in its entirety as part of the stakeholder engagement. I subsequently have heard nothing back from your team, regarding my technical questions, so I can wait no longer. I note also that the scope and timescale of the proposal would appear to have been increased from 2 weeks to 3 months.

I trust you will take my genuine concerns and suggestions seriously, and I look forward to discussing with you how you might amend the ACP proposal, so that my business is not disrupted.

I have copied this to both the CAA Airspace Policy and to my Head of Training who may wish to add to it.

Yours

xxx xxx  
Director  
Scotia Seaplanes Ltd

**From:** xxx.xxx@uave.co.uk [mailto:xxx.xxx@uave.co.uk]  
**Sent:** 09 June 2021 16:37  
**To:** xxx@freescotland.com  
**Cc:** xxx.xxx@uave.co.uk  
**Subject:** Re: Temporary Danger Area Airspace Change Proposal 2020-049: 2021 Stake-Holder Targeted Engagement

Hi xxx,

Im well thanks & trust you & your associates are likewise keeping safe & well.

I have forwarded your mail to the respective Team members within UAVE Ltd who can best answer your questions & we will get back to you with our collective replies in due course.

Kind Regards,

xxx

On 2021-06-09 12:37, xxx xxx wrote:

Morning xxx, hope you are well and safely coming out of lockdown - sorry it has taken a while to get back to you, work and business has been picking up which has kept me pretty well occupied.

I am putting together a response to your stakeholder consultation and hope to finish it by the weekend. To help me finalise, I do have several questions which might help to guide my response.

What electronic conspicuity and detection is carried by the drone? How is this verified as serviceable prior to launch?

How is control of the drone effected - is it via direct radio link, mobile phone network or via satellite comms?

What are the procedures in the event of loss of communication/control?

The TDA covers almost 500 square km – how much of that area will actually be surveyed on each day?

How many flying hours in total will the overall survey take? And how many hours per day will the drone be airborne ?

What are the cloud-base, weather and wind limitations of the drone?

What is the turning diameter of the drone?

Appreciate your time, and sorry I have not sent these sooner.

xxx

xxx

**From:** xxx.xxx@uave.co.uk [mailto:xxx.xxx@uave.co.uk]  
**Sent:** 05 May 2021 19:07  
**To:** xxx@freescotland.com  
**Cc:** xxx.xxx@uave.co.uk  
**Subject:** Re: Temporary Danger Area Airspace Change Proposal 2020-049: 2021 Stake-Holder Targeted Engagement

Hi xxx,

As promised, I attach the current stake-holder list.

Kind Regards,

xxx

On 2021-05-04 17:09, xxx xxx wrote:

Thanks

**From:** xxx.xxx@uave.co.uk [mailto:xxx.xxx@uave.co.uk]  
**Sent:** 04 May 2021 17:07  
**To:** xxx@freescotland.com  
**Subject:** Re: Temporary Danger Area Airspace Change Proposal 2020-049: 2021 Stake-Holder Targeted Engagement

Hi xxx,

No problem.

I will send you this list, within 24 hours when I'm back in my office.

Kind Regards,

xxx

On 2021-05-04 14:33, xxx xxx wrote:

Thank you xxx, can you advise which aviation stakeholder you have already contacted?

**From:** xxx.xxx@uave.co.uk [mailto:xxx.xxx@uave.co.uk]  
**Sent:** 04 May 2021 14:05  
**To:** xxx@freescotland.com  
**Subject:** Re: Temporary Danger Area Airspace Change Proposal 2020-049: 2021 Stake-Holder Targeted Engagement

Hi xxx,

Thanks for your phone call just now & your email reply to my resent communications.

To confirm that you have a full 6 week period to review this proposed ACP activity commencing from today's date, as discussed the planned window of flight Ops will not be until September-October 2021.

I attach additional information on the proposals for your review & commentary. Please feel free to give my contact details to the Farm Strip owner & any other GA operators who you feel may wish to be advised of this proposal.

Kind Regards,

xxx

**xxx xxx**

**Contractor (Flight Ops)**

**xxx xxx**

[www.uave.co.uk](http://www.uave.co.uk)

On 2021-05-04 13:07, xxx xxx wrote:

Hi xxx, thanks for the email. When did you send the previous one ? Can you confirm I have 6 weeks to respond to this from now ?

xxx xxx

xxx

**From:** xxx.xxx@uave.co.uk [mailto:xxx.xxx@uave.co.uk]  
**Sent:** 04 May 2021 11:02  
**To:** xxx@scotlandonfloats.com  
**Subject:** Temporary Danger Area Airspace Change Proposal 2020-049: 2021 Stake-Holder Targeted Engagement

Dear xxx,

Unfortunately, my previous email to your address given to xxx has not been delivered, I am re-sending you this mail to you today:

I trust you are well.

UAVE Ltd have now formally requested from the CAA that ACP-2020-049 TDA application process becomes live again.

Your previous email has been forwarded to me from my colleague xxx xxx & my replies to your questions previously asked by your email are visible below:

I am your main contact point within UAVE Ltd for their upcoming proposed project, & may I apologise as unfortunately you were not included in the previous tranche of stake-holders who were contacted almost 12 months ago, rest assured, that you & your organisation are now included as a prime stake-holder & I am here to assist you over the next 6 weeks (from the date of CAA un-pause of the ACP Process) to enable dialogue to commence with you over the proposed UAV flight activities which are planned to commence later in the year.

Please feel free to contact me to discuss in further detail your proposed flight Ops & how we may de-conflict your seaplane Operations with the proposed future UAV ops.

Kind Regards,

xxx

### Contractor Flight Ops

xxx xxx

**From:** [xxx xxx](#)

**Sent:** 21 January 2021 17:38

**To:** '[xxx xxx](#)'

**Subject:** RE: Temporary Danger Area Airspace Change Proposal 2020-049

Hi xxx thanks for the quick response. Would the UAVs be on a visual line of sight operation or BVLOS? **Reply: BVLOS.** Do they carry any DAA equipment? **Reply: No** Would it be possible to transmit their position via ADSB-out so that they would be visible either to airborne detection or a web-based portal? **Reply: aircraft with be equipped with ADSB transponder.** I would expect that I would be able to enter any area tactically if required through consultation in advance. **Reply: TDA access via Prestwick ATC who will offering DAIS.** Would the areas be activated by Notam on daily requirement with 24hrs notice? **Reply: NOTAM will be issued on a daily basis in advance of Flight Ops.**

The nature of my operation (seaplane training and adventure flying) is by its very nature tactical and is dependent on wind and weather conditions on the day. We have in the past used all the lochs mentioned, which could either be for circuit training (eg. Clatteringshaws) or for more advanced and specific training (beaching, confined area operations, mountain skills). In these we are generally flying around 500agl. Our prime season is from April to end of October, and we are anticipating a lot of pent-up demand after the disastrous summer of 2020. **Reply: Noted - we will ensure your information & Operations are included in the revised stakeholders list to ensure that you are consulted & advised at the time of re-start of the TDA application process.**

Yours

xxx xxx

**From:** xxx xxx [mailto:xxx.xxx@uave.co.uk]  
**Sent:** 21 January 2021 16:18  
**To:** xxx@freescotland.com  
**Subject:** RE: Temporary Danger Area Airspace Change Proposal 2020-049

Good Afternoon xxx,

Thanks for your email.

The stakeholder consultation process is ongoing and I will log your comments.

The decision by the CAA is still pending following this work.

If granted we would look to conduct UAV operations within the Temporary Danger Area in August 2021, with the

TDA active only on UAV flying days to minimise impact on other airspace users.

You are welcome to give me a call if you require any further information.

Best regards,

xxx xxx  
Business Development  
UAVE Limited

W [www.uave.co.uk](http://www.uave.co.uk)

M +44 (0) xxx xxx  
T +44 (0) xxx xxx  
A xxx

V <https://www.youtube.com/watch?v=KkEOoTriAx8>

**From:** [xxx xxx](mailto:xxx.xxx)  
**Sent:** 21 January 2021 15:17  
**To:** [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)  
**Subject:** Temporary Danger Area Airspace Change Proposal 2020-049



Good afternoon xxx – I have just discovered this proposal on the CAA's website.

I operate a seaplane training school based at Prestwick Airport and have been active since 2009. We frequently conduct flights and training in and around the Galloway hills and lochs. As such, any TDA could adversely affect my operations and business, particularly around Loch Enoch, Loch Trool, Loch Dee, Loch Grannoch and Clatteringshaws Reservoir. I would like to be notified of any further progress in this matter.

Many thanks.

Yours

xxx xxx

Scotia Seaplanes Ltd

M-xxx

[xxx@scotlandonfloats.com](mailto:xxx@scotlandonfloats.com)

[www.scotlandonfloats.com](http://www.scotlandonfloats.com)

Appendix: O: West Freugh Quinetiq/MoD

## **Re: UC MOD West Freugh: ACP2020-049: UAVE Ltd: Unmanned Survey: Newton Stewart**

To [xxx xxx xxx <xxx@qinetiq.com>](mailto:xxx xxx xxx <xxx@qinetiq.com>) on 2021-07-01 12:59

[Details](#) [Plain text](#)

Hi xxx,

Thanks for your reply & information, I can confirm that we will of course be in contact with you nearer the time of the planned activities.

Kind Regards,

xxx

On 2021-07-01 11:03, xxx xxx xxx wrote:

Hi xxx,

Thanks for the phone call earlier in the week and the copy of the application.

'Jamming' activities are planned during the window of operating you have indicated. I would suggest that we do a daily check in to see if there is any potential conflict in the operations. Number to call on the day is xxx or xxx.

Kind Regards,  
xxx

**xxx xxx**  
Trainee Trials Planner/TCO

M +xxx  
D xxx xxx  
[xxx@QinetiQ.com](mailto:xxx@QinetiQ.com)

[www.QinetiQ.com](http://www.QinetiQ.com) | [Our blog](#) | [LinkedIn](#) | [Twitter](#)

**From:** xxx.xxx@uave.co.uk <[xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)>

**Date:** Thursday, 24 Jun 2021, 3:30 pm

**To:** xxx xxx <[xxx@qinetiq.com](mailto:xxx@qinetiq.com)>

**Subject:** Re: UC MOD West Freugh: ACP2020-049: UAVE Ltd: Unmanned Survey: Newton Stewart

Hi xxx,

I trust you are well.

My apologies for the short advice & notice, please see the attached update, UAVE Ltd are now planning their unmanned survey to commence (pending approvals) in September 2021.

We talked about any impact with you & your Ops in 2020 (jamming trials) - can you please formally respond by this time next week with regard to any concerns or issues you may have if this activity goes ahead in September 2021?

Kind Regards,

xxx

On 2020-11-12 09:51, xxx xxx wrote:

Hi xxx,

Sorry for the delay in getting back to you.

The activity that we had on up until Christmas with GPS Jamming is now cancelled.

If you ever need any information or assistance in the future, please do not hesitate to contact me.

Regards,

xxx

xxx xxx – Team Leader Eng & Ops, WEST FREUGH RANGE

Direct: xxx xxx

Mobile: xxx

Email: [xxx@QinetiQ.com](mailto:xxx@QinetiQ.com)

[www.QinetiQ.com](http://www.QinetiQ.com)

People Who Know How

Connect with us: [Read our blog](#) | [Follow us on LinkedIn](#) | [Like us on FaceBook](#) | [Follow us on Twitter](#)

**From:** xxx.xxx@uave.co.uk <xxx.xxx@uave.co.uk>

**Sent:** 15 October 2020 16:21

**To:** xxx xxx <xxx@qinetiq.com>

**Subject:** Re: UC MOD West Freugh: JW Reply(1)

Hi xxx,

Thank you for coming back to me, & I appreciate your quick reply to my initial email.

Please understand that our application for both the TDA & a revised Operational Safety Case are under review with the CAA who may decide on a differing operating schedule, however, we had originally planned to operate anytime from September - December 2020.

Due to delays, it seems more likely that we will only be operating (subject to CAA approval) from when the current GPS/2.4GHz jamming trials end, originally we thought that these would end around the 4th Dec, meaning we would plan to be on-site flying from the following Monday 7th Dec onwards (Mon-Friday-09.00-17.00 hrs) the likely duration of the survey flights would be 14-21 days.

Our operating base would be based in Newton Stewart, flying North-North West & East approx 30K up to the top most part of the area to be overflown, please see the attached imagery.

Please get back to me when you return from leave & I will happily answer any further questions or concerns you or your colleagues may have at this stage.

Wishing you a pleasant leave.

Kind Regards,

xxx

xxx xxx

On 2020-10-15 15:10, xxx xxx wrote:

Hi xxx,

Thanks for making contact, I'm on leave until Thursday of next week but will give you a call after that.

To confirm, you will be operating 14<sup>th</sup> – 21<sup>st</sup> December in the Newton Stewart area?

Regards,

xxx

**xxx xxx – Team Leader Eng & Ops, WEST FREUGH RANGE**

Direct: xxx xxx

Mobile: xxx

Email: [xxx@QinetiQ.com](mailto:xxx@QinetiQ.com)

[www.QinetiQ.com](http://www.QinetiQ.com)

People Who Know How

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**From:** xxx.xxx@uave.co.uk <xxx.xxx@uave.co.uk>

**Sent:** 15 October 2020 09:19

**To:** xxx xxx <xxx@qinetiq.com>

**Cc:** xxx xxx <xxx@qinetiq.com>

**Subject:** Re: UC MOD West Freugh: JW Reply(1)

Hi xxx & xxx,

Thank-you for contacting me regarding UAVE Ltd's TDA application & Stakeholder consultation activities.

Our current expectations regarding our proposed TDA application & flying programme were based on the CAA Skywise/NOTAM(s) attached showing an earlier termination date.

I attach our original CAA TDA application which gives more details, we were going to be based in the Newton Stewart Area, flying NW & N-NE of this location over a period of 14-21 days during December after your GPS/2.4GHz jamming trials were originally planned to terminate.

Please feel free to call me to discuss our application/plans in greater detail.

Kind Regards,

xxx

Contractor- UAVE Ltd (xxx xxx)

[www.uave.co.uk](http://www.uave.co.uk)

On 2020-10-15 08:21, xxx xxx wrote:

xxx

Our current trials extend to 18<sup>th</sup> or 24<sup>th</sup> December, predominantly using the whole of Danger Area D403B (Luce Bay).

Can you please provide more detail on dates/location to understand if there is a confliction.

I have copied in my Operations Lead (xxx xxx)

Regards,

**xxx xxx**

**Group Leader West Freugh**

Direct: xxx xxx

Mobile: xxx

Email: [xxx@QinetiQ.com](mailto:xxx@QinetiQ.com)

[www.QinetiQ.com](http://www.QinetiQ.com) [Read our blog](#) | [Follow us on LinkedIn](#) | [Like us on Facebook](#) | [Follow us on Twitter](#)

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## Re: ACP2020-049: UAVE Ltd: Newton Stewart: UC MOD West Freugh

To [xxx xxx <xxx@qinetiq.com>](mailto:xxx xxx <xxx@qinetiq.com>) on 2021-06-24 15:15  
[Details](#) [Plain text](#)

- [CAA ACP-2020-049 Targeted Stake Holder Engagement May 2021 V1.2.pdf \(~271 KB\)](#)

Hi,

I have left a voice mail today, just to let you know that UAVE Ltd are proposing to fly their unmanned aircraft survey (as previously advised in 2020) this time its looking at a September 2021 mission start - I attach the latest information - please can you review & formally advice/confirm your thoughts as I need to let the CAA know by this time of next week (1st July)- my apologies for the short notice for this request, there has been no change in either the TDA design, aircraft type or mission profile since we last talked in 2020.

Kind Regards,

xxx

xxx xxx

On 2020-11-18 15:24, xxx xxx wrote:

I am on annual leave, returning Friday 20th November

For West Freugh queries please contact/forward e-mail to:

xxx xxx

xxx@qinetiq.com

xxx xxx

xxx

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Appendix: P: West Scotland Strut LAA

## Re: ACP-2020-049 - UAVE Ltd

To [xxx xxx <xxx@gmail.com>](mailto:xxx xxx <xxx@gmail.com>) on 2021-06-29 12:29

[Details Plain text](#)

Dear Sir/Madam,

I acknowledge receipt of your formal response to UAVE Ltd's ACP 2020-049 TDA application & confirm that this response will be used in our application (stakeholders targeted engagement summary)

Kind Regards,

xxx xxx

For & Behalf of UAVE Ltd

On 2021-06-29 10:08, strut coordinator wrote:

The West of Scotland Strut of the LAA recognise and welcome the potential economic benefits that may flow from the proposed activity covered by this ACP and are thus supportive in principle. However the details are such that this is a formal objection to the granting of the ACP as it currently is proposed and as some of the details in the ACP appear to be unnecessary with the potential to significantly impact upon general aviation in the region and nationally.

The blanket nature of the application in requiring a TDA at all, the extent of geographical coverage and the requested period require modification in the interests of acceptability and inter operability with other airspace users.

The consultation process appears somewhat deficient in that, once again, the applicant appears not to have consulted an aeronautical chart from which the presence of Glen Swinton Aerodrome would have been apparent, the owner of which was only latterly made aware of the ACP. Although the number of movements there are limited, the geographical extent and duration of the application have the potential to impact upon their operation. Other options, discussed later, would have mitigated the impact significantly.

The upper limit altitude applied for is excessive for the lower lying ground within the zone and arises from the methodology, altitude above MSL, applied and some high ground within the ACP boundaries coupled with the block application. Regular convergence between the typical 3000ft cloudbase and the TDA altitude is liable to create a total block for light aircraft wishing to transit the TDA area and which may include those visiting or transiting the area nationally as well as locally.

The operator UAVE has published separately material reviewing a recent similar activity in Wales and in which the aeromagnetic survey was carried out at altitudes from 150ft down to 75Ft. AGL which if adopted here would significantly reduce the above impact. Low flying rules / need to avoid habitation is of course to be taken into account but the area is sparsely populated and so survey lines can presumably be arranged to suit.

The operation of the entire area from 9 to 5 Monday to Friday for a period of three months is apparently unnecessary and confirmed by UAVE in correspondence suggesting that, apart from unforeseen delays, the survey will be completed in a "few weeks" Thus, as with others ACPs' of this type, an application of a more reasonably estimated initial period, with a window to extend if required, would be more appropriate.

The justification for the operation to be carried out in daylight has not been made and so if night time operation were possible almost all impact on general aviation would be removed.

Sub division of the area into logical / manageable zones, potentially by altitude of operation for terrain clearance, may further benefit for instance Glen Swinton Aerodrome as well as the Seaplane Training Operator Scotia Seaplanes who use a significant number of the lochs for training purposes according to prevailing weather conditions. They would then be able to avoid the active areas as notified by notam.

UAVE have in correspondence indicated that the UAV will be "fitted with a transponder" but omitted further details such as whether or not it has ADSB and not responded to the suggestion that detect and avoid technology is now available. Of these only detect and avoid is likely to be in any way reliable due to the poor / non existent radar and radio coverage at lower altitudes in the area in question. Thus any possibility of meaningful information being available from the managing facility at Prestwick ATC is unlikely should anyone, air ambulance included, require a crossing service. There is no mention of a telephone contact service being provided for such instances.

Further general aviation aircraft, although many more are voluntarily carrying ADSB devices, are not required to do so, nor are they required to have a transponder so that expecting them to receive an undefined

transponder signal from the UAV is not an appropriate mitigation measure. In addition others transiting or operating in the area and thus potentially impacted may include:-

- **Air Ambulance**
- **Coast Guard**
- **Air Sea Rescue**
- **Military Aircraft and Helicopters**
- **Police Helicopter**
- **General aviation transiting north south overland**

It appears from UAVE responses that the TDA application is based upon a simplified approach of drawing a box on a non aeronautical map, minimal operation cost for the operators without regard for others commercial and proper recognition of their safety. Further it appears to have been drawn up without a full impact assessment and without proper consultation as required in CAP1616. It is thus far from a detailed design that encompasses all relevant factors and available opportunities.

West of Scotland Strut are not aware of the consideration given or motivation in making the decision for a TDA and whether or not the operation is risk assessed under CAP722 ? Had that been done and with the above points as minimum, we believe that a more detailed design, giving full consideration to all stakeholders contributions and potentially employing available technology, would have been possible. We therefore suggest that, in support of the survey objectives, that this should now be carried out and consulted fully, prior to the grant of a modified ACP.

We remain as usual happy to contribute positively to the further development of a suitable and workable ACP.

## **Re: ACP 2020-049: UAVE Ltd Reply**

To [xxx <xxx@yyss.net>](mailto:xxx@yyss.net) on 2021-06-23 12:43

[Details](#) [Plain text](#)

Hi xxx,

My apologies for the slow reply to your latest email, my replies are set out below:

Kind Regards,

xxx

On 2021-06-18 12:26, ias wrote:

xxx,

Thanks for your reply.

The "detail" on the CAA website is somewhat less than is needed to assess the full impact of this TDA.

It is pleasing to hear that it will only take a "few weeks" to carry out the work. But in turn and as the operation is being carried out in what is typically good weather in Scotland, having an impact on the aviation tourism / training market as a result, why the period requested is not shorter or indeed later and with the stated option of an extension if aspects out with UAVE control impact upon completion ? **Reply: Clearly as & when UAVE Ltd commence flight Operations, the actual timescale for the adoption of the TDA being active will dynamically change as the project evolves, as soon as the project is completed in whatever timescale or months concerned, then the TDA will cease & normal flight ops will resume for the area.**

What are the weather capabilities / limitations of the drone in use please ? **Reply: Normal flight ops will be**



VMC during daylight ours only (09.00-17.00)

Could the area not be subdivided into smaller sections so that the sterilised area is reduced on a daily basis ?  
Reply: UAVE Ltd are actively considering this request & will advise all stake holders of their decision on whether to adopt this solution/change to the airspace design by the 30th June 2021.

For a BVLOS operation a transponder alone is hardly sufficient ? Many private pilots are voluntarily equipping their aircraft with ADSB out (an in some cases "in" too) and which technology is available for drones. This would seem to be the minimum reasonable / practicable level of equipment. Detect and avoid is also available.  
Reply: The aircraft operates under a CAA permission which requires it to provide a satisfactory level of electronic visibility to ensure its location & activities can be monitored at all times during its flight Ops.

Notam -Unfortunately your application follows behind others, possibly less worthy, where the practicality and purpose of the Notam system was, at least in my view, abused by being activated regardless of any planned or possibly even actual, flights. That should not be the case here I believe and with your activity I would expect that the survey areas can be mapped out according to the drone capabilities and a flight plan produced for relevant sub divisions of the total area on a daily or perhaps weekly basis. Presumably requiring a back up period for resurveying in the event of spurious survey results. In that way freeing the remainder of the airspace for others to use.  
Reply: All noted

The airstrip to the corner of the area is likely to be severely impacted too - what specific provision are you able to make there please ?  
Reply: UAVE Ltd are happy to advise local air operators in advance of the NOTAM/TDA going live to ensure that there is adequate safeguarding of manned & unmanned de-confliction activities within the local airspace.

You have indicated managed by Prestwick - does that mean that Prestwick will be available to issue TDA crossing clearances ? If not who is ? Similarly access by the Emergency services if not by Prestwick ?  
Reply: Yes Prestwick with be offering this service during ATC hours of 09.00-17.00hrs Mon-Friday

We understand that BVLOS systems are able to fly more accurately than human pilots in most cases and which you no doubt require for survey purposes and which is a benefit here if it can be used to its full potential.

The aim of the above is of course to minimise the potential impact your TDA will have on general aviation and perhaps create a more positive reception within the community.

Xxx xxx

**From:** xxx.xxx@uave.co.uk <xxx.xxx@uave.co.uk>  
**Sent:** 18 June 2021 12:01  
**To:** xxx <xxx@yyss.net>  
**Cc:** xxx@gmail.com; xxx.xxx@uave.co.uk <xxx.xxx@uave.co.uk>; xxx.xxx@uave.co.uk  
**Subject:** Re: ACP 2020-049: UAVE Ltd Reply

Hi xxx,

I thank you for your recent email update & trust you & your associates are keeping safe & well.

In answer to your questions:

1. The latest information regarding the TDA design & application is available on the CAA portal.
2. The current proposal regarding how it would operate remains as per the attached design (V1.2 dated 13.05.21) namely Monday-Friday, 09.00-17.00 hrs, managed by Prestwick ATC. Although still to be finally determined, the plan considers the TDA to be activated by

NOTAM on the days it will be operated in advance of the days when it will go active. The 90 day duration (01/09/21-29/11/21) is proposed only because of the possible delays in the actual flight operations due to weather, operational or other technical reasons, given good weather, the actual survey will only take a matter of weeks to be completed & clearly when it has been completed the TDA will be removed.

3. The Prion MK3 will be flown under a CAA permit that includes the use of a suitable transponder to allow its position during all aspects of its flights to be tracked & identified by other airspace users.

The final design of the TDA will of course be ratified by the CAA & the feedback from you & your group and other stake holders will of course be considered by all parties concerned before the final design is approved & the proposed surveys flights are approved.

I will of course be in contact with you again before the 30th June when all the stakeholders feedback & comments will be collated & sent to the CAA for their review.

Kind Regards,

xxx

On 2021-06-18 09:54, xxx wrote:

Hi xxx

The closure date is approaching and we have received no further information about the TDA, how it would operate, why it requires the full area for the full three months and many other questions.

Our local community are rightly concerned about the lack of information, the removal of a large area of airspace and in some cases impingement upon their own business operations. Of course safety is prime - the lack of ADSB out on the drone, if not detect and avoid capability, is a major oversight in the current airspace environment.

As I had indicated we have typically approached such TDA applications in a collaborative mode and to support the positive aspects as they may be agreed. In this case we have nothing positive upon which to start.

The stated purpose appears to have potential societal and possibly economic benefits but the immediate impact would appear to be negative.

xxx xxx

LAA / West of Scotland Strut

**From:** [xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk) <[xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)>

**Sent:** 05 May 2021 07:58

**To:** Phillip Slater <[xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)>

**Cc:** xxx <[xxx@yys.net](mailto:xxx@yys.net)>; [xxx@uave.co.uk](mailto:xxx@uave.co.uk); [xxx.xxx@caa.co.uk](mailto:xxx.xxx@caa.co.uk); [xxx.xxx@caa.co.uk](mailto:xxx.xxx@caa.co.uk); xxx xxx <[xxx.xxx@laa.uk.com](mailto:xxx.xxx@laa.uk.com)>; [xxx@gmail.com](mailto:xxx@gmail.com); xxx xxx <[xxx.xxx@uave.co.uk](mailto:xxx.xxx@uave.co.uk)>

**Subject:** Re: ACP 2020-

xxx & xxx/xxx,

xxx, I will get back to you with more information later today when I am back in my office.

To confirm that you will have the necessary time to review & consult on this ACP process, the actual flying period would not commence until September 2021.

Kind Regards,

xxx

xxx xxx

Contractor (Flight Ops)

xxx xxx

[www.uave.co.uk](http://www.uave.co.uk)

On 2021-05-04 19:15, xxx xxx wrote:

Hello xxx

Thank you for your enquiry. My colleague xxx xxx has the lead on this item and is supported by our xxx xxx. Combined they will be able to address your questions.

With my regards

xxx xxx

Managing Director

UAVE Ltd

Office +44 (0)xxx xxx

Direct +44 (0)xxx xxx

Mobile +44 (0)xxx xxx

[www.uave.co.uk](http://www.uave.co.uk)

On 4 May 2021, at 18:58, xxx <[xxx@yyss.net](mailto:xxx@yyss.net)> wrote:

Hi ?

I am writing on behalf of the local West of Scotland branch of the Light Aircraft Association, and as a local pilot, having become aware of the above TDA / ACP application. I understand it has been reactivated from a pause position emanating in 2020 and I believe that a consultation period is already running from an unknown start date.

The LAA, as you should be aware, represents some 8000 members and 2600 operating aircraft nationally. The West of Scotland Strut is a local branch of LAA members plus others and is one of many around the country.

This TDA covers a large area of scenic and a hilly landscape over which many LAA members, nationally as well as locally, may well transit. The membership at both levels require to be included in consultation as interested parties and in the interest of safety above all.

We are unaware of the start or closing dates for the consultation and can only assume that it may have started on 21 April, as taken from the CAA Portal. If so this is insufficient to inform and gather views in order to respond effectively. We therefore request that the consultation period be, as necessary extended, to at minimum the end of June please.

Whilst writing it would be helpful if you are able to explain in any proposal documents why the TDA extends to an altitude significantly higher than more typical drone operations particularly as you indicate in the statement of need that previous magnetometer surveys have been carried out from low flying aircraft.

I did attempt to call and establish contact but there was no answer.

xxx xxx

West of Scotland Strut

Appendix: Q: Forestry Land Scotland

# Fwd: Forestry Land Scotland - Raptor Nesting dates confirmation required

From [xxxxxxxxxx@uave.co.uk](mailto:xxxxxxxxxx@uave.co.uk) on 2021-04-20 12:17

[Details](#) [Plain text](#)

xxxxxxxxxx,

See below confirmation of 1st September date for earliest flights at Newton Stewart.

best regards,

xxxxxxxxxx

Begin forwarded message:

**From:** xxxxxxxx @xxxxxx.co.uk>

**Date:** 20 April 2021 at 11:14:12 BST

**To:** xxxxxxxxx @uave.co.uk>

**Subject: RE: Forestry Land Scotland - Raptor Nesting dates confirmation required**

Hi xxxxxxxxx,

FLS have confirmed that 1<sup>st</sup> September is the start of the window for drone flying over their land.

Kind regards, xxxxxxxxx

# UAVE Ltd

Prion MK3 UAV

Temporary Operating Instruction (TOI)

MCA Request

Newton Stewart Survey Project

v3 17<sup>th</sup> August 2021

## 1. Background of the Drone used and the company:

The drone/UAV to be used for the proposed Newton Stewart Aerial Survey Project is the Prion MK3 Fixed Wing Aircraft. This UAV is designed, manufactured & flown by UAVE Ltd & their customers throughout both the UK & worldwide. The aircraft was first flown in 2006 & has been developed to the current MK3 version imagery is shown below:



Prion Mk 3 Surfaces





Prion Mk 3 Underside

The version to be employed for the Newton Stewart Aerial Survey will be fitted with a 2-cylinder 170cc wet fuel motor & will be configured for Geophysical Survey work using a magnetometer payload. A flight crew of one Manual Remote Pilot (RP) & one Ground Station Operator (2<sup>nd</sup> Remote Pilot/GSO) plus a Flight Operations Manager (FOM/Observer) are employed for all flights of this nature. The Manual Pilot can at anytime take-over manual flight control of the aircraft using a flight controller (transmitter) which overrides the automated flight profile used by the autopilot (xxx xxx xxx xxx)

UAVE Ltd are based at West Wales Airport, Ceredigion, West Wales, please see [www.uave.co.uk](http://www.uave.co.uk) for more information on the company, its products ,people, & services it provides to its customers & the UAV Industry both in the UK, EMEA, & Worldwide.

## **2. Purpose/Objective or Mission:**

UAVE Ltd have been commissioned by a mining company, xxx xxx to carry out an Aerial Geophysical Survey of an area in South West Scotland to collect data on the ground below the survey area, in particular, the mineral deposit composition within the strata within the survey area.

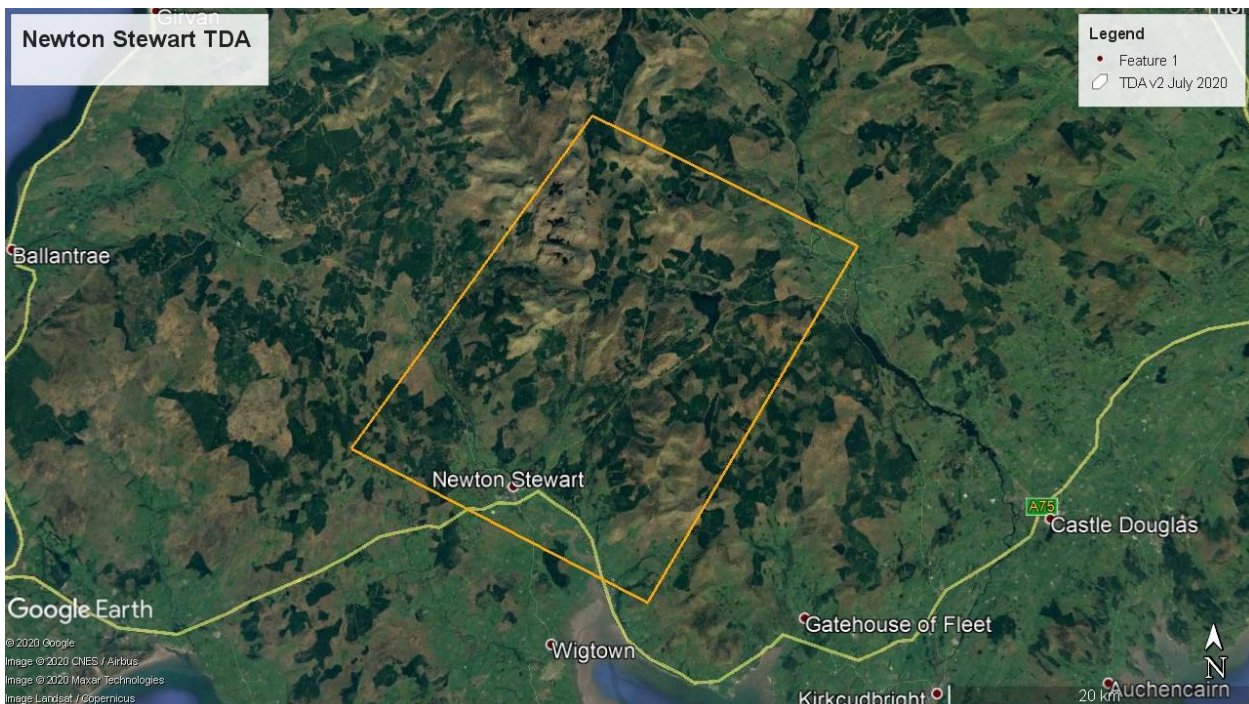
## **3. Type of Sortie and Payloads:**

Each sortie may last up to 4 hours duration depending on the weather, task & other factors. The altitude flown will be approx. 75-150m above the surface. The payload used will be an Aeromag Survey Equipment (Magnetometer) which is fitted into the payload bay area of the Prion MK3 forward fuselage.



#### **4. Drone Flight Path: With; distance & Time A-B. In addition to overall daily operating times:**

The aircraft will be flown under BVLOS conditions, employed in straight (apart from flying around prohibited area/structures) flight paths, each flight path extending in a Northerly direction approx. 30km from the Operating Base at Newton Stewart to the limit of the survey area, the aircraft will then will fly back on a reciprocal heading back to the Operating base before starting out back on its next surveying flight path, again in a Northerly direction. The likely duration (flight time) for each flight survey leg will be approx. 24 minutes (still wind conditions @80kph airspeed) The daily flight times will be between 09.00-17.00 hours (daylight hours), Monday-Friday only.

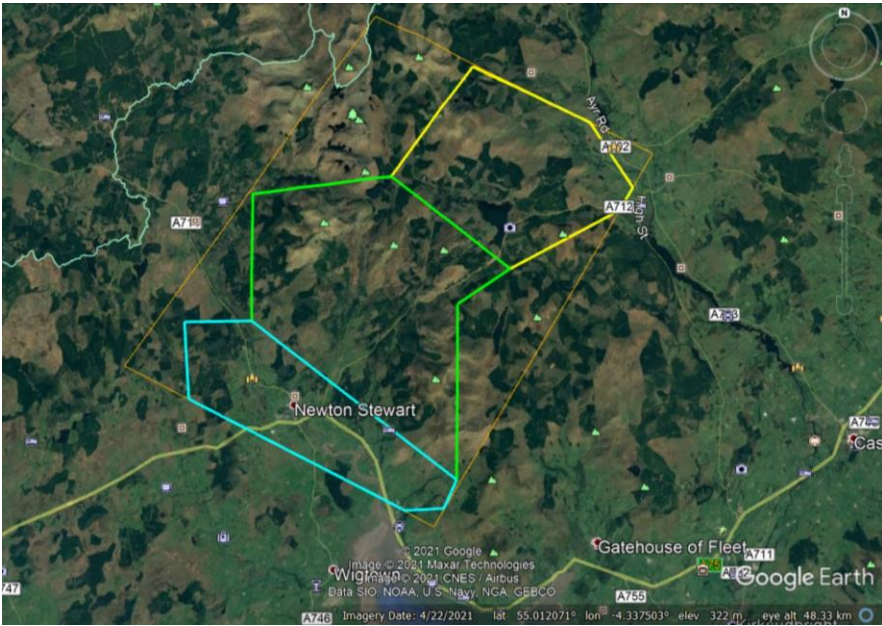


Original Proposed TDA

#### **5. Proposed/Approved Airspace protection measures.**

UAVE Ltd have applied for an CAA ACP – Temporary Danger Area application to employ a TDA based on the following imagery & information:

Following consultation, the original proposed TDA (Orange Polygon) has been reduced in size and split into three areas which UAVE propose will be notified by NOTAM's on a daily basis meaning only airspace required for the days UAV flights will be active.



Comparison of original proposed TDA (Light Orange Polygon) with revised TDA A B & C.

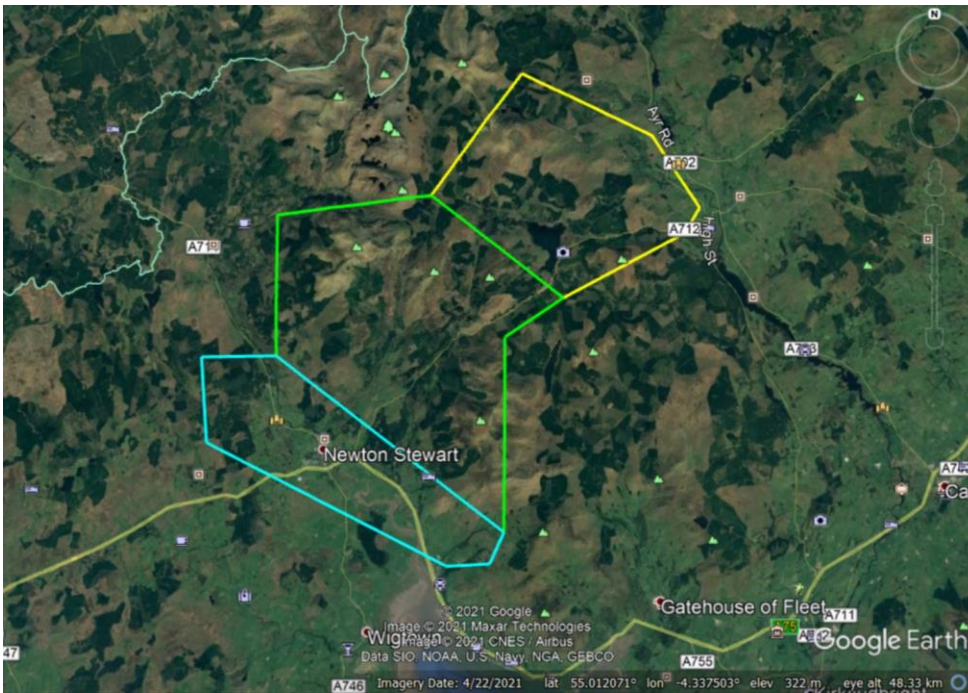
This smaller area now does not cover Loch Enoch, Loch Trool, Loch Valley or Loch Grannoch, leaving these areas open to other airspace users.

The revised TDA comprises three areas TDA A (Blue Polygon), TDA B (Green Polygon) & TDA C (Yellow Polygon).



Revised TDA Area – Blue, Green and Yellow Polygons





Revised TDA Area – Blue, Green and Yellow Polygons

The survey task is for the aircraft to fly at an altitude of between 150-500ft above the surface, allowing for a minimum 500ft vertical separation between the UAV and any other air traffic gives a required segregated airspace height for the TDA of 1,000ft above surface level.

The table below provides the maximum height of the surface within the proposed TDA A, B and C areas.

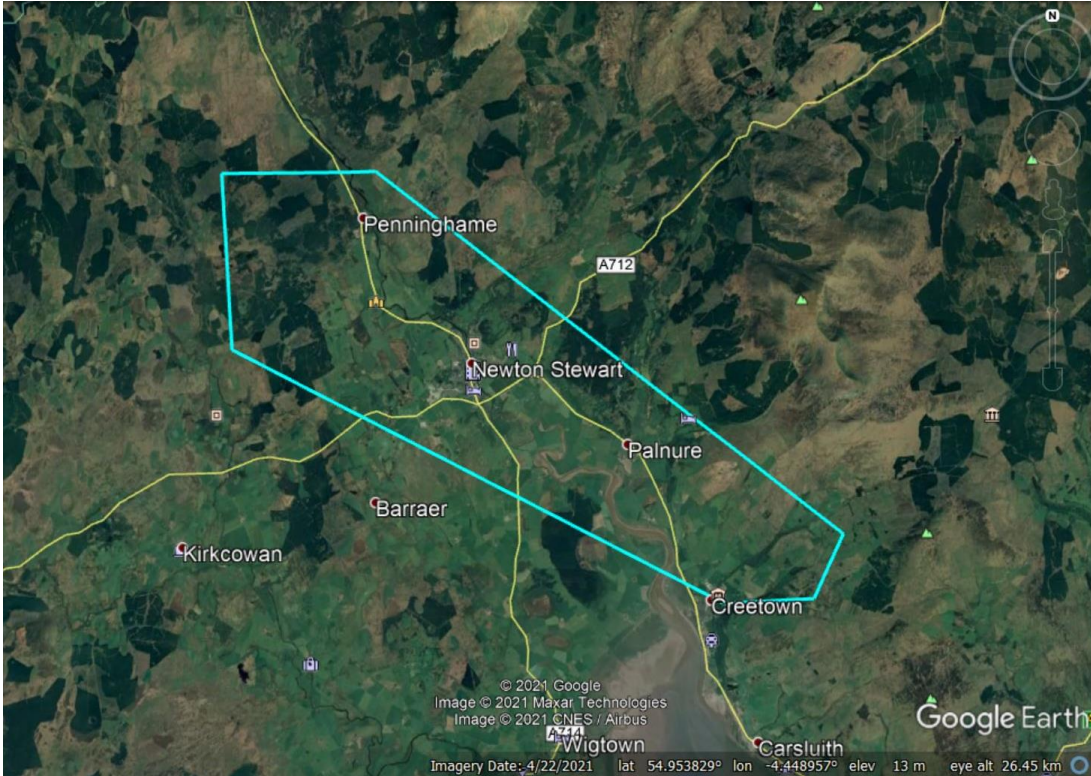
| TDA | Max Ground Level, ft AMSL | TDA Ceiling Height, ft AMSL |
|-----|---------------------------|-----------------------------|
| A   | 700                       | 1700                        |
| B   | 2400                      | 3400                        |
| C   | 2400                      | 3400                        |

TDA A has been designed to encompass the low relief part of the survey area to enable a lower TDA ceiling height of 1700ft AMSL to be set which provides a lower crossing height for other airspace users.

The beyond visual line of sight UAS operations will be contained wholly within the TDA.

Coordinates of Requested TDA Areas:

TDA A



Map of TDA A – Blue Polygon

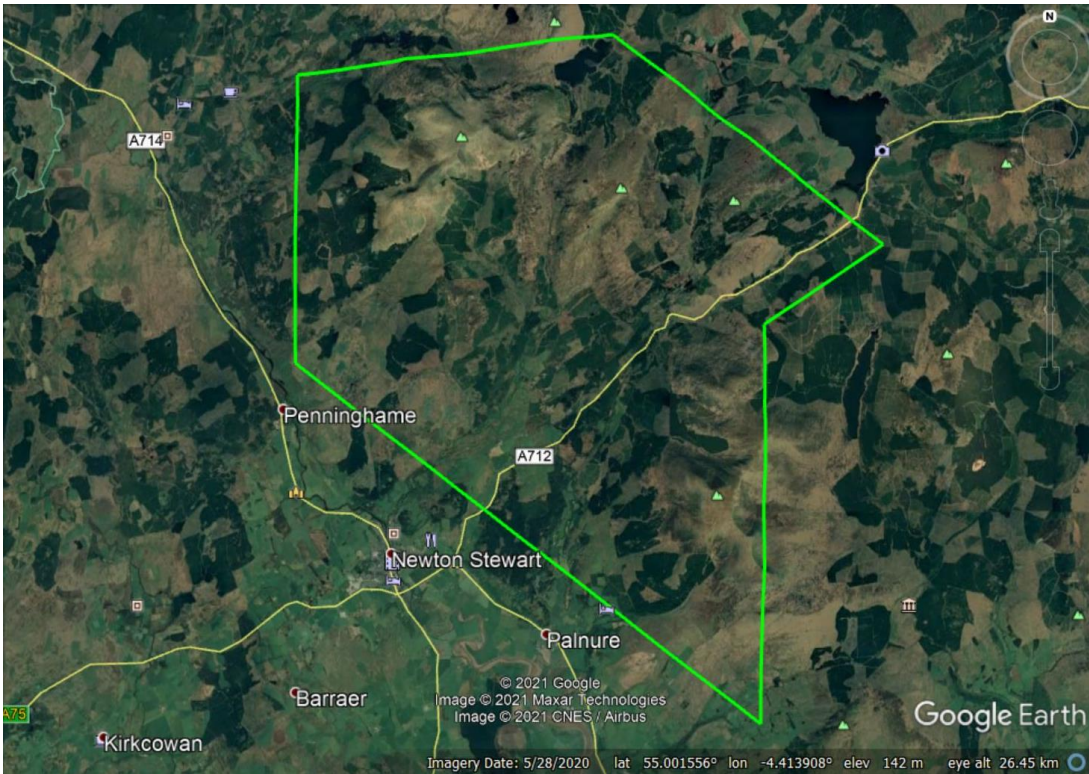
| TDA A |         |          |
|-------|---------|----------|
| Point | Lat     | Long     |
| 1     | 54.9181 | -4.32287 |
| 2     | 55.0078 | -4.52461 |
| 3     | 55.0072 | -4.59103 |
| 4     | 54.9636 | -4.58669 |
| 5     | 54.9008 | -4.37437 |
| 6     | 54.9021 | -4.33551 |
| 1     | 54.9181 | -4.32287 |

TDA Ceiling Height: 1,700ft AMSL

This equates (using the area coordinates shown above) to a total surface footprint of 88.4 sq km. The volume of airspace requested from surface is 1000ft which equates to a volume of 26.9 cubic kilometres. If the volume is calculated from average mean sea level (AMSL) then the volume is 45.8 cubic kilometres of airspace within the TDA.



TDA B



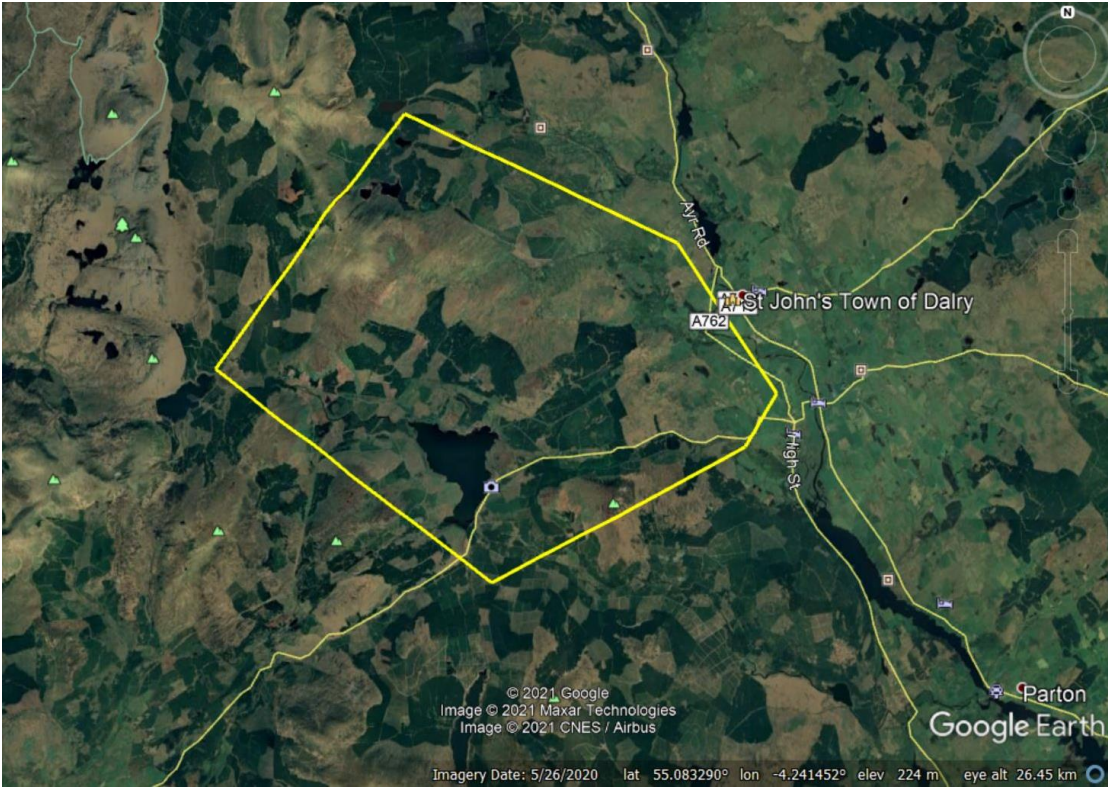
Map of TDA B – Green Polygon

| TDA B |         |          |
|-------|---------|----------|
| Point | Lat     | Long     |
| 1     | 55.0078 | -4.52461 |
| 2     | 54.9181 | -4.32287 |
| 3     | 55.0173 | -4.32165 |
| 4     | 55.0371 | -4.26981 |
| 5     | 55.0891 | -4.38677 |
| 6     | 55.0794 | -4.5237  |
| 1     | 55.0078 | -4.52461 |

TDA Ceiling Height: 3,400ft AMSL

This equates (using the area coordinates shown above) to a total surface footprint of 178 sq km. The volume of airspace requested from surface is 1000ft which equates to a volume of 54.2 cubic kilometres. If the volume is calculated from average mean sea level (AMSL) then the volume is 184.4 cubic kilometres of airspace within the TDA.

TDA C



Map of TDA C – Yellow Polygon

| TDA C |          |          |
|-------|----------|----------|
| Point | Lat      | Long     |
| 1     | 55.1195  | -4.19048 |
| 2     | 55.1507  | -4.3062  |
| 3     | 55.0891  | -4.38677 |
| 4     | 55.0371  | -4.26981 |
| 5     | 55.0698  | -4.1618  |
| 6     | 55.08278 | -4.14828 |
| 1     | 55.1195  | -4.19048 |

TDA Ceiling Height: 3,400ft AMSL

This equates (using the area coordinates shown above) to a total surface footprint of 109 sq km. The volume of airspace requested from surface is 1000ft which equates to a volume of 33.2 cubic kilometres. If the volume is calculated from average mean sea level (AMSL) then the volume is 112.9 cubic kilometres of airspace within the TDA.

**Details of the required hours of operation:**

**Time:** Monday – Friday (inc. public holidays): 09.00-17.00 hrs GMT (Prestwick ATC hours)

**Duration: 1<sup>st</sup> September – 29<sup>th</sup> November 2021**

## 6. Drone Spec:



### Appendix I Air Vehicle Characteristics

#### Prion Mk 3 Specifications

##### Aircraft

|                                       |   |
|---------------------------------------|---|
| Wingspan .....                        | 3.8m                                      |
| Length .....                          | 3.0m                                      |
| Weight (configured for surveys) ..... | 32kg (approx)                             |
| Fuel capacity .....                   | 6.5lts                                    |
| Fuel consumption (cruising).....      | 0.5lts/hr                                 |
| Cruising speed (for surveying) .....  | 80kph                                     |
| Operational range.....                | 1000+km                                   |
| Payload.....                          | optimal 10 kg, maximum 15 kg              |
| Engine.....                           | 120cc 4 stroke petrol                     |
| Engine control .....                  | Fuel injection ECU                        |
| Prop .....                            | 28x14 – 3 blade carbon fibre              |
| Landing gear options.....             | Tricycle wheels<br>.Skids with a launcher |

Aircraft dismantles into components of 2m and less for transport.

Removable front section allows easy access to onboard systems and components.

Piccolo II autopilot system

Ground station with Iridium sat-phone link for beyond radio telemetry range flight

Real-time telemetry for aircraft, engine and data on separate screens

Pilot's console for manual control.

Real-time feedback of fuel consumption and capacity.

Engine ECU controlling fuel and ignition for optimum performance in all weather.

Engine data logged by ECU and external removable logger on continuous loop.

All onboard systems accessible through a plug in USB port.

##### Electrical power

External plug in ground power from 12v supply ..... Standby

Onboard alternator supplying 24v, 12v and 5v outputs..... Engine running

Onboard battery with approximately 2 hours endurance

@ 20 degrees Celsius ..... Emergency

Battery charging system ..... Engine powered alternator

## 7. Drone actions in the event of malfunction:



**For lost communications 'up' link during BVLOS.** In a lost communication situation with no eyes on the aircraft and no radio or iridium link to the aircraft we anticipate no direct control. In the case the equipment failure is one of transmission from the ground station then the aircraft will likely still be transmitting. This will provide positional data telemetry which may still be received by the ground station. A seamless transition to down link communications operations only is managed by the autopilot. In this case the same lost communication autopilot system functions described in the preceding paragraphs of this section will be available. If iridium is being used and after several re-dial attempts the connection is not re-established, the same sequence of informing the ATC of the lost communication with the aircraft will occur and the Flight Crew will attempt to remedy the fault whilst the aircraft performs the automated lost communication flight maneuver sequence established by the Flight Crew prior to take off. If the link is being provided by iridium the system will automatically attempt to redial and make the connection. Sufficient time should be provided to allow a number of redial attempts.

With positional and altitude information still being received by the Flight Crew and likely radar monitoring during a BVLOS flight, then the Flight Crew should periodically during the lost coms exercise cross reference their own current positional information and aircraft heading information with that being separately monitored by the ATC via their radar service. In the case that all systems on the aircraft are healthy then the aircraft will eventually return to base and become EVLOS such that the ERP described above can prevail.

**For lost communications 'down' link during BVLOS.** With no eyes on the aircraft, and with a failure of the downlink data telemetry from the aircraft, it will not be known immediately whether it is only the down link function on the aircraft that is at fault or whether it is both down and up link that is at fault. A seamless transition to assumed up link only communications operations is managed by the autopilot system. If iridium is being used time enough should be provided for the system to attempt to reestablish the communication link through redialing the modem connection. In iridium does not reconnect and no radio telemetry is likely over the distance between ground station and

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aircraft then the ATC will be informed of the issue and the next steps to be taken the return the aircraft safely to a EVLOS context. As the uplink may still be operational the mission should be re-tasked and the aircraft given the return to base instruction. Regardless the autopilot lost communication protocol will be triggered and in all eventualities the aircraft will follow the sequence of maneuvers as programmed during the pre-flight exercise by the GSO. Typically this will result in a return to base instruction. This will return the aircraft to VLOS operation. Coordination with the ATC who will be monitoring the aircraft position and altitude through their radar service will help to determine whether the aircraft is responding to attempts to send instructions via the up link. As such coordination with the ATC will be important to determine the if the aircraft can be re-tasked immediately and maintained under control of the GSO. During the aircrafts return leg, there should be constant and careful monitoring of the RSSI communication from the aircraft by the RPS should the fault be rectified. In all circumstances the aircraft is to be brought within radio data telemetry range and an attempt made to issue new commands to the aircraft and undertake a safe landing sequence if the runway is clear/with the permission of the ATC.

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**For lost up link and lost down link communication during BVLOS.** The ERP in the case of a total loss of communication with the aircraft should be as above without the option to test an active uplink with assistance from the ATC. A seamless transition to full no communications flight operations is managed by the autopilot system. Priority for the Flight Crew is to inform the ATC, the return of the aircraft to VLOS by the autopilot will occur and if available operations can transition to use the radio link to land the aircraft safely or allow an automated landing if preferred by the RP.

**In the case of a flyaway.** Attempts will be made to re-establish communications then the air traffic service provider will be notified and the local emergency services. The aircraft will have experienced a failure with some aspects of the auto pilot system or the entire system. In the case of a partial failure of the autopilot the aircraft may maintain level flight until the fuel expires, in more dramatic failure of the autopilot the aircraft will likely ditch.

**Throughout attempts should be made to resolve why the aircraft is unresponsive. If the systems become responsive after a period of flyaway behavior the RP should make the decision to land instruct the GSO to perform an automated landing at the most convenient emergency runway, or instruct the aircraft to return to base or otherwise instruct the aircraft to ditch if safe to do so. Action will be taken to mitigate as much as possible for shipping through the use by the field crew of available near real time vessel tracking tools such as <https://www.vesselfinder.com/> if offshore or otherwise available maps to avoid structures in onshore.**

- **Pilot Incapacitation**

If the RP is not able to continue to provide support to a flight operation an alternative pilot will be immediately sought. If none are available the aircraft will be returned to the airfield under automated flight by the GSO whilst further efforts to provide a RP continue or otherwise for the RP present to confirm availability to perform the role safely. The aircraft will be landed at the first opportunity by the GSO using the automated systems to enable the RP to be replaced, rested or otherwise returned to full capacity.

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## **8. Abort actions for SAR Operations or transits:**

In the event that any MCA SAR aircraft requires to operate within or temporarily transit the proposed TDA airspace, UAVE Ltd Flight Crew will immediately terminate the Prion MK3 UAV mission by either:

- Initiating a Return to Base/Land command using the automated autopilot by the Ground Station Operator (second pilot).
- Initiating a “Hold Current Position/Orbit” command using the autopilot by the Ground Station Operator (second pilot)
- Terminate the flight by operating the remote “engine kill switch” command using the autopilot by the Ground Station Operator (second pilot).
- Any other Emergency Profile deemed necessary by the MCA/CAA.

## **9. Contact details for UK ARCC to alert SAR activity and/or grounding/suspension of UAV operations:**

- **UAVE Ltd: Head Office T +44 (0) xxx xxx**  
A xxx
- **Prion MK3 Flight Crew:**

| UAVE Ltd             | Flight Ops Crew             | Land Line | Mobile |
|----------------------|-----------------------------|-----------|--------|
| xxx xxx              | Flight Ops Manager          | xxx xxx   | xxx    |
| xxx xxx              | Snr Remote Pilot            | xxx xxx   | xxx    |
| xxx xxx              | Remote Station Operator/GSO | xxx xxx   | xxx    |
| UAVE Ltd Main Office |                             | xxx xxx   |        |
|                      |                             |           |        |

### **TDA Contact Details: Glasgow (Prestwick) Airport**

Glasgow Prestwick Airport Ltd, xxx

|   |         |                      |     |
|---|---------|----------------------|-----|
| ATC Ops                                     | xxx xxx | Prestwick Approach   | xxx |
| AFS   | xxx xxx | Emergency            | xxx |
| <u>Prestwick Information</u><br><u>ATIS</u> | xxx     | Prestwick Radar      | xxx |
|   |         | Scottish Information | xxx |
| <u>DAAIS Provider</u><br>Prestwick Approach |         | Prestwick Approach   | xxx |

### **UAVE Ltd**

www.uave.co.uk

T +44 (0) xxx xxx

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