

Windracers Limited Summary of Stakeholder Engagement ACP-2022-049 Version 7.1 [Redacted] - Dated 06/05/2024 The information contained in this document is proprietary and sensitive to Windracers Ltd.

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Revision History

Issue Number	Description	Date	PID
1.0	Initial Release	17/03/2023	Y Lawrenson
2.0	Updated Chapter 2. Stakeholder Engagement. Addition of Para 2.7: Feedback Prompted Revisions. Detailed meeting minutes added to Appendix C - Stakeholder Engagement Meetings Summary.	31/03/2023	Y Lawrenson
2.1	Raw email evidence reformatted and redacted. Para 2.1: Clarity added. Chapter 3: TDA Geometry Rationale. Para 2.6: Clarity added.	13/04/2023	Y Lawrenson
3.0	TDA geometry extended after feedback from the CAA.	18/04/2023	Y Lawrenson
4.0	Engagement letter sent out detailing changes to TDA geometry and timetabling. Addition of ATS Evidence.	06/06/2023	Y Lawrenson
5.0	Engagement update detailing operation schedule change.	29/06/2023	Y Lawrenson
6.0	Engagement update detailing operation schedule change.	31/08/2023	Y Lawrenson
7.0	Engagement letter sent out detailing changes to TDA geometry, sites, and scheduling. Addition of appendix G. Addition to future engagement (section 2.5). Addition of appendix H.	18/03/2024	Y Lawrenson W Wesolowska
7.1	Update to appendix F.45. Update to 2.7 - Feedback Prompted Revisions - Part f.	06/05/2024	Y Lawrenson

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1. Introduction

In 2020, Highlands and Islands Airports Limited lead the organisation of a consortium to create the Sustainable Aviation Test Environment (SATE) in Scotland. The aim of the consortium is to bring together aviation industry specialists in the hopes of achieving low carbon aviation. To achieve this Kirkwall Airport (Orkney) has been set up as the UK's first operationally based, low carbon aviation test centre. This is an ideal base to provide regional flights across the Orkney Isles as well as mainland Scotland and the Shetland Isles.

SATE 2 now aims to expand on the success that has already been delivered and develop an uncrewed aerial vehicle (UAV) hub-and-spoke delivery network across Scotland. Windracers participated in initial trials to interconnect the Orkney and Shetland Islands. This involved setting up TDAs to cover multiple routes flown BVLOS. Going forward Windracers aims to work with local communities including councils, logistics companies, NHS Scotland and other stakeholders to supplement and build on current supply chains.

The purpose of ACP-2022-049 is to form a network of routes operating out of Kirkwall to supply the Orkney Islands with UAS middle mile delivery logistics. This will form phase one of an ongoing project that involves the Shetlands and Inner Hebrides. This document will summarise the Stakeholder Engagement undertaken by Windracers to set up appropriate Temporary Danger Areas that work for those impacted.

2. Stakeholder Engagement

2.1 Identification of Audience

Through various channels, such as CAA recommended stakeholders, prior engagement in the area, and key operational collaborators, the following populations were identified:

- 1. Aerodromes used for launch and recovery of the UAS and Air Traffic Service Units (ATSUs) providing traffic services for the operations.
- 2. Local airspace operators based in the vicinity of the launch and recovery aerodromes.
- 3. Frequent airspace users spanning a wider area.
- 4. National bodies and authorities, members of the Air Traffic Management Advisory Committee (NATMAC) distribution list.
- 5. Other stakeholders involved. This includes environmental stakeholders and local tourism.

The intended TDA will enable UAS flights under 2500 ft AMSL, however population of inhabited areas in the vicinity of the intended Airspace Change were not included in this engagement strategy as very low impact is expected due to the following reasons:

- The location of the TDA and planned operations occur mainly over water, during operational hours of the aerodrome used.
- Departure and recovery are carried out at conventional airports for manned aviation.
- The UAS intended to be operated within the TDA produces lower levels of noise than those of other aircraft usually flying at these locations.

2.2 List of Stakeholders

The list of stakeholders has been provided in APPENDIX B. This is broken down into the NATMAC list, Key Stakeholders, and Wider Engagement. The NATMAC list is contacted with all wider engagement details and information. It has been found that while these stakeholders require details of the Airspace Change Proposal, they do not often influence the geometry or scheduling. This often comes from Key Stakeholders, particularly the involved aerodromes and ATSUS.

2.3 Engagement Approach

2.3.1 User-Cases Identification

Windracers began early user-case identification prior to starting stakeholder engagement. This involved talking with local interested parties such as councils, the NHS and Royal Mail. A use-case survey was sent out to relevant parties and further disseminated through the SATE consortium. This then assisted in the choice of relevant airfields and route geometry.

2.3.2 Stakeholder Pre-Engagement

Prior to starting formal stakeholder engagement, planning and coordination meetings were held as part of the SATE 2 Consortium. This consortium is headed by HIAL and therefore involved the major airports considered as part of the project. Feedback on routes, places to avoid, and prior operations was received during this period which allowed Windracers to present a more defined proposal.

2.3.3 Formal Stakeholder Engagement

As part of the formal stakeholder engagement Windracers are adopting the following strategy:

Event	Date	Description
Statement of	15 th July	SoN submitted to the ACP Portal.
Need	2022	
Initial Assessment	23 rd	Meeting between CAA and Change Sponsor to present
Meeting	November	and discuss the Statement of Need, provide
	2022	information on how the sponsor intends to fulfil the
		requirements of the airspace change and engagement process, and present provisional timescales.
Start Stakeholder	7 th	Send a stakeholder engagement letter to all
Engagement	December	stakeholders. Start formal conversations on airfield
	2022	usage.
Phase 1	23 rd January	Deadline for first responses to proposed changes.
	2023	Geometry, scheduling, and flight routes looking to be
		finalised.
Finish Stakeholder	3 rd March	End of stakeholder engagement. Collect feedback and
Engagement	2023	form a report.
Submission of ACP	17 th March	ACP submitted to portal with supporting documents.
	2023	
Decision Gateway	21 st April	AIRAC deadline for effective date.
	2023	
NATS AIC	1 st June	
Publication	2023	
ACP	5 th June -	
Implementation	18 th August	
	2023	

The formal period for the Stakeholders to send feedback was of twelve weeks.

2.3.4 Timeline Rationale

The timeline set out for the suggested stakeholder engagement was decided based on prior operations and processes with the CAA. This gave the maximised time to engage with stakeholders for the planned operation scheduling. This timeline was then confirmed with the CAA during the Initial Assessment Meeting held on the 23/11/2022. Due to feedback received from the CAA it was decided to move the intended operations later in the year to allow for an increase on the expected submission review time. The change in scheduling for the planned operations was intentionally moved to ensure the regulatory process could be carried out not at the expense of stakeholder engagement. This timeline was agreed with the CAA and uploaded to the portal under Item 5 of the Initial Assessment Meeting Minutes.

2.3.5 Combination of Multiple ACP Engagement

It was decided that the stakeholder engagement for both ACPs being sponsored by Windracers Ltd in Northern Scotland would run simultaneously. This included ACP-2022-049, the engagement for which is summarised in this document, and ACP-2022-051. The rationale behind this combination of stakeholder engagement included:

- Similar stakeholders across both ACPs,
- Not wanting to confuse stakeholders but instead clearly setting out the differences between the two ACPs,

• Not wanting to overload stakeholders with multiple email chains about different ACPs.

This was then agreed with the CAA with emphasis on not overloading/confusing stakeholders with multiple ACPs from the same sponsor. To ensure the combined engagement did not detract from either project but instead enhance the feedback received, a clear distinction was made throughout about which information was applicable to which ACP.

2.4 Conduct of Engagement Activities in Multiple Rounds

It was known at the beginning of the project that the plans would evolve from the feedback received. It was therefore decided to run multiple rounds of engagement to keep all updated with any changes to the proposal. Throughout the engagement period Windracers was also introduced to new potential stakeholders. Multiple rounds of stakeholder engagement ensured the same information was going out to all parties involved.

2.4.1 Round 1

- Initial stakeholders identified:
 - NATMAC List,
 - CAA recommended contacts,
 - Stakeholders identified in previous operations in the area,
 - \circ $\;$ Stakeholders identified through research of the area.
- Stakeholders contacted with Initial Letter of Stakeholder Engagement (Summary of Stakeholder Engagement Appendix D).
- Where clarification of details was requested, this was given as soon as Windracers were able to provide a clear and useful response. This has been documented in Appendix F of the Summary of Stakeholder Engagement.
- Meetings with key stakeholders.

The initial engagement letter was also shared to relevant contacts through contacted parties to ensure those most applicable to give feedback were receiving the information. Where new contacts were gained it was assessed whether the new contact required an immediate update or if they would be included in the second round of engagement. This was decided based on whether they would have an impact on the design and planning of the proposal or if they required awareness of the project.

2.4.2 Round 2

The aim of round 2 was to ensure stakeholders were fully informed and able to input into the ACP. At this point in the stakeholder engagement process, Windracers Ltd. looked to finalise plans and ensure all were in agreement on the proposed operations. This involved integrating feedback received during Round 1 into the planning. The feedback received was generally positive in nature and more looking for clarity than to impact the ACP.

2.4.3 Round 3

Following changes to the planned ACP after CAA feedback a third round of engagement was conducted. This included the recommended TDA extension into Kirkwall ATZ, operation schedule change, and clarity on planned loiter points. The feedback received was limited and largely a confirmation of no further impact.

2.4.4 Round 4

An update email was sent to stakeholders informing them of the operation schedule change. Limited feedback was received relating to ACP-2022-049. The timeline change was also uploaded to the ACP Portal.

2.4.5 Round 5

An update email was sent out to stakeholders informing them of removal of Kirkwall Airport from the list of operational locations, removal of TDA-A from the TDA complex and change of the operation period. The stakeholders were also made aware that the contact email for WR has changed. Feedback received was mostly positive in nature, mostly trying to ensure that operations were adequately deconflicted and that they would be sufficiently notified. Feedback was also received regarding breeding season for the birds in the area, WR have taken onboard this feedback.

2.5 Future Engagement

The live impact assessment phase starts from the Decide Gateway and aims to provide channels of communication before, during and after implementation. Windracers will receive any feedback or complaints via email on <u>contact.operations@windracers.com</u>. All queries received will be informed to the CAA and action will be taken to reduce the impact on other stakeholders. This will include meetings (checkpoints) with key stakeholders to assess whether any operational aspects need to be revised.

Following the approval of ACP-2022-049, Windracers will inform the communities that may be affected by the intended operations. Communities will be notified through a range of sources:

- Windracers Social Media (LinkedIn, Instagram, X, and Facebook)
- SATE Media (News outlets, Orkeny Island Council website)
- Community notice boards (Online and Community Centres) See Appendix H

This notification will show both the operational area, shown on Ordnance Survey maps, and the expected noise impact on the community. The noise impact has been assessed as minimal as shown in Appendix G.

2.6 Summary of Feedback

Feedback of all stakeholders is summarised in the Table below.

Relevant engagement communications and responses can be found in the Appendices listed in the following table:

Appendi x	Stakeholder	Stakeholders Feedback Summary	Actions Taken
F.1	Baltasound Airport (Unst)	Nothing to impact ACP-2022- 049.	Meeting held 14/12/22 - Details in Appendix C
F.2	NHV	Confirm details.	Details confirmed. Finalised plans to be sent in Jan.
F.3, F.10, F.24, F.33 and F.41.	DAATM	Confirm details. No additional impact to MOD activities.	Details confirmed. Finalised plans to be sent in Jan.
F.4, F.14, F.21 and F.39.	Kirkwall ATC	Details of Kirkwall Operations Full understanding of UAV processes, various scenarios, preferred outcomes etc. Happy to support ACP-2022- 049 with provision of DAAIS.	Updated throughout. Signed as key airspace stakeholder. Active input to the design of the TDA and proposed operations. This included:

		Confirmed extension of TDA into the ATZ. Deconflict with timetabled flights.	Naming/positioning of loiter points (meeting detailed Appendix C). C2 failure procedures (meeting detailed Appendix C). UAS behaviour joining the circuit. (meeting detailed Appendix C). Deconflicted against planned timetable.
F.5, F.23 and F.38	Sumburgh	Nothing to impact ACP-2022-049.	
F.6, F.9 and F.36	LoganAir	No issues, keep updated. Sumburgh flights not affected by ACP-2022-049. Deconflict with timetabled flights. Aircraft not fully equipped with ADS-B.	Updated throughout. Signed as key airspace stakeholder. Active input to the design of the TDA and proposed operations. This included: Scheduling. Deconflicted against planned timetable. Discussion summarised in Appendix C.
F.7, F.12, F.22, F.31 and F.44	Northern Lighthouse Board	Details of planned flights. Keep updated of date/route changes. Contact PDG Helicopters to deconflict.	NLB updated with plans. PDG updated with letters of engagement.
F.8	Tingwall General Aviators Group	Clarification of details to be discussed in group.	Details confirmed.
F.11, F.25, F.28 and F.40	SaxaVord	Minimal impact. Happy to support ACP-2022-049.	
F.13	PDG Helicopters	No objection. Provision for short notice access. Supportive if the ACP has no detrimental effect on PDG operations.	Confirmed access details and confirmed notification through NOTAM.
F.15	Babcock (Scotland's Charity Air Ambulance)	Happy with deconfliction procedures. With support from Kirkwall ATC there is sufficient time to sanitise the airspace if required.	It was asked whether a DACS would be provided. Windracers informed SCAA there would be a DAISS. SCAA were happy with this level of service.
F.16	GAMA Aviation (Helimed 2)	No issues with ACP-2022-049 so long as contact is maintained with Kirkwall ATC and a NOTAM is in place for planned operations.	

F.17, F.27 and F.46	NATS	Confirmation of provision of ATS. Suggested a DACS could be provided with engagement between Windracers and Kirkwall ATC.	Drawing on experience from previous operations it was decided a DACS was not required for these operations.
F.18	Babcock (Police Scotland Air Unit)	No issues with ACP. Once the ACP is published will promulgate a safe working protocol to pilots. Happy there is ample time to sanitise.	
F.19, F.34 and F.45	NatureScot	Confirmation of routes compared to current aviation activity. Confirmed no impact on protected sites. Developing UAS/UAV protocol and would like to discuss at a later date. After latest ACP-2022-049 update issues with flight paths over SPAs and SSSIs during flight breeding season.	Ensured routes over Papa Westray will not closer than the recommended distance to the SPA. For Calf of Eday SPA and Mill Loch SSSI will be overflown but at an increased height to minimise impact. Loiter point close to Calf of Eday will be moved. Findings from noise assessment shared (Included in Appendix G - Noise assessment)
F.20 and F.35	Bristow (Sumburgh Search and Rescue)	Requires priority is given to SAR aircraft without delay. Phone Call - 29/06/23 -ACP unlikely to impact Bristow Operations.	Confirmed emergency operations have priority over UAS flights.
F.29	Hyimpulse Technologies GmbH	Running an ACP at a similar time. Deconflicted through geography.	Will remain in contact.
F.30	Airtask Group	Updates to contact details.	
F.32	Tingwall Airport	Feedback relating to ACP-2022-051.	
F.43	СНС	Letter of engagement read. No input on ACP-2022-049.	
F.37	Lamb Holm GA	Concerned about impact on GA flight in the summer period.	Added to the list of SE and sent latest SE letter. Explained how operations will be NOTAMed and WR will be receiving DAAIS from Kirkwall ATC.
F.42	AVISU	No issues with ACP-2022-049.	
-	Offshore Helicopters	Email read. No comment.	
-	2Excel Aviation	No comment.	
-	Orkney Island Council	Happy with airfield use following submission of a	

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		valid PPR. No issues with ACP-2022-049.	
-	HIAL	Supportive of ACP-2022-049.	
-	Lamb Holm Airfield Orkney	Orkney GA community are backing an increase in electronic conspicuity. No issues with the ACP-2022-049.	
-	Wick Airport	Email read. No comment.	
-	Visit Scotland	Email read. No comment.	

2.7 Feedback Prompted Revisions

Changes were made throughout the engagement process dependant on feedback received. After the first round of stakeholder engagement this included:

a) TDAs encompass the airspace over airfields with no active ATZ.

Clarity was required on this and therefore made clearer in the second round of stakeholder engagement.

b) Westray has been added to Phase 1: Orkney Operations.

It was informally suggested through the course of engagement that this would in future be a more useful airfield to the local residents and stakeholders. Therefore, as a use case scenario it should be joined to this network of TDAs.

c) A schedule for Phase 1: Orkney Operations has been proposed.

This was after a receiving timetabling from stakeholders as detailed in Appendix C.

d) Activation period for Phase 1: Orkney Operations has changed.

This allows Windracers Ltd. to maximise stakeholder engagement.

Changes made due to the second round of stakeholder engagement:

e) Failsafe return routes.

The aircraft will now return to the 'spoke' airfields, not back to the Kirkwall ATZ, in the event of a C2 loss of link. This is due to feedback received as detailed in Appendix C.

f) Windracers will carry out a survey to assess the impact on wildlife.

Following advice on the nearby SPAs and SSSIs Windracers will carry out a survey to understand the impact of the TDA and associated operations on seabirds. To do this Windracers will use an on-board camera to capture video footage to monitor any change to seabird activity.

3. TDA Geometry Rationale

The geometry of the proposed TDA was decided through the detailed stakeholder engagement and OSC constraints. The width and height were determined as the minimum required in line with the OSC. This was further reinforced through engagement on separation deconfliction. As can be seen in Appendix F.9 there was concern of airspace incursion on low pressure days. It was confirmed with the stakeholder that the height of the TDA including the safety buffer were relevant and appropriate for the planned operations.

The geometry was also changed throughout to include Westray Airport. There was informal engagement carried out where local residents and stakeholders suggested this would be a useful addition to the network. This addition was promulgated through stakeholder engagement with no negative feedback received.

4. Air Traffic Service

In accordance with Section 70 of the Transport Act each airspace change proposal must secure the most efficient use of airspace for the safe operation of aircraft and the expeditious flow of air traffic. In the interests of securing the most efficient airspace usage Windracers has looked into various form of ATS provision including DAAIS and DACS.

The Windracers approach to ensuring ACP-2022-049 allows for the safest and most efficient use of the airspace involved:

- Understanding the required level based on previous experience.
 - $\circ~$ Windracers has carried out similar operations in the area and across the UK using various levels of service.
 - Prior operations in the area were held with a DAAIS (ACP-2021-025).
 - Previous trials were held in Shetland with a combination of DAAIS and DACS (ACP-2021-067)
 - The use of a DACS would require 3rd party input, additional to the engagement carried out with Kirkwall ATC.
- Feedback from prior operations and stakeholder engagement.
 - Informal feedback received after similar operations in the area concluded a safe and efficient use of the airspace.
 - Unexpected airspace use by other operators, such as air ambulance, was conducted safely and efficiently through a DAAIS service.
 - Windracers informed stakeholders of the intent to use a DAAIS service and the further mitigations in place to ensure the safe usage of the airspace. This was met with agreement and no negative feedback was received nor was it suggested that a different service type would be preferable.
- Engagement with the relevant ATC services.
 - Windracers engaged with Kirkwall ATC and NATS Aberdeen to understand the level of ATS available. Kirkwall ATC confirmed they would only be able to offer a DAAIS. NATS Aberdeen initially suggested that subject to engagement and workload, NATS Aberdeen may be able to provide a DACS. When followed up on this Windracers received no reply. (Appendix F - Air Traffic Service)

Appendix A – Amendment Record

lssue Number	Amendments
1.0	Initial Release
2.0	Updated Chapter 2. Stakeholder Engagement. Addition of Para 2.7: Feedback Prompted Revisions. Detailed meeting minutes added to Appendix C - Stakeholder Engagement Meetings Summary.
2.1	Raw email evidence reformatted and redacted. Para 2.1: Clarity added. Chapter 3: TDA Geometry Rationale. Para 2.6: Clarity added.
3.0	TDA geometry extended after feedback from the CAA.
4.0	Engagement letter sent out detailing changes to TDA geometry and timetabling. Addition of ATS Evidence.
5.0	Para 2.4.3 Round 3 of engagement summary. Para 2.4.4 Round 4 of engagement summary. Para 2.6 Summary of Feedback updated. Addition of engagement evidence Appendices F.27-F.32.
6.0	Addition of engagement evidence Appendices F.33F.34.
7.0	All: Formatting Section 2.4.5: Round 5 of engagement summary Section 2.5: Contact email updated. Section 2.6: Summary of Feedback updated. Appendix C: Addition of summary from meeting held 18/03/24. Appendix E: Addition of Quaternary Engagement letter. Appendix F: Addition of engagement evidence F.35 - F.47. Appendix G: Addition of Noise Assessment. Appendix H:

Appendix B – List of Stakeholders

NATMAC

NATMAC
Airlines UK
Airspace4All
Airport Operators Association (AOA)
Airfield Operators Group (AOG)
Aircraft Owners and Pilots Association (AOPA)
Airspace Change Organising Group (ACOG)
Association of Remotely Piloted Aircraft Systems UK (ARPAS-UK)
Aviation Environment Federation (AEF)
British Airways (BA)
BAe Systems
British Airline Pilots Association (BALPA)
British Balloon and Airship Club
British Business and General Aviation Association (BBGA)
British Gliding Association (BGA)
British Helicopter Association (BHA)
British Hang Gliding and Paragliding Association (BHPA)
British Microlight Aircraft Association (BMAA)
British Model Flying Association (BMFA)
British Skydiving
Drone Major
General Aviation Alliance (GAA)
Guild of Air Traffic Control Officers (GATCO)
Honourable Company of Air Pilots (HCAP)
Helicopter Club of Great Britain (HCGB)
Heavy Airlines
Iprosurv
Isle of Man CAA
Light Aircraft Association (LAA)
Low Fare Airlines
Military Aviation Authority (MAA)
Ministry of Defence - Defence Airspace and Air Traffic Management (MoD DAATM)
NATS
Navy Command HQ
PPL/IR (Europe)
UK Airprox Board (UKAB)
UK Flight Safety Committee (UKFSC)
United States Visiting Forces (USVF), HQ United
States Country Rep-UK (HQ USCR-UK).

Key Stakeholders

Bristow Helicopters
CHC
NHV
Offshore Helicopters
Babcock Mission Critical Services
2Excel Aviation
PDG Helicopters
Gama Aviation
Wick Airport
Kirkwall Airport
Kirkwall ATC
Sumburgh Airport
Orkney Island Council
Shetland Island Council
Saxavord Spaceport
National Trust for Scotland (Fair Isle Airport)
NATS
NATS (Aberdeen)
Airtask Group
LoganAir
Babcock Group
Bristow Group
Shetland Space Centre
HIAL
M&CA
SCAA

Wider Engagement

55	
NLB (Northern Lighthouse Board)	Highland Gliding Club
Lamb Holm Airfield Orkney	Highland Aviation
GA Orkney	Easter Airfield
GA Tingwall	North Scotland Airfield (Barra, Benbecula, Campbeltown, Inverness, Islay, Tiree)
Shetland UAV Operators	NatureScot
Moray Flying Club	Visit Scotland
Far North Aviation	Transport Scotland

Appendix C – Stakeholder Engagement Meetings Summary

Date	Attendees	0	Conclusions/Tasks Assigned
14/12/22	Attendees	Topic Unst	ACP-2022-049 - Nothing to affect.
		Operations	Details of meeting regarding ACP-2022- 051 can be found in the applicable engagement summary.
01/02/23		UAS Operations in the Orkney and Shetland Islands	 Explanation of Windracers Who we are. What we do. What we are looking to achieve. TDA design principles and how they were developed. Timelines. TDA Geometry. Deconfliction and failsafes. Engagement aims. Ensuring safety. Use of Kirkwall Airport. Actions: Update Windracers on any requirements for Kirkwall operations e.g. airside passes.
08/02/23		Discussion of ConOps	 Windracers Brief KOI ATC each morning of operations. Name loiter points in each TDA. Share range and bearing from KOI for each point. GSC (ground control station) call ATC for start. Speak with fire officer re storing of fuel and refueling UAV. Let ATC know if UAV is being manually operated. Let KOI ATC know planned operations at least one week in advance. Ensure that comms feedback to ATC when UAV has landed on outer isles airfields and are expected to be airborne. Send ConOps to DD for review. Kirkwall ATC Write plan for warming engines, process of communications etc. Feedback to OO re UAV entering ATZ. Return ConOps with comment to and . Begin work on temporary operating instructions and briefings for ATC team.

08/02/23	Discussion of ConOps	Windracers Give AFS minimum 12-hour notice for UAV operations, and 30 minutes for planned take-off. Carry out taxi and take-off time simulation ahead of operations including AFS and ATC. Share fuel tank details and discuss fuel storage and refueling processes with NB. Logan Air Share Inter-Island Summer timetable with and . Provide and with roster for flights when available (re training). Airport Fire Service (AFS) Share direct number for watch room with and . Carry out risk assessment for fuel storage and refueling once. Kirkwall Airport Send airside pass application to . Discuss erection of mast for operations, will follow same process as SATE 1.
09/02/23	Westray Airfield	Site Visit Hangarage Any changes (such as putting up temporary hangars) will go through Orkney Island Council along with airfield use.
10/02/23	Orkney Island Council - Windracers Operations	Airfield usage - PPR Temporary hangars - Requirements, specs, engineers. Landing fees. Use-cases. Aircraft tracking apps for better visibility. Potential stakeholders.
10/02/23	Orkney GA Community	Windracers (WR) General Aviation Representative (GA) WR - Presented planned TDA routes and geometry. GA - Happy with routes, geometry, and heights. GA - Most GA in the community has electronic conspicuity devices equipped. GA - GA community would like to see an increase in electronic conspicuity and are backing initiatives that are also working towards this.

		 WR - Explained emergency procedures. What happens in the event of a C2 failure. The routes that the aircraft would follow. Asked how this would impact GA/any preferred routing. GA - No impact. Would expect Windracers to be in contact with Kirkwall ATC. WR - Agreed we would be in contact with Kirkwall ATC in the event of an emergency. GA - Other airspace users that should be contacted include LoganAir, Tingwall GA, Coastguard etc. WR - Agreed these companies had been contacted as part of the ACP engagement. WR - Gave contact details so GA could talk to the community and inform WR of any issues or opportunities.
08/03/23	Kirkwall ATC - Questions about UAS behaviour	Kirkwall ATC (KATC) Windracers (WR) KATC - Sent questions prior to the meeting. Detailed in Appendix F. WR - Started a simulation to demonstrate various scenarios. KATC - Discussed previous issues/misconceptions. WR - Clarified details of previous operations activity in the ATZ. WR - Ran simulations to confirm optimal circuit join pattern and abort procedures. WR - Explanation of GCS ability i.e. guided points allowing immediate loiter at location decided by ATC during flight. Simulation used to demonstrate. KATC - Clarity on ATZ regulations. WR - Optimal return route in case of C2 failure. KATC - Gave an option to remain outside of the ATZ. Loiter point suggested on ATZ border that could be used for manual recovery. WR - Could cause loss of aircraft due to loss of fuel before possible recovery. Potential for uncontrolled location of ditch. WR - Return to 'spoke' location for Safety Pilot recovery. Simulation used to demonstrate. KATC - This is the most agreeable option.

		 WR - Provided clarity on UAS ability i.e. not able to land without permission. WR - Edge cases: Preferred routing for if C2 link was lost within the ATZ. KATC - Potential for aircraft to stay within the ATZ. Will look into this for further clarity. KATC - Found the simulations, and seeing the ground control software user interface, useful for understanding the planned operations and procedures. KATC - May have further questions from information covered. (Appendix F)
18/03/24	Discussion of ConOps and reassessment of Haz-ID	 Windracers (WR) Kirkwall ATC (KATC) Orkney Island Council (OIC) WR - sent out and updated ConOps, changes mostly due to removal of Kirkwall Airport from operational locations. KATC - Clarified that WR is not to communicate with KATC on VHF unless safety critical situation. WR - Will be using SAFETYCOM for communications and listen to on KATC VHF for safety. OIC - Raised issue of some GA flyers not applying for PPRs before landing. More common during summer months. WR - Feedback taken onboard, mitigations will be added. WR - Reassessment of Haz-ID due to removal of Kirkwall. All mitigations and hazards related to arrivals and departures from Kirkwall Airport to be removed. KATC - Mitigation of contacting KATC on VHF can remain in place for safety critical situations. OIC - Suggested addition of hazards to account for increased GA activity during the operating period. Actions: WR to update ConOps and Haz-ID Report based on what was agreed in the meeting.

Appendix D – Initial Letter of Engagement and Email





ACP-2022-049 and ACP-2022-051

TDAs to enable BVLOS demonstration of Cargo UAV across the Orkney and Shetland Islands

Targeted Engagement with Aviation Stakeholders

Dear Stakeholder,

We are contacting you as a valued member of the aviation community to kindly request your feedback to the Temporary Airspace Change Proposals ACP-2022-049 and ACP-2022-051. These ACPs aim to establish Temporary Danger Areas (TDAs) during notified periods. The TDAs will enable the delivery of middle mile logistics and mail transport using Uncrewed Aircraft Systems (UAS) across the Orkney and Shetland Islands. These two projects will run independently in separate phases.

The outcomes of this engagement process and its analysis are laid out within the sections below. We have identified requirements regarding the design principles and geometry of the TDA scoped within the two ACPs. We also collect informative data on popular routes and areas to consider in the design of the TDAs. All feedback received is greatly appreciated.

Background

Windracers is a privately funded, Southampton-based, technology company working to improve the middle mile logistics and humanitarian aid operations with the use of UAS specifically designed for this purpose.

The Windracers ULTRA UAS is a twin engine, fixed-wing aircraft with a carrying capacity of up to 100 kg and a range of up to 1000 km. It is designed to be robust with broad wind and weather limits and capabilities for grass, gravel, and tarmac runways. It contains a highly reliable Flight Control System developed by Distributed Avionics.



Figure 1 ULTRA UAS has been developed for robustness and redundancy of its flight critical systems (Photo credit to Colin Keldie at EMEC)

Since 2019 Windracers has been flying point-to-point BVLOS operations across the UK including a previous campaign in the Orkney and Shetland Islands. This included flights to the most northern airfield in the UK (Unst) and a flight connecting both archipelagos. The flight between Tingwall and Kirkwall was completed autonomously from take-off to landing in a return flight that totalled more than 200 nautical miles. This and other numerous beyond visual line of sight (BVLOS) operations have proven the reliability of the system and suitability for deployment in commercial operations.

The Project

In 2020, Highlands and Islands Airports Limited lead the organisation of a consortium to create the Sustainable Aviation Test Environment (SATE) in Scotland. The aim of the consortium is to bring together aviation industry specialists in the hopes of achieving low carbon aviation. To achieve this Kirkwall Airport (Orkney) has been set up as the UK's first operationally based, low carbon aviation test centre. This is an ideal base to provide regional flights across the Orkney Isles as well as mainland Scotland and the Shetland Isles.

SATE 2 now aims to expand on the success that has already been delivered and develop an uncrewed aerial vehicle (UAV) hub-and-spoke delivery network across Scotland. Windracers participated in initial trials to interconnect the Orkney and Shetland Islands. This involved setting up TDAs to cover multiple routes flown BVLOS. Going forward Windracers aims to work with local communities including councils, logistics companies, NHS Scotland and other stakeholders to supplement and build on current supply chains.

The Long-Term Ambition

We believe in the integration of UAS with other airspace users outside of segregated airspace and aim to achieve this in the next few years as we develop our technology further and help shape the regulatory environment for it. Following the CAA Beyond Visual Line of Sight (BVLOS) Development Pathway (<u>CAP1861</u>), the TDA stemming from this ACP will be the first step towards meeting essential development requirements and safety targets.



Figure 2 BVLOS Development Pathway - from CAP1861

This initial period of operation within segregated airspace will be used to:

- characterise the use of airspace by gathering traffic data from onboard and ground sensors and non-cooperative traffic,
- carry out live engagement with different local and national stakeholders whilst demonstrating real flight operations,
- setup the necessary infrastructure and associated services for the provision of cargo delivery to the Orkney and Shetland islands,
- deliver training to new crew members and ground handling personnel,
- work with the CAA Innovation Hub and build a viable Safety Case for point-to-point BVLOS operations in non-segregated airspace.

Throughout the implementation period, we will share with all stakeholders the outcomes and learnings from these activities and our proposal for the long-term integration.

Design Criteria

Based on feedback from prior operations, the following requirements were identified:

- UAS route altitude to be as low as possible, without affecting performance of communication and navigation systems.
- The TDA should be provided with Air Traffic Services (ATS) that allow other airspace users to get information of the activity within the TDA and cross the airspace when possible.
- The UAS is to be equipped with electronic and visual conspicuity aids.
- Availability of multiple ways of contacting the UAS crew during operation.
- Availability of ways of contacting the TDA Sponsor during the ACP implementation.
- TDA activated via NOTAM at least 24 hours in advance of the activity.
- Regular assessment of live impact of the operations.

Operation Schedule

ACP-2022-049 (Orkney Islands)	ACP-2022-051 (Shetland Islands)
Start Date: 29 th May 2023	Start Date: 11 th September 2023
Operating Length: 12 weeks	Operating Length: 10 weeks

Operating times are to be decided with stakeholders throughout engagement period.

Temporary Danger Area Geometry

The proposed TDAs will be of a width of 1.73 NM in accordance with our minimum operational volume and safety buffer. The current proposal follows the routes previously flown from:

Orkney Islands:

- Kirkwall
- North Ronaldsay
- Eday

- Shetland Islands:
 - Kirkwall
 - Lerwick/Tingwall
 - Unst
 - Fair Isle

The proposed network has also been extended to Papa Westray (Orkney Islands) and Foula (Shetland Islands).



Figure 3 Proposed TDA Geometry. Phase 1: Orkney Islands ACP-2022-049 (Left) and Phase 2: Shetland Islands ACP-2022-51 (Right).

Deconfliction

ULTRA UAS is equipped with ADSB-in/out and a Mode S transponder for electric conspicuity. The aircraft is also visually conspicuous, with a 10m wingspan and provided with position and navigation lights. Details on how to contact the flight crew for position reports will be circulated prior to operations.

Failsafe Mechanisms

The ULTRA UAS incorporates multiple failsafe mechanisms along with dual redundant systems. Should a communications issue occur the UAS will navigate to the closest 'return route'. This is a pre-programmed route with defined waypoints that will take the aircraft

into VLOS range. The aircraft will then loiter in place until the Safety Pilot takes control and recovers the aircraft manually. The loiter points will be defined through the stakeholder engagement process to minimise disruption.

Why are we contacting you?

During the planning of this airspace change we have identified a number of members of the aviation community that can be affected or might have interest in this airspace change, and we believe you (or the organization you represent) fall into this group.

You have been contacted as part of a Stakeholder Engagement Strategy intended to:

- ensure the safety and operational viability of the project,
- keep you informed of any changes to the ACP-2022-049 and ACP-2022-51,
- make sure that the principles of design and the proposed TDA will not have a harmful impact on other aviation activities, and
- develop deconfliction procedures with selected agencies to preserve adequate separation between the Uncrewed Aircraft and other frequent airspace users.

Windracers will provide a channel of communications to receive feedback or complaints from all stakeholders and general public during the period of implementation of the TDAs. All queries received will be informed to the CAA and action will be taken where necessary to reduce the impact of this Airspace Change.

We are requesting all stakeholders to participate in this Engagement Strategy so that we can identify and manage the risks of the operation. If you do not wish to be contacted again regarding ACP-2022-049 and ACP-2022-051 please get in touch at <u>operations@windracers.org</u>.

How to Submit Your Feedback

You can submit your feedback about ACP-2022-049 and ACP-2022-51 by email to <u>operations@windracers.org</u>.

Please remember to submit your feedback as soon as possible to allow us the maximum time to discuss any changes needed to ensure the operations are safe, viable, and minimise the impact on stakeholders.

The first round of stakeholder engagement for both ACPs will finish at **17:00 on Monday 23rd of January 2023**.

If you have any queries, please do not hesitate to contact us. We look forward to hearing from you.

Yours Faithfully,

Windracers Ltd - ACP-2022-049 Summary of Stakeholder Engagement V7.1

Appendix E – Follow-Up Communications Second Engagement Letter





ACP-2022-049 and ACP-2022-051

TDAs to enable BVLOS demonstration of Cargo UAV across the Orkney and Shetland Islands

Continued Engagement with Aviation Stakeholders

Dear Stakeholder,

We are getting in contact with you as a valued member of the aviation community to kindly request your feedback to the Temporary Airspace Change Proposals ACP-2022-049 and ACP-2022-051. This is an update to our original engagement from December. We have taken on board all responses and continue to ask for any further feedback.

These ACPs aim to establish Temporary Danger Areas (TDAs) during notified periods as part of the SATE 2 Project. The TDAs will enable the delivery of middle mile logistics and mail transport using Uncrewed Aircraft Systems (UAS) across the Orkney and Shetland Islands. These two ACPs will run independently in separate phases.

Changes since initial engagement:

- TDAs encompass the airspace over airfields with no active ATZ.
- Westray has been added to Phase 1: Orkney Operations.
- A schedule for Phase 1: Orkney Operations has been proposed.
- Activation period for Phase 1: Orkney Operations has changed.

ACP Design

Design Criteria

The following requirements have been identified:

- UAS route altitude to be as low as possible, without affecting performance of communication and navigation systems.
- The TDA should be provided with Air Traffic Services (ATS) that allow other airspace users to get information of the activity within the TDA and cross the airspace when possible.
- The UAS is to be equipped with electronic and visual conspicuity aids.
- Availability of multiple ways of contacting the UAS crew during operation.
- Availability of ways of contacting the TDA Sponsor during the ACP implementation.
- TDA activated via NOTAM at least 24 hours in advance of the activity.
- Regular assessment of live impact of the operations.

Temporary Danger Area Geometry

The proposed TDAs will be of a width of 1.73 NM in accordance with our minimum operational volume and safety buffer. Proposed height is SFC to 2500.



Figure 1 Proposed TDA Geometry - Phase 1: Orkney Islands ACP-2022-049

Windracers Ltd - ACP-2022-049 Summary of Stakeholder Engagement V7.1



Figure 2 Proposed TDA Geometry - Phase 2: Shetland Islands ACP-2022-51

Operating Procedures

Operation Schedule

ACP-2022-049 (Orkney Islands)

TDA Segment	Route	Altitude	Activation Period
TDA - A	Kirkwall - Eday		
TDA - B	Kirkwall - Papa		
	Westray - Westray	1000 ft AMSL	05/06/23 - 11/08/23
TDA - C	Kirkwall - North		
	Ronaldsay		

Table 2 Phase 1: TDAs

KIRKWALL - EDAY - NORTH RONALDSAY - WESTRAY - PAPA WESTRAY						
TDA		Monday	Tuesday	Wednesday	Thursday	Friday
ACTIVATIO	DN	11:00-15:00	10:45-15:50	10:30-	10:20-14:45	10:20-14:40
				13:15		
KIRKWALL	Dep	11:05 13:15	10:45 13:35	10:45	10:20 12:35	10:20 12:35
EDAY	Arr	11:20 13:30	11:00 13:50	11:00	10:35 12:50	10:35 12:50
EDAY	Dep	11:35 13:45	11:25 14:10	11:25	10:50 13:05	10:50 13:05
NORTH	Arr	11:50 14:00		11:40		11:05 13:20
RONALDSAY						
NORTH	Dep	12:25 14:20		12:20		11:25 13:40
RONALDSAY						
PAPA	Arr		11:40 14:20		11:05 13:20	
WESTRAY						
PAPA	Dep		12:20 14:45		11:25 13:40	
WESTRAY						
WESTRAY	Arr		12:25 14:50		11:30 13:45	
WESTRAY	Dep		12:45 15:10		11:50 14:05	
KIRKWALL	Arr	12:55 14:50	13:25 15:50	12:55	12:30 14:45	11:55 14:10

Table 3 Phase 1: proposed scheduling

Please note that this is the proposed schedule and there is scope for this to change depending on demand and deconfliction. Any changes will be notified and coordinated with Kirkwall ATC and airspace users. Changes to scheduling will be communicated, at a minimum, at least a week in advance. All flights and TDA activations will be notified through NOTAMs.

ACP-2022-051 (Shetland Islands)

TDA Segment	Route	Altitude	Activation Period		
TDA - D	Kirkwall - Fair Isle				
TDA - E	Kirkwall - Foula		11/00/22 17/11/22		
TDA - F	Kirkwall - Tingwall	1000 ft AMSL	11/09/23 - 17/11/23		
TDA - G	Kirkwall - Unst				
Table 4 Obase 2: TDAs					

Table 4 Phase 2: TDAs

ACP-2022-051 scheduling will be confirmed closer to the activation period with live stakeholder engagement carried out during the Orkney operations.

Deconfliction

ULTRA UAS is equipped with ADSB-in/out and a Mode S transponder for electronic conspicuity and will therefore be visible on FlightRadar24, PlaneFinder and SkyDemon etc.

The aircraft is also visually conspicuous, with a 10m wingspan and provided with position and navigation lights. Details on how to contact the flight crew for position reports will be circulated prior to operations.

Failsafe Mechanisms

The ULTRA UAS incorporates multiple failsafe mechanisms along with dual redundant systems. Should a communications issue occur the UAS will navigate to the closest 'return route'. This is a pre-programmed route with defined waypoints that will take the aircraft into VLOS range without leaving the defined TDA. The aircraft will then loiter in place until the Safety Pilot takes control and recovers the aircraft manually.

Holding Locations

Holding locations are pre-defined points the UAS can be directed to on the request of ATC due to an emergency or as a holding point to allow manned aircraft to land. Standard Windracers procedures place them 2.5 NM out of the airfield over minimally populated areas to reduce disruption.

NOTE: The aircraft also has pre-programmed rally points that are within 1000 ft of the airfield. These will only come into effect during an emergency loss of communications. ATC will be notified following the Aviate, Navigate, Communicate chain. When within VLOS the Safety Pilot will take control and manually land the aircraft.

Phase 1:



Figure 3 Orkney Holding Points

Phase 2:



Figure 4 Shetland Holding Points

Why are we contacting you?

During the planning of this airspace change we have identified a number of members of the aviation community that can be affected or might have interest in this airspace change, and we believe you (or the organization you represent) fall into this group.

You have been contacted as part of a Stakeholder Engagement Strategy intended to:

- ensure the safety and operational viability of the project,
- keep you informed of any changes to the ACP-2022-049 and ACP-2022-51,
- make sure that the principles of design and the proposed TDA will not have a harmful impact on other aviation activities, and
- develop deconfliction procedures with selected agencies to preserve adequate separation between the Uncrewed Aircraft and other frequent airspace users.

Windracers will provide a channel of communications to receive feedback or complaints from all stakeholders and general public during the period of implementation of the TDAs. All queries received will be informed to the CAA and action will be taken where necessary to reduce the impact of this Airspace Change.

We are requesting all stakeholders to participate in this Engagement Strategy so that we can identify and manage the risks of the operation. If you do not wish to be contacted again regarding ACP-2022-049 and ACP-2022-051 please get in touch at <u>operations@windracers.org</u>.

How to Submit Your Feedback

You can submit your feedback about ACP-2022-049 and ACP-2022-51 by email to <u>operations@windracers.org</u>.

Please remember to submit your feedback as soon as possible to allow us the maximum time to discuss any changes needed to ensure the operations are safe, viable, and minimise the impact on stakeholders.

Stakeholder engagement for ACP-2022-049 will finish at **17:00 on Monday 27th of February 2023.**

If you have any queries, please do not hesitate to contact us. We look forward to hearing from you.

Yours Faithfully,

Wider Engagement Letter





ACP-2022-049 and ACP-2022-051

TDAs to enable BVLOS demonstration of Cargo UAV across the Orkney and Shetland Islands

Engagement with Aviation Stakeholders

Dear Stakeholder,

We are getting in contact with you as a valued member of the aviation community to kindly request your feedback to the Temporary Airspace Change Proposals ACP-2022-049 and ACP-2022-051. We take on board all responses and appreciate any feedback received.

These ACPs aim to establish Temporary Danger Areas (TDAs) during notified periods as part of the SATE 2 Project. The TDAs will enable the delivery of middle mile logistics and mail transport using Uncrewed Aircraft Systems (UAS) across the Orkney and Shetland Islands. These two ACPs will run independently in separate phases.

ACP Design

Design Criteria

The following requirements have been identified:

- UAS route altitude to be as low as possible, without affecting performance of communication and navigation systems.
- The TDA should be provided with Air Traffic Services (ATS) that allow other airspace users to get information of the activity within the TDA and cross the airspace when possible.
- The UAS is to be equipped with electronic and visual conspicuity aids.
- Availability of multiple ways of contacting the UAS crew during operation.
- Availability of ways of contacting the TDA Sponsor during the ACP implementation.
- TDA activated via NOTAM at least 24 hours in advance of the activity.
- Regular assessment of live impact of the operations.

Temporary Danger Area Geometry

The proposed TDAs will be of a width of 1.73 NM in accordance with our minimum operational volume and safety buffer. Proposed height is SFC to 2500.


Windracers Ltd - ACP-2022-049 Summary of Stakeholder Engagement V7.1

> Unst Tingwall Foula Fair Isle Kirkwall



Figure 2 Proposed TDA Geometry - Phase 2: Shetland Islands ACP-2022-51

Operating Procedures

Operation Schedule

ACP-2022-049 (Orkney Islands)

TDA Segment	Route	Altitude	Activation Period
TDA - A	Kirkwall - Eday		
TDA - B	Kirkwall - Papa		
	Westray - Westray	1000 ft AMSL	05/06/23 - 11/08/23
TDA - C	Kirkwall - North		
	Ronaldsay		

Table 2 Phase 1: TDAs

KIRKWALL - EDAY - NORTH RONALDSAY - WESTRAY - PAPA WESTRAY						
TDA		Monday	Tuesday	Wednesday	Thursday	Friday
ACTIVATIO	DN	11:00-15:00	10:45-15:50	10:30-	10:20-14:45	10:20-14:40
				13:15		
KIRKWALL	Dep	11:05 13:15	10:45 13:35	10:45	10:20 12:35	10:20 12:35
EDAY	Arr	11:20 13:30	11:00 13:50	11:00	10:35 12:50	10:35 12:50
EDAY	Dep	11:35 13:45	11:25 14:10	11:25	10:50 13:05	10:50 13:05
NORTH	Arr	11:50 14:00		11:40		11:05 13:20
RONALDSAY						
NORTH	Dep	12:25 14:20		12:20		11:25 13:40
RONALDSAY						
PAPA	Arr		11:40 14:20		11:05 13:20	
WESTRAY						
PAPA	Dep		12:20 14:45		11:25 13:40	
WESTRAY						
WESTRAY	Arr		12:25 14:50		11:30 13:45	
WESTRAY	Dep		12:45 15:10		11:50 14:05	
KIRKWALL	Arr	12:55 14:50	13:25 15:50	12:55	12:30 14:45	11:55 14:10

Table 3 Phase 1: Proposed scheduling

Please note that this is the proposed schedule and there is scope for this to change depending on demand and deconfliction. Any changes will be notified and coordinated with Kirkwall ATC and airspace users. Changes to scheduling will be communicated, at a minimum, at lest a week in advance. All flights and TDA activations will be notified through NOTAMs.

ACP-2022-051 (Shetland Islands)

TDA Segment	Route	Altitude	Activation Period		
TDA - D	Kirkwall - Fair Isle				
TDA - E	Kirkwall - Foula	1000 ft AMSL	11/09/23 - 17/11/23		
TDA - F	Kirkwall - Tingwall	TUUU TE AMSE	11/09/23 - 17/11/23		
TDA - G	Kirkwall - Unst				
Table 4 Phase 2: TDAs					

ACP-2022-051 scheduling will be confirmed closer to the activation period with live stakeholder engagement carried out during the Orkney operations.

Deconfliction

ULTRA UAS is equipped with ADSB-in/out and a Mode S transponder for electronic conspicuity and will therefore be visible on FlightRadar24, PlaneFinder and SkyDemon etc. The aircraft is also visually conspicuous, with a 10m wingspan and provided with position

and navigation lights. Details on how to contact the flight crew for position reports will be circulated prior to operations.

Failsafe Mechanisms

The ULTRA UAS incorporates multiple failsafe mechanisms along with dual redundant systems. Should a communications issue occur the UAS will navigate to the closest 'return route'. This is a pre-programmed route with defined waypoints that will take the aircraft into VLOS range without leaving the defined TDA. The aircraft will then loiter in place until the Safety Pilot takes control and recovers the aircraft manually.

Holding Locations

Holding locations are pre-defined points the UAS can be directed to on the request of ATC due to an emergency or as a holding point to allow manned aircraft to land. Standard Windracers procedures place them 2.5 NM out of the airfield over minimally populated areas to reduce disruption.

NOTE: The aircraft also has pre-programmed rally points that are within 1000 ft of the airfield. These will only come into effect during an emergency loss of communications. ATC will be notified following the Aviate, Navigate, Communicate chain. When within VLOS the Safety Pilot will take control and manually land the aircraft.

Phase 1:



Figure 3 Orkney Holding Points

Phase 2:



Figure 4 Shetland Holding Points

Why are we contacting you?

During the planning of this airspace change we have identified a number of members of the aviation community that can be affected or might have interest in this airspace change, and we believe you (or the organization you represent) fall into this group.

You have been contacted as part of a Stakeholder Engagement Strategy intended to:

- ensure the safety and operational viability of the project,
- keep you informed of any changes to the ACP-2022-049 and ACP-2022-51,
- make sure that the principles of design and the proposed TDA will not have a harmful impact on other aviation activities, and
- develop deconfliction procedures with selected agencies to preserve adequate separation between the Uncrewed Aircraft and other frequent airspace users.

Windracers will provide a channel of communications to receive feedback or complaints from all stakeholders and general public during the period of implementation of the TDAs. All queries received will be informed to the CAA and action will be taken where necessary to reduce the impact of this Airspace Change.

We are requesting all stakeholders to participate in this Engagement Strategy so that we can identify and manage the risks of the operation. If you do not wish to be contacted again regarding ACP-2022-049 and ACP-2022-051 please get in touch at <u>operations@windracers.org</u>.

How to Submit Your Feedback

You can submit your feedback about ACP-2022-049 and ACP-2022-51 by email to <u>operations@windracers.org</u>.

Please remember to submit your feedback as soon as possible to allow us the maximum time to discuss any changes needed to ensure the operations are safe, viable, and minimise the impact on stakeholders.

Stakeholder engagement for ACP-2022-049 will finish at **17:00 on Monday 27th of February 2023.**

If you have any queries, please do not hesitate to contact us. We look forward to hearing from you.

Yours Faithfully,

Tertiary Engagement Letter





ACP-2022-049 and ACP-2022-051

TDAs to enable BVLOS demonstration of Cargo UAV across the Orkney and Shetland Islands

Engagement with Aviation Stakeholders

Dear Stakeholder,

We are getting in contact with you as a valued member of the aviation community to kindly request your feedback to the Temporary Airspace Change Proposals ACP-2022-049 and ACP-2022-051. We take on board all responses and appreciate any feedback received.

These ACPs aim to establish Temporary Danger Areas (TDAs) during notified periods as part of the SATE 2 Project. The TDAs will enable the delivery of middle mile logistics and mail transport using Uncrewed Aircraft Systems (UAS) across the Orkney and Shetland Islands. These two ACPs will run independently in separate phases.

This letter is part of the formal stakeholder engagement process submitted to the CAA. We have taken on board the feedback from our previous rounds of engagement from both stakeholders and the CAA. The updates can be seen below:

Update to geometry

- TDA-A now extends into Kirkwall ATZ from Eday airport.

Update to timetable

- ACP-2022-049 will run 3rd of July to the 25th of August.
- ACP-2022-051 timetable not changed.

Loiter Points

- Clarity provided on planned loiter point positions.

Temporary Danger Area Geometry

The proposed dimensions of the TDAs are 1.73 nautical miles in diameter and surface to 2500ft.



Figure 1 Proposed TDA Geometry - Phase 1: Orkney Islands ACP-2022-049



Figure 2 Proposed TDA Geometry - Phase 2: Shetland Islands ACP-2022-51

Operating Procedures

Operation Schedule

ACP-2022-049 (Orkney Islands)

TDA Segment	Route	Altitude	Activation Period
TDA - A	Kirkwall - Eday	1000 ft AMSL	03/07/23 - 25/08/23
TDA - B	Kirkwall - Papa		
	Westray - Westray		
TDA - C	Kirkwall - North		
	Ronaldsay		

Table 1 Phase 1: TDAs

KIR	KIRKWALL - EDAY - NORTH RONALDSAY - WESTRAY - PAPA WESTRAY					
TDA		Monday	Tuesday	Wednesday	Thursday	Friday
ACTIVATIO	NC	11:00-	10:30-	10:30-	10:20-	10:25-13:30
		15:30	14:05	13:30	13:25	
KIRKWALL	Dep	11:30	11:00	10:55	10:50	10:55
		13:45				
EDAY	Arr	11:45	11:15	11:10	11:05	11:10
EDAY	Dep	12:00	11:40	11:35	11:20	11:35
NORTH	Arr	12:15		11:50		11:50
RONALDSAY		14:10				
NORTH	Dep	12:50		12:30		12:30
RONALDSAY		14:30				
PAPA	Arr		11:55		11:35	
WESTRAY						
PAPA	Dep		12:35		11:55	
WESTRAY						
WESTRAY	Arr		12:40		12:00	
WESTRAY	Dep		12:55		12:20	
KIRKWALL	Arr	13:20	13:35	13:00	12:55	13:00
		15:00				

Table 3 Phase 1: Proposed scheduling

Please note that this is the proposed schedule and there is scope for this to change depending on demand and deconfliction. Any changes will be notified and coordinated with Kirkwall ATC and airspace users. Changes to scheduling will be communicated, at a minimum, at lest a week in advance. All flights and TDA activations will be notified through NOTAM.

ACP-2022-051 (Shetland Islands)

TDA Segment	Route	Altitude	Activation Period
TDA - A	Kirkwall - Eday		
TDA - D	Eday - TDA-E		
TDA - E	TDA-D - TDA-F		
TDA - F	TDA-E - Tingwall	1500 ft AMSL	11/09/23 - 17/11/23
TDA - G	TDA-F - Foula		
TDA - H	TDA-E - Fair Isle		
TDA - I	Tingwall - Unst		

Table 4 Phase 2: TDAs

ACP-2022-051 scheduling will be confirmed closer to the activation period with live stakeholder engagement carried out during the Orkney operations.

Deconfliction

ULTRA UAS is equipped with ADSB-in/out and a Mode S transponder for electronic conspicuity. The aircraft is also visually conspicuous, with a 10m wingspan and provided with position and navigation lights. Details on how to contact the flight crew for position reports will be circulated prior to operations.

Failsafe Mechanisms

The ULTRA UAS incorporates multiple failsafe mechanisms along with dual redundant systems. Should a communications issue occur the UAS will navigate to the closest 'return route'. This is a pre-programmed route with defined waypoints that will take the aircraft into VLOS range without leaving the defined TDA. The aircraft will then loiter in place until the Safety Pilot takes control and recovers the aircraft manually.

Holding Locations

Holding locations are pre-defined points the UAS can be directed to on the request of ATC, due to an emergency or as a holding point to allow manned aircraft to land. Standard Windracers procedures place them over water.

NOTE: The aircraft also has pre-programmed rally points that are within 1000 ft of the airfield. These will only come into effect during an emergency loss of communications. ATC will be notified following the Aviate, Navigate, Communicate chain. When within VLOS the Safety Pilot will take control and manually land the aircraft.

Phase 1:



Figure 3 Orkney Holding Points

Phase 2:



Figure 4 Shetland Holding Points

Why are we contacting you?

During the planning of this airspace change we have identified a number of members of the aviation community that can be affected or might have interest in this airspace change, and we believe you (or the organization you represent) fall into this group.

You have been contacted as part of a Stakeholder Engagement Strategy intended to:

- ensure the safety and operational viability of the project,
- keep you informed of any changes to the ACP-2022-049 and ACP-2022-51,
- make sure that the principles of design and the proposed TDA will not have a harmful impact on other aviation activities, and
- develop deconfliction procedures with selected agencies to preserve adequate separation between the Uncrewed Aircraft and other frequent airspace users.

Windracers will provide a channel of communications to receive feedback or complaints from all stakeholders and general public during the period of implementation of the TDAs. All queries received will be informed to the CAA and action will be taken where necessary to reduce the impact of this Airspace Change.

We are requesting all stakeholders to participate in this Engagement Strategy so that we can identify and manage the risks of the operation. If you do not wish to be contacted again regarding ACP-2022-049 and ACP-2022-051 please get in touch at <u>operations@windracers.org</u>.

How to Submit Your Feedback

You can submit your feedback about ACP-2022-049 and ACP-2022-51 by email to <u>operations@windracers.org</u>.

Please remember to submit your feedback as soon as possible to allow us the maximum time to discuss any changes needed to ensure the operations are safe, viable, and minimise the impact on stakeholders.

Stakeholder engagement for ACP-2022-051 will finish at **17:00 on Monday 29th of May 2023.**

If you have any queries, please do not hesitate to contact us. We look forward to hearing from you.

Yours Faithfully,

Update Engagement Letter





ACP-2022-049

TDAs to enable BVLOS demonstration of Cargo UAV across the Orkney Islands

Engagement with Aviation Stakeholders

Dear Stakeholder,

We are getting in contact with you as a valued member of the aviation community to update you on the Temporary Airspace Change Proposal ACP-2022-049. We take on board all responses and appreciate any feedback received.

This ACP aims to establish Temporary Danger Areas (TDAs) during notified periods as part of the SATE 2 Project. The TDAs will enable the delivery of middle mile logistics and mail transport using Uncrewed Aircraft Systems (UAS) across the Orkney Islands.

This letter is part of the formal stakeholder engagement process submitted to the CAA. We have taken on board the feedback from our previous rounds of engagement from both stakeholders and the CAA, this is reflected within this and previous letters of engagement. This update is to inform you of the timeline change to operate between **November 16th and December 22nd, 2023.**

Temporary Danger Area Geometry

The proposed dimensions of the TDAs are 1.73 nautical miles in diameter and surface to 2500ft.



Figure 1 Proposed TDA Geometry - Phase 1: Orkney Islands ACP-2022-049

Operating Procedures

Operation Schedule

ACP-2022-049 (Orkney Islands)

TDA Segment	Route	Altitude	Activation Period
TDA - A	Kirkwall - Eday	1000 ft AMSL	16/11/23 - 22/12/23
TDA - B	Kirkwall - Papa		
	Westray - Westray		
TDA - C	Kirkwall - North		
	Ronaldsay		

Table 1 Phase 1: TDAs

KIR	KIRKWALL - EDAY - NORTH RONALDSAY - WESTRAY - PAPA WESTRAY					
TDA		Monday	Tuesday	Wednesday	Thursday	Friday
ACTIVATIO	NC	11:00-	10:30-	10:30-	10:20-	10:25-13:30
		15:30	14:05	13:30	13:25	
KIRKWALL	Dep	11:30	11:00	10:55	10:50	10:55
		13:45				
EDAY	Arr	11:45	11:15	11:10	11:05	11:10
EDAY	Dep	12:00	11:40	11:35	11:20	11:35
NORTH	Arr	12:15		11:50		11:50
RONALDSAY		14:10				
NORTH	Dep	12:50		12:30		12:30
RONALDSAY		14:30				
PAPA	Arr		11:55		11:35	
WESTRAY						
PAPA	Dep		12:35		11:55	
WESTRAY						
WESTRAY	Arr		12:40		12:00	
WESTRAY	Dep		12:55		12:20	
KIRKWALL	Arr	13:20	13:35	13:00	12:55	13:00
		15:00				

Table 2 Phase 1: Proposed scheduling

Please note that this is the proposed schedule and there is scope for this to change depending on demand and deconfliction. Any changes will be notified and coordinated with Kirkwall ATC and airspace users. Changes to scheduling will be communicated, at a minimum, at lest a week in advance. All flights and TDA activations will be notified through NOTAM.

Deconfliction

ULTRA UAS is equipped with ADSB-in/out and a Mode S transponder for electronic conspicuity. The aircraft is also visually conspicuous, with a 10m wingspan and provided with position and navigation lights. Details on how to contact the flight crew for position reports will be circulated prior to operations.

Failsafe Mechanisms

The ULTRA UAS incorporates multiple failsafe mechanisms along with dual redundant systems. Should a communications issue occur the UAS will navigate to the closest 'return route'. This is a pre-programmed route with defined waypoints that will take the aircraft into VLOS range without leaving the defined TDA. The aircraft will then loiter in place until the Safety Pilot takes control and recovers the aircraft manually.

Holding Locations

Holding locations are pre-defined points the UAS can be directed to on the request of ATC, due to an emergency or as a holding point to allow manned aircraft to land. Standard Windracers procedures place them over water.

NOTE: The aircraft also has pre-programmed rally points that are within 1000 ft of the airfield. These will only come into effect during an emergency loss of communications. ATC will be notified following the Aviate, Navigate, Communicate chain. When within VLOS the Safety Pilot will take control and manually land the aircraft.



Figure 2 Orkney Holding Points

Why are we contacting you?

During the planning of this airspace change we have identified a number of members of the aviation community that can be affected or might have interest in this airspace change, and we believe you (or the organization you represent) fall into this group.

You have been contacted as part of a Stakeholder Engagement Strategy intended to:

- ensure the safety and operational viability of the project,
- keep you informed of any changes to the ACP-2022-049,
- make sure that the principles of design and the proposed TDA will not have a harmful impact on other aviation activities, and
- develop deconfliction procedures with selected agencies to preserve adequate separation between the Uncrewed Aircraft and other frequent airspace users.

Windracers will provide a channel of communications to receive feedback or complaints from all stakeholders and the public during the period of implementation of the TDAs. All queries received will be informed to the CAA and action will be taken where necessary to reduce the impact of this Airspace Change.

We are requesting all stakeholders to participate in this Engagement Strategy so that we can identify and manage the risks of the operation. If you do not wish to be contacted again regarding ACP-2022-049 please get in touch at <u>operations@windracers.org</u>.

How to Submit Your Feedback

You can submit your feedback about ACP-2022-049 by email to <u>operations@windracers.org</u>.

Please remember to submit your feedback as soon as possible to allow us the maximum time to discuss any changes needed to ensure the operations are safe, viable, and minimise the impact on stakeholders.

If you have any queries, please do not hesitate to contact us. We look forward to hearing from you.

Yours Faithfully,

Quaternary Engagement





ACP-2022-049 and ACP-2022-051

TDAs to enable BVLOS demonstration of Cargo UAV across the Orkney Islands

Engagement with Aviation Stakeholders

Dear Stakeholder,

We are getting in contact with you as a valued member of the aviation community to update you on the Temporary Airspace Change Proposal ACP-2022-049. We take on board all responses and appreciate any feedback received.

This ACP aims to establish Temporary Danger Areas (TDAs) during notified periods as part of the SATE 2 Project. The TDAs will enable the delivery of middle mile logistics and mail transport using Uncrewed Aircraft Systems (UAS) across the Orkney Islands.

This letter is part of the formal stakeholder engagement process submitted to the CAA. We would like to thank you for your patience during this Airspace Change Process. Our team has been working hard to ensure that everyone's requirements are considered, and impacts are minimalised where possible. All feedback received has been greatly appreciated and is reflected within the changes detailed in this letter of engagement.

Based on the feedback received from the aviation community, the following changes have been made to the ACP:

Geometry

- Kirkwall Airport has been removed from the list of operating locations,
- TDA-A is being removed from the list of TDAs as a result of no longer operating from Kirkwall,
- Eday Airport has been named the new Hub location,

Timetable

• CAP-2022-049 will be active between May 13th and August 2nd, 2024.

1. CAP-2022-049 timetable has been updated, Contact details

• Please use <u>contact.operations@windracers.com</u> for future correspondence.

Temporary Danger Area Geometry

The proposed dimensions of the TDAs are 1.73 nautical miles in diameter, from surface up to 2500ft.



Figure 1 Proposed TDA Geometry - Phase 1: Orkney Islands ACP-2022-049

Operation Schedule

ACP-2022-049 (Orkney Islands)

TDA Segment	Route	Altitude	Activation Period
TDA - B	Eday - North Ronaldsay		
TDA - C	Eday - Papa Westray - Westray	1000 ft AMSL	13/05/2024 - 02/08/2024

Table 1 Phase 1: TDAs

TDA		Monday	Tuesday	Wednesday	Thursday	Friday
ACTIVATION		11:30- 15:00	09:30- 15:00	10:00- 15:00	10:00- 15:00	10:25 13:30
EDAY	Dep	12:30	10:40	11:35	11:20	11:35
NORTH	A	12:45		44.50		11.50
RONALDSAY	Arr	12:45		11:50		11:50
NORTH	Der	12.20		12.20		42.20
RONALDSAY	Dep	13:20		12:30		12:30
PAPA WESTRAY	Arr		10:55		11:35	
PAPA WESTRAY	Dep		11:35		11:55	
WESTRAY	Arr		11:40		12:00	
WESTRAY	Dep		11:55		13:30	
EDAY	Arr	13:40	12:15	12:50	13:50	12:50

Table 2 Phase 1: Proposed scheduling

Please note that this is the proposed schedule and there is scope for this to change depending on demand and deconfliction. Any changes will be notified and coordinated with Kirkwall ATC and airspace users. Changes to scheduling will be communicated, at a minimum, at least a week in advance.

All flights and TDA activations will be notified through NOTAM.

Deconfliction

ULTRA UAS is equipped with ADSB-in/out and a Mode S transponder for electronic conspicuity. The aircraft is also visually conspicuous, with a 10m wingspan and provided

with position and navigation lights. Details on how to contact the flight crew for position reports will be circulated prior to operations.

Failsafe Mechanisms

The ULTRA UAS incorporates multiple failsafe mechanisms along with dual redundant systems. Should a communications issue occur the UAS will navigate to the closest 'return route'. This is a pre-programmed route with defined waypoints that will take the aircraft into VLOS range without leaving the defined TDA. The aircraft will then loiter in place until the Safety Pilot takes control and recovers the aircraft manually.

Holding Locations

Holding locations (Figure 2) are pre-defined points the UAS can be directed to on the request of ATC, due to an emergency or as a holding point to allow crewed aircraft to land. Standard Windracers procedures place them over water.

NOTE: The aircraft also has pre-programmed rally points that are within 1000 ft of the airfield. These will only come into effect during an emergency loss of communications. ATC will be notified following the Aviate, Navigate, Communicate chain. When within VLOS the Safety Pilot will take control and manually land the aircraft.



Figure 2 Blue Markers Show Orkney Holding Points

Why are we contacting you?

During the planning of this airspace change we have identified a number of members of the aviation community that can be affected or might have interest in this airspace change, and we believe you (or the organization you represent) fall into this group.

You have been contacted as part of a Stakeholder Engagement Strategy intended to:

- ensure the safety and operational viability of the project,
- keep you informed of any changes to the ACP-2022-049,
- make sure that the principles of design and the proposed TDA will not have a harmful impact on other aviation activities, and
- develop deconfliction procedures with selected agencies to preserve adequate separation between the Uncrewed Aircraft and other frequent airspace users.

Windracers will provide a channel of communications to receive feedback or complaints from all stakeholders and the public during the period of implementation of the TDAs. All queries received will be informed to the CAA and action will be taken where necessary to reduce the impact of this Airspace Change.

We are requesting all stakeholders to participate in this Engagement Strategy so that we can identify and manage the risks of the operation. If you do not wish to be contacted again regarding ACP-2022-049 please get in touch at <u>contact.operations@windracers.com</u>.

How to Submit Your Feedback

You can submit your feedback about ACP-2022-049 by email to <u>contact.operations@windracers.com</u>.

Please remember to submit your feedback as soon as possible to allow us the maximum time to discuss any changes needed to ensure the operations are safe, viable, and minimise the impact on stakeholders.

Stakeholder engagement for ACP-2022-049 will finish at 17:00 Thursday 21st of March 2024.

If you have any queries, please do not hesitate to contact us. We look forward to hearing from you.

Yours Faithfully,

Appendix F – Engagement Evidence Initial Engagement Email

Windracers Ltd ACP-2022-049 and 051 - Request for Feedback			
Operations	S Reply	Reply All	→ Forward 🚺 ····
			Wed 07/12/2022 17:14
UAS Operations in the Orkney and Shetland Islands (049-051).pdf 🗸			

I hope this email finds you well. I am reaching out to you as part of the stakeholder engagement for two Temporary Airspace Change Proposals for ongoing projects in the SATE 2 initiative. Windracers are proposing 2 phases of Temporary Danger Areas (TDAs) to form a trial network of cargo UAV routes with the aim of providing regular service to the Orkney and Shetland Islands.

The initial phase (ACP-2022-049) proposes to cover the Orkney Islands forming a network between Kirkwall, Eday, North Ronaldsay and Papa Westray. The Shetland Islands phase (ACP-2022-051) would provide a link between Kirkwall and Tingwall as well as Unst, Fair Isle and Foula.

I have attached our stakeholder engagement letter which covers details of the ACPs including timelines and geometry. Please do contact us if you have any questions or feedback related to these ACPs, note that the first round of stakeholder engagement ends on the 23rd of January.

It would also be great to have a conversation with the team about deconfliction and the ACPs. It may be best to have a teams call about this or, if you'd prefer to meet in person, we will be in the area in the week beginning 23rd of January.

Best regards,



Dear Airspace Stakeholder,

I am writing today to kindly request your feedback to the Temporary Airspace Change Proposals: ACP-2022-049 and ACP-2022-051.

The two projects aim to form a network of Temporary Danger Areas (TDAs) connecting the Orkney Islands in Phase One (ACP-2022-049) and the Shetland Islands in Phase Two (ACP-2022-051) to provide middle mile UAS delivery and supplement current supply chains.

The letter attached contains details of the project, proposed operations, and how to provide feedback for these temporary airspace changes.

Should you have any questions, please reply to this email.

Kind regards,

Initial Engagement Responses F.1 Baltasound Airport (Unst)

Can I suggest we have a call to discuss. We have our own ACP in for space launch and should make sure we are all deconflicted. Regarding operations from Unst, we can also discuss. Let me know when would be possible.

Kind Regards



Thanks for the e mail and info. We'd love to support the activity if at all possible. The slight complication is the airfield is currently dual use for our customers engine tests. Depending on times, dates and frequency I'd say it's a safe bet there will need to be a good element of coordination.

That being said, please feel free to get in touch with me when you can, and we can start working on a plan.

I look forward to chatting.

All the best, thanks

Meeting held 14/12/2022 - Details in Appendix C

Windracers Ltd - ACP-2022-049 Summary of Stakeholder Engagement V7.1

CONFIDENTIAL

F.2 NHV
RE: Windracers Ltd ACP-2022-049 and 051 - Request for Feedback
Hello
So that I don't have to go and find the ACPs, could you give me the vertical extent of the proposed TDA for the Shetland ACP? Unless I have missed it, I can only see the width.
Kind regards,
YEARS WWW.nhv.bs
RE: Windracers Ltd ACP-2022-049 and 051 - Request for Feedback \bigcirc Reply \bigotimes Reply All \rightarrow Forward \bigcirc Fi 09/12/2022 08:57
Thank you for your email. The vertical limits of the TDAs will be decided over the course of our stakeholder engagement. This will depend on data we collect on popular flying routes and the input of those operating in the airspace. In previous operations in the area the TDA vertical limits were SFC-1500ft. This may change for these ACPs depending on the feedback we receive prior to implementation.
F.3 DAATM
RE: Temporary Airspace Change Proposals - ACP-2022-049 and 051 - Request for Feedback See by See Proverd II - Forward II
Good morning
Please can you confirm the likely altitude/level that the proposed TDAs would likely be required to? A ballpark number would suffice at this stage, thanks.
Best regards,
RE: Temporary Airspace Change Proposals - ACP-2022-049 and 051 - Request for Feedback \bigcirc Reply \bigcirc Reply All \rightarrow Forward 1 - Fri 09/12/2022 11:20
Good morning
The vertical limits of the TDAs will be decided over the course of our stakeholder engagement. This will depend on data we collect on popular flying routes and the input of those operating in the airspace. The altitudes are likely to be similar to previous operations in the area where the TDA vertical limits were SFC-1500ft. This may change for these ACPs depending on the feedback we receive prior to implementation.
Best regards,
RE: Temporary Airspace Change Proposals - ACP-2022-049 and 051 - Request for Feedback Seeply Seeply All Forward Fri 09/12/2022 15:21.
Thank you. I will engage the MOD airspace user community and provide a response NLT 22 Jan 23 but hopefully sooner.

Best regards,

RE: Temporary Airspace Change Proposals - ACP-2022-049 and 051 - Request for Feedback → Reply → Reply All → Forward II ···· Fri 20/01/2023 10:22 Tou replied to this message on 25/01/2023 14:35.

Good morning

Having engaged with MOD airspace users, I can confirm that the TDAs proposed through ACP-2022-049 and ACP-2022-051 will likely haver minimal impact on MOD activities.

Thank you for you engagement during the CAP1616 process.

Best regards,

F.4 Kirkwall ATC

Windracer Kirkwall Flights			
	Seply	所 Reply All	→ Forward 📑 ····
			Tue 13/12/2022 12:06
(i) You replied to this message on 13/12/2022 13:45. This message was sent with High importance.			
ні			
I have no comments on the engagement letter at this time. However I am very interested in seeing or having information on the following as soon as possib	le:		
The CONOPS.			
Flight schedule.			

- Number of UASs to be used: multiple flights?
- Do the UAS pilots have PPLs?

Kirkwall has the experience of the SATE1 project to draw on. But it is extremely important that we receive as much lead in time as possible

Regards

RE: Windracer Kirkwall Flights				
	S Reply	🤲 Reply All	→ Forward 📑 ····	
			Tue 13/12/2022 13:46	
HI				
It may be best for us to set up a call to discuss the ConOps and other points of interest. Unfortunately, we are fully booked for December, would you be available for early January?				

To cover your other points:

Flight Schedule

- This will be dependent on stakeholder engagement feedback and agreed with Kirkwall Airport along with other local aerodromes.
- Number of UASs to be used: multiple flights? o We would begin ACP-2022-049 with a single airframe operating from Kirkwall. The intention is to then have a second aircraft for ACP-2022-051 to carry out multiple flights within a day.
- Do the UAS pilots have PPLs? While some members of the team do hold PPLs we do not intend for this to be a requirement of our Safety Case.

Please do let us know if you have any other questions.

Best regards,

Meeting held 01/02/2023 - Details in Appendix C

F.5 Sumburgh Airport



- With regards to the ATS provision by Sumburgh Tower (provided on site at Sumburgh Airport), there will be little to no impact on the operations as the TDA sits outside the Tower's area of responsibility.
- Notification of its existence and it's operational status is important for the tower to be aware of, so that essential information can be passed to aircraft operating or routing in that area if required. This can
- be achieved via our daily NOTAM brief. With regards to the proposed change, Sumburgh Airport has no objections.

Kind regards,



- be achieved via our daily NOTAM brief. We will put out a NOTAM well in advance of the TDA activation detailing operational times and our contact details should you need to get in touch on the day.
- With regards to the proposed change, Sumburgh Airport has no objections. Thank you for letting us know. We will be outputting letters of agreement in the early months of next year to confirm details of the TDA and scheduling.

If you have any questions, please do get in touch

Best regards,



Hi

forwarded me you reply and thank you for confirming that you are in communications with our Helicopter Operator

If we think of anyone else that should be in the communications, we will let you know.

Look forward to hearing from you in due course in regard to this ACP as it develops.

Kind regards

Secondary Engagement Responses



Following our initial engagement regarding ACP-2022-049 and 051, please find a letter detailing our updated proposal.

- Changes made since initial engagement:
- TDA geometry now encompasses the airspace over airfields with no active ATZ. Westray Airport has been added to Phase 1: Orkney Operations.
- A schedule has been proposed for Phase 1: Orkney Operations
- The activation period for Phase 1: Orkney Operations is now 05/06/23 11/08/23.

We would appreciate your feedback on this as soon as possible so that we can address concerns in a timely manner. Please note that we aim to submit stakeholder feedback to the CAA in early March.

Best regards,

Wider Engagement Email



Dear Airspace Stakeholder,

We are getting in contact with you as a valued member of the aviation community to kindly request your feedback to the Temporary Airspace Change Proposals ACP-2022-049 and ACP-2022-051. We take on board all responses and appreciate any feedback received.

These ACPs aim to establish Temporary Danger Areas (TDAs) during notified periods as part of the SATE 2 Project. The TDAs will enable the delivery of middle mile logistics and mail transport using Uncrewed Aircraft Systems (UAS) across the Orkney and Shetland Islands. These two ACPs will run independently in separate phase

The letter attached contains details of the project, proposed TDA geometry, proposed operations, and how to provide feedback for this airspace change.

Please let us know if you have any questions relating to the ACPs.

Best regards,

F.8 Tingwall General Aviators Group

Orkney airspace			
	S Reply	« Reply All	→ Forward 🚺 ····
			Mon 13/02/2023 11:00
(1) You replied to this message on 17/02/2023 14:36.			

Hello

To help discussion in our aviators group could I ask a couple of questions?

- In a day when your uav is going to an island what happens to other traffic (ga?) going to that island? Will ATC in Kirkwall have an exact departure time and hence a window when we can avoid.?
- If we have display of the airborne vehicle on ads b/sowak display can we manoeuvre to avoid or will the entire airspace be closed?

I look forward to productive discussion



Good afternoon,

Happy to help with any questions you have regarding these ACPs.

On a day where the UAV is going to an island, that route and the timings for it will be published as a NOTAM at a minimum 24hrs prior to the flight. We will be in direct contact with Kirkwall ATC during ACP-2022-049 TDA activation. They will therefore have an exact departure time

As a Temporary Danger Area (TDA) you would not be able to fly through this airspace while active. Kirkwall ATC would inform you if the TDA is active and up to what height. The TDA would only be active while the aircraft is in the air and only up to a height of 2500 ft alt.

I should also note that only relevant TDAs would be activated. For example, if the UAV was flying Eday to North Ronaldsay this should not disrupt airspace users around Kirkwall or Westray.

Please do let us know if you have any further questions.

F.9 LoganAir

1.71	Logan III	
RE: Ter	Temporary Airspace Change Proposal (ACP-2022-049 and 051)	Iy All → Forward 🗊 … Mon 13/02/2023 12:18
i You rej	ou replied to this message on 13/02/2023 13:24.	
Dear		
Thank you	you for your email and the opportunity to comment on the latest proposal.	
(i) (ii) (iii)	However, on very low pressure days there may be some prospect of FL050 being at an altitude of around 4000' ie within 1500' of proposed TDA geometry of 2500'; Again with regard to mainline operation our engine failure procedure on departure from both Kirkwall and Sumburgh is to climb on runway heading until MSA or abox assessment, the routing will be back to the hold. I see no conflict but please note our engine failure procedure from runways 15/33 at Sumburgh is more complex and TDA;	e. Thereafter, subject to crew would require penetration of the
	(in) equipped and therefore pilots will rely on see-and-avoid. Indeed, at this moment in time (although that will change) only one of the BN2 fleet has ADS-B (out) equ June with the second aeroplane ADS-B (out) equipped.	page. That should change from
Regards,	ds,	
RE: Ter	Temporary Airspace Change Proposal (ACP-2022-049 and 051)	
	C Reply (Rep	ly All → Forward 🚺 …
		Mon 13/02/2023 13:24
Dear		
Thank you	you for getting back to us quickly and for the feedback.	
(i) (ii) (iii)	Thank you for bringing this to our attention, we will discuss with Sumburgh to ensure no conflict.	-
If you have	have any other questions or feedback regarding ACP-2022-049 and 051, please do get in touch.	
Best regard		
F.10	0 DAATM	
	Temporary Airspace Change Proposal (ACP-2022-049 and 051)	ly All → Forward 00
	· ·	With 13/02/2025 12:40
Good after	afternoon	
The propo	oposed changes to your ACP submission have no additional or different impact to MOD activities.	
Best regard	egards,	

F.11 SaxaVord

Saxavord Spaceport ACP-2022-049 and ACP-2022-51 feedback

 \leftarrow Reply \ll Reply All \rightarrow Forward 🚺 ...

To whom it may concern,

Writing as the representative for the SaxaVord Spaceport, I'm happy to confirm we remain fully supportive of the Windracers ACPs. Any impact to Saxa's operations is assessed to be minimal and Baltasound airfield ops will be coordinated real time should any other aircraft movements be required.

Please don't hesitate to get in touch if you'd like more information.

Yours

F.12 Northern Lighthouse Board

RE: [EXT] Temporary Airspace Change Proposal (ACP-2022-049 and 051) ← Reply ≪ Reply All → Forward 📑 Dear Thank you for your email and attachment regarding the updated Airspace Change Proposals: ACP-2022-049 and ACP-2022-050, our email of 20th January remains valid and is reiterated below: PDG Helicopters are NLBs contract helicopter provider and will be included in this consultation as per previous ACPs, they will respond with any comments they have Our current planned activities within your operational windows are as follows: Orkney – 8th & 17th August passenger flights to Stroma Lighthouse Shetland – various activities between 1st and 12th October to Auskerry, Pentland Skerries and Sule Skerry helicopter working with our vessel (NLV Pharos). 24th & 25th October – passenger Flights to Muckle Flugga & Sule Skerry. 30th October to 7th November various activities with helicopter working with our vessel (NLV Pharos) at Muckle Flugga, Out Skerries and Sule Skerry From a planning aspect we would like to be informed of any route or date changes, but all other involvement would be with our helicopter operator, who would advise NLB of any issues that would affect our tasking in the Orkney and Shetland areas As with previous consultations NLB are happy to engage in further communications in regard to this ACP as it develops. Best wishes F.13 PDG Helicopters RE: Temporary Airspace Change Proposal (ACP-2022-049 and 051) ← Reply ≪ Reply All → Forward 1 ... Good afternoon PDG Helicopters has no objection to the proposed ACPs, provided that there provisions are in place for short-notice access to the airspace if required by operational tasking, and that the ACP will have no detrimental effect on PDG's operations. Kind regards RE: Temporary Airspace Change Proposal (ACP-2022-049 and 051) ← Reply ← Reply All → Forward di. Good afternoon

Great to hear there are no objections. We do of course aim to not disrupt other airspace users operations

In terms of short-notice access to the airspace, the TDAs will only be active when the UAS is in flight. Windracers would not be able to grant you access to the TDAs while active. Emergency access would be coordinated through Kirkwall ATC who we will be in direct contact with.

You will also be able to contact us directly to deconflict via a number and email address that will be promulgated in the appropriate NOTAM.

Please do let me know if you have any other questions.

F.14 Kirkwall ATC



Good afternoon

To build upon the questions and answers in the meeting earlier this month, I would like to confirm a few things, ask a couple of additional questions and to request clarification on the UAS' behaviour in specific cases for the benefit of Kirkwall ATS.

- When the UAS is instructed to enter the Kirkwall ATZ, does it always have to be for joining the aerodrome traffic circuit?
- What are the options for joining the circuit? Can the UAS e.g. join a specific part of the circuit or final directly, or will it always position for downwind? Are all runways and their associated circuits usable? How is the routing determined for joining the traffic circuit? When should we expect the drone to fly overhead the aerodrome to join? Reportedly this has happened in a case where a direct routing for
- positioning onto a downwind leg on the north side of 09/27 was available (UAS arriving from the north), so it was unexpected. If a C2 failure occurs when the UAS is inside the ATZ departing/returning, what will the UAS do before manual control is established (or if unable to establish for any reason)?
- Can the UAS ever attempt to land/depart without a human instructing it to do so, such as when autolanding? If a C2 failure occurs when the UAS is inside the TDA returning to Kirkwall, what will the UAS do by default? Will it enter the ATZ without input?

Thank you in advance.

Meeting held 08/03/2023 - Details in Appendix C

RE. A couple of extra questions			
	Seply Seply	ら Reply All	→ Forward 🚺 ····
			Thu 09/03/2023 16:58
н			
Many thanks for allow us to talk you through our operations and thought process.			
To answer your questions:			
 The aircraft loiters around a fixed GNSS position. It will not drift with wind over time, unless there is a complete GNSS failure. This is very unlikely If the failure occurs, the system will continue flying in "dea Under this condition, the system has been tested to drift no more than 1 km after 40 minutes. 			
 The system is controlled using two independent communication links: one is a complete C2 link. The secondary one provides discrete controls fr shut off the engines and force a ditch. If C2 link is lost (and not regained) and the UAS is loitering over water, we could decide to either: use the be so that keeping the UAS in the loiter or attempting a landing is impracticable or unsafe, we can shut the ignitions off from the handheld trans 	handheld controller		
I hope this answer your questions.			
Kind regards,			

RE: Temporary Airspace Change Pro	oosal (ACP-2022-049 and	051)	ĺ	S Reply S Reply All	→ Forward 📑 … Sun 26/02/2023 13:05
(i) You replied to this message on 27/02/2023 17:36. This message was sent with High importance.					
н					
Can you confirm that all these proposed flights start and finish at Kirkwall?					
ACP-2022-051 (Shetland Islands) TDA Segment Route Altitude	Activation Period				
TDA – D Kirkwall – Fair Isle TDA – E Kirkwall – Foula TDA – F Kirkwall – Tingwall TDA – G Kirkwall – Unst	11/09/23 - 17/11/23				
Table 4 Phase 2: TDAs ACP-2022-051 scheduling will be confirmed closer to the activ stakeholder engagement carried out during the Orkney operations.	ation period with live				
There requires to be a point on TDA D where Kirkwall and Sumburgh Radar handover th	e UAS. This point should be marked on the diagram with a	ange and bearing from the KWL DVOR and agreed with Sum	burgh Radar.		
Phase 2:	L DVORI in the CONDPS.				
Regards	nd Chavity Ai	« A maharlan a a (
F.15 Babcock (Scotla	nd Charity Ai	r Ambulance (SCAA)		
RE: CAUTION: External email - FW: To	mporary Airspace Chang	e Proposal (ACP-2022-049	and 051) (UNCLASSIFI	IED)	→ Forward 🚺 Mon 20/02/2023 12:25
Classification:UNCLASSIFIED					
Good afternoon					

I hope you had a good weekend?

Thank you for sending this over to SCAA. In future could you also include myself directly as Babcock Regional Managing Pilot for Scotland and also the Head of Scottish Police flying on any correspondence.

With regards to the proposal we conduct relative short notice tasking to the Orkneys, whether that's Air Ambulance flights or time critical HEMS operations, flying down to a minimum of 300'. We operate from Aberdeen and so it will take us a minimum of 50 mins to get to Orkney from time of call.

Our aircraft do not have ADS-B in or out, but are fitted with TAS which can detect transponding traffic.

My concern, is that we need to have a robust means of deconflicting your operations with the need to conduct Air Ambulance Operations in the area. For example, if we are re-tasked in flight to an area where you are conducting operations, is there the ability to speak to you in flight to deconflict, in order to gain access to the TDA? Will a danger area crossing service be coordinated by Kirkwall Radar for example?

More than happy to discuss our issues, which will also be shared by Helimed 2 based in Inverness (controlled by GAMA) and SAR based at Sumburgh.

Kindest regards



Phone call held 20/02/2023 - GAMA Operations

Windracers Temporary Airspace Change Proposals (ACP-2022-049 and 051)	
	← Reply ≪ Reply All → Forward Mon 20/02/2023 14:27
Windracers UAS Operations in Orkney and Shetland (ACP-2022-049 and 051) Wider Engagement .pdf 🗸	with 201027003 Hit27
Ні	

Great to speak with you on the phone. I've attached our Stakeholder Engagement Letter just if you need any extra information.

Otherwise, it is my understanding that Helimed 2 are happy with Windracers planned operations as long as they are in direct contact with ATC and there is a NOTAM in place.

Best regards,

F.17 NATS

RE: Temporary Airspace Change Proposal (ACP-2022-049 and 051)				
	S Reply	🤲 Reply All	→ Forward	
(Î) You replied to this message on 20/02/2023 15:10.			Mon 20/02/2023 1	4:46
U tou replied to this message on 20/02/2023 15:10.				
Afternoon,				
In the document provided it states,				
The TDA should be provided with Air Traffic Services (ATS) that allow other airspace users to get information of the activity within the TDA and cross the airspace	e when possi	ble.		
However, the document doesn't state who the ATS will be provided by. Can you please confirm?				
Regards				

NATS

Windracers Ltd - ACP-2022-049 Summary of Stakeholder Engagement V7.1

RE: Temporary Airspace Change Proposal (ACP-2022-049 and 051)



Regards

NATS

F.18 Babcock (Police Scotland Air Unit)

23 21:11
ţ
2

Once we have visibility of the proposed ACP and the implications to the airspace, I will establish a safe working protocol which will be promulgated to our pilots.

If you need to discuss anything further, please do not hesitate to get in touch.

Kind regards,

RE: CAUTION: External email - FW: Temporary Airspace Change Proposal (ACP-2022-049 and 051) (UNCLASSIFIED)				
	S Reply	🏀 Reply All	\rightarrow Forward	1
			Wed 22	/02/2023 08:47
Windracers UAS Operations in Orkney and Shetland (ACP-2022-049 and 051) Wider Engagement .pdf 🗸				

Hi

```
That's great. Just to confirm with you, the letter attached is about ACP-2022-049 and 051, a network of TDAs in Orkney and Shetland taking place this summer. This will lead into the work is doing to create a TMZ in the same area.
```

Best regards,

F.19 NatureScot

RE: Temporary Airspace Change Proposal (ACP-2022-049 and 051)	
	$\begin{array}{c c} & & \\ & & \\ \hline & & \\ \hline & & \\ & & \\ \hline & & \\ \hline & & \\ & & \\ \hline \\ \hline$
 Follow up. Completed on 16 March 2023. You forwarded this message on 27/02/2023 10:12. 	Fri 24/02/2023 12:12
Hello	
Thank you for your consultation on the Windracers project and the Temporary Airspace Change Proposals ACP-2022-049 and ACP-2022-051.	
	And the later of the second second second building

I understand that the Windracer project has previously undertaken trials in Orkney. Could you please provide any previous correspondence with NatureScot, including any advice or comments provided by NatureScot on this previous operation?

Could you also confirm if the proposed flight routes will take place along existing flight paths and typical flying heights of the existing Loganair flights from Kirkwall to Eday, North Ronaldsay, Papa Westray and Westray? This information will help me to understand how the Windracer flight route differs from the existing flight operations in the Northern Isles of Orkney and if there could be any impacts we may need to assess, for example on bird species.

Kind regards,

Nature Scot | Eastbank, East Road, Kirkwall, KW15 1LX

nature.scot | @nature_scot | Scotland's Nature Agency | Buidheann Nàdair na h-Alba

Phone call held 02/03/2023 - North Operations Officer

RE: Temporary Airspace Change Proposal (ACP-2022-049 and 051)					
	∽ Reply	≪ Reply All	ightarrow Forward	i	
				6/03/2023 15:4	8
Follow up. Completed on 16 March 2023. You replied to this message on 16/03/2023 12:03.					

Hello

Thank you for your call last week and for consulting us on the Temporary Airspace Change Proposal ACP-2022-049 and 051. My understanding of the operation is much clearer now. You confirmed that the flight will take place in the vicinity of existing flight corridors, but avoiding any overlap in areas where the Loganair planes currently travel. The Windracer flight will land and take off from existing airports/runways in Orkney and the Northern Isles and will be flying at 1000ft (which is similar to existing Loganair flights in the Northern Isles).

We have no further comments to make on this proposal. However I have included some information below which you may find useful:

- Information on protected areas is available online via our SiteLink information service which can be found here: https://www.nature.scot/information-library-data-and-research/snhi-data-services
- Further relevant information is also available online to you through the Scottish Government's <u>Scotland's environment web</u>. This holds a wide range of land use information such as Environmentally Sensitive Areas and Ancient Woodland Inventory.
- Impacts on protected species should be addressed by reference to the relevant standing advice available at Planning and development: protected animals.

We also discussed the potential for NatureScot to tie in with the Windracer trials and making use of this opportunity to carry out some surveying work along the flight paths. I have highlighted this to some of our teams who may be interested and I will be in touch with any feedback. Could you please suggest a timeframe that you would need our input if we are to take this forward?

Kind regards,

NatureScot | Eastbank, East Road, Kirkwall, KW15 1LX

nature.scot | @nature_scot | Scotland's Nature Agency | Buidheann Nàdair na h-Alba



Hello

Thank you for sending this email and apologies for not replying sooner.

Just for absolute clarity on the flights that would be taking place: this would not be in existing flight corridors as these are not formally in place but instead segregated temporary airspace corridors. The aircraft would be flying in areas of existing aviation activity and would follow current standard aviation practices in the area for example; circuit patterns and altitudes.

Thank you for the links you sent through which have been very informative for our planning when reducing our impact on the local area.

I have passed on your interest in working with us to the flight operations lead and will get back to you with a better plan of how we can be of use.

Best regards,
F.20 Bristow (Sumburgh Search and Rescue)

Re: Temporary Airspace Change Proposal (ACP-2022-049 and 051)
$\begin{array}{c} & & \\ & \\ \hline \end{array} \begin{array}{c} & \\ & \\ \hline \end{array} \begin{array}{c} \\ & \\ \end{array} \begin{array}{c} \\ \\ \\ \\ \end{array} \begin{array}{c} \\ \\ \end{array} \begin{array}{c} \\ \\ \end{array} \begin{array}{c} \\ \\ \\ \end{array} \begin{array}{c} \\ \\ \end{array} \end{array} \begin{array}{c} \\ \\ \end{array} \begin{array}{c} \\ \\ \end{array} \begin{array}{c} \\ \\ \end{array} \end{array} \begin{array}{c} \\ \\ \end{array} \begin{array}{c} \\ \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \end{array} \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \end{array} \end{array} \end{array} \end{array} \end{array} \begin{array}{c} \\ \end{array} $
Sun 26/02/2023 09:04
() You replied to this message on 27/02/2023 10:23.
Windracers UAS Operations in Orkney and Shetland (ACP-2022-049 and 051) Wider Engagement .pdf 604 KB
Dear
Thank you for your email and the opportunity to comment on ACP-2022-049 and 051.
Bristow operates Search and Rescue (SAR) helicopters in the areas you intend to operate, typically in the height band SFC – 3000ft. I note the intention to permit TDA crossing "when possible" but ask that provision is made such that in the event of Category A (CAP 413) SAR operations within your TDA, or requiring crossing of your TDA, that priority is given to permit unrestricted activity by such SAR aircraft without delay, coordinated by the appropriate ATC unit.
Please come back to me if you have any questions or wish to discuss this any further.
Kind regards,
Chief Pilot, Sumburgh SAR
RE: Temporary Airspace Change Proposal (ACP-2022-049 and 051)
Seeply Seeply All → Forward III ···· Mon 27/02/2023 10:24
Dear
Thank you for getting back to us, we have confirmed this with Kirkwall ATC that priority would be given to emergency operations for ACP-2022-049. A similar agreement will be made for ACP-2022-051, with Kirkwall ATC and Sumburgh Radar. We will include this in our submission of the ACPs to the CAA.

Best regards,

F.21 Kirkwall ATC

Following feedback from the CAA the TDA has been extended to within 2 KM from the centre of runway 27/09. Due to the time sensitive nature of this change this was initially confirmed with Kirkwall ATC. A CONOPS with the change described and identified was also sent to the relevant stakeholders.



After sending this email the TDA was changed from the image above to the below image to accommodate the extended VLOS range detailed in the Windracers OSC. The image below was sent in the signed ConOps.

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Windracers Ltd - ACP-2022-049 Summary of Stakeholder Engagement V7.1



DocuSign Message sent with new ConOps:

Message

Dear All, After feedback from the CAA we have extended the TDA-A Geometry into the Kirkwall ATZ. Our operating procedures have not changed. This change is detailed in the images in the attached ConOps. The extension brings the TDA within 2KM of the centre of runway 09/27. Please do get in contact if you have any questions. Best regards,

Tertiary Engagement Responses Tertiary Engagement Email



We hope this email finds you well. As a valued stakeholder in the airspace community, we are reaching out to you to update you on the changes to our Airspace Change Proposals (ACP-2022-049 and ACP-2022-051). The updated ACPs incorporate the feedback received from previous consultations:

Update to geometry

 TDA-A now extends into Kirkwall ATZ from Eday airport.

Update to timetable
 ACP-2022-049 will run 3rd of July to the 25th of August.
 The timetable for ACP-2022-051 has not changed.

Leiter Deinte

Loiter Points
Clarity provided on planned loiter point positions.

We kindly request any additional feedback is provided by the 29th of May 2023 on this email (operations@windracer.org), allowing us sufficient time to review and consider all input received.

Thank you in advance for your time, expertise, and input. We look forward to your valuable feedback to create a safer and more efficient operation.

Yours sincerely,

F.22 Northern Lighthouse Board

Good afternoon

Thank you for your email and attachment regarding the updated Airspace Change Proposals: ACP-2022-049 and ACP-2022-51, our email of 15th February 2023 remains valid and is reiterated below:

are NLBs contract helicopter provider and will be included in this consultation as per previous ACPs, they will respond with any comments they have.

Our current planned activities within your operational windows are as follows:

- Orkney 8th & 17th August passenger flights to Stroma Lighthouse

From a planning aspect we would like to be informed of any route or date changes, but all other involvement would be with our helicopter operator, who would advise NLB of any issues that would affect our tasking in the Orkney and Shetland areas.

As with previous consultations NLB are happy to engage in further communications in regard to this ACP as it develops.

Best wishes,

F.23 Sumburgh Airport

HI Thank you for forwarding us the updated information. We have no further comments from Sumburgh Airport regarding the updates. Kind regards,

F.24 DAATM

Good afternoon

Thank you for the updated documentation. The updated TDA proposals do not change the MOD response - minimal impact identified.

Best regards,

← ← → … Mon 2023-05-15 14:57

6 € → … Wed 2023-05-17 17:13

> ← ← → … Mon 2023-05-15 14:41

> > 69

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F.25 SaxaVord Spaceport



We also spoke about the provision of DACS. We confirmed that this is not a service available through Kirkwall ATC for the duration of our trials.

Tertiary Engagement Update

ACP-2022-049 Update		°, v
w.	0 🔗	か <i>、 ・ ・・</i> Mon 2023-06-19 17:05
Dear Airspace Stakeholder,		
We are writing to update you on ACP-2022-049 from our email earlier this year.		
Pending CAA approval, this ACP will now be active between September 11 th and November 17 th .		
We understand that the adjustment may have implications for your operations, and we encourage you to reach out to us via this email if you anticipate any impacts as a result of	f the revise	ed timeline.
Thank you for your attention to this matter and we appreciate your continued collaboration.		
Best regards,		
F.27 NATS		
RE: ACP-2022 -049 Update 🗷 -		€ .
		Ø 5 5 A
		Mon 2023-06-19 17:50
Start reply with: Sure, here it is. Please see attached. Yes, will do.		
Ні		
Thanks for your email- when you wrote to NATS on May 15 th you notified us of the amended activity period of ACP-2022-049 (3rd of July - 25th of August) and provided document.	a supporti	ing 'engagement'
Now that the dates have changed again, please could you forward the latest version of that document?		
Thank you		
Rgds		
		€, v
To:		Mon 2023-06-26 13:30
Windracers UAS Operations in Vision Solar So		
Hi		
Given the nature of this update we have been advised by the CAA that we do not need to supply a supporting engagement document.		
I have attached the previous document for ease of reference.		
Changes since this document was released:		
Operational Schedule: ACP-2022- <mark>049</mark> Orkney (September 11th and November 17th) ACP-2022-051 Shetland (AIC Cycle to be redetermined.)		
Let me know if you have any other questions. Best regards,		
Frame		
From: Sent: Thursday, June 29, 2023 09:39		
To:		
Subject:		

Hi

Thanks- just to confirm that both ACP049 and 051 will be taking place on the same dates; 11 September through to 17th November? Rgds

CONFIDENTIAL



Good Afternoon

Apologies for the confusion, there will be no overlap in the ACPs. ACP-2022-049 will now take place in September to November. ACP-2022-051 is likely to be pushed into 2024.

Best regards,

F.28 SaxaVord Spaceport

© S 5 5 7 Tue 2023-06-20 09:11 Dear Windracers,

 Thanks for the update. I just thought I'd introduce you to
 who will
 . Both ACPs are deconflicted in geography – albeit close by. However, I did think

 did think
 may be able to make use of your services should you be capable of deliveries to Unst during their launch campaign, (scheduled during the time you may be up).

 Just a thought!

I look forward to catching you all again soon.

F.29 Hyimpulse Technologies GmbH

Delivery to Unst could be something interesting. I will keep you in mind for our launch campaign.

Have a great day! Best regards,

F.30 Airtask Group

RE: ACP-2022-049 Update 🛛 😤 🗸	Θ,
	© ⊗ ← ← ≁ … Tue 2023-06-20 12:13
Good Afternoon	
Would you ensure that future requests for comment about ACPs are addressed to in addition to myself please?	
is due to take over my role as I step back from day to day operations.	
Thanks,	

F.31 Northern Lighthouse Board



Re: [EXT] ACP-2022-<mark>049</mark> Update

Re: [EXT] ACP-2022- <mark>049</mark> Update			€, ,
		0 6	Mon 2023-06-26 14:39
Good Afternoon			
Thank you for getting in touch with us and letting us	know your planned activities.		
We will continue to update	as this ACP develops.		
Kind regards,			

F.32 Tingwall Airport

FW: ACP-2022-049 Update 🛛 🕤 🗸	©, ,,
Start reply with: Will do, thank you. Will do. Will do. thanks!	© ⊗ ← ← ← → … Tue 2023-06-20 10:00
Hi	
Can you ensure any future correspondence is sent to this email address as the one you have been using is my old address which I only of	check sporadically and is about to be closed.
In order for the operations to proceed I will need to undertake our full change management process and safety assurance prior to agreement. If you that would be appreciated. I will need the following:	a have any documentation that will assist with that then
Certification of pilots and device Risk assessments and Operational Procedures Any RTF Licence or ROCC for the pilots operating the drones	
Many thanks	
Kind regards	
Re: ACP-2022- <mark>049</mark> Update	ଷ୍ ~
×	© ⊗ ← ≪ → → … Mon 2023-06-26 14:26
н	
I've updated our records so future correspondence will come to this email address.	
Our original email encompasses our Orkney operations which will now be happening in September. Our Shetland operations, and therefore our time 2024.	in Tingwall, will be shifted later in the year and likely into
Our ConOps for Shetland Operations, to be signed before operations begin, will cover pilot certification, UAS authorisation, operational procedures (v for the PIC (all members of the operations team will hold an FRTOL.)	which we will work with you to create), and RTF licenses
a second s	

If you want to have more of a conversation about what needs to be covered in the ConOps or TOIs, don't hesitate to reach out either by email or we can set up a Teams call.

CONFIDENTIAL

Thu 2023-08-24 10:43

Engagement Update

Operations	5 5 0
0 Operations	Mon 2023-08-21 17
Windracers UAS Operations in 🗸	
Dear Airspace Stakeholder,	
Ve are writing to update you on ACP-2022-049 (TDA to enable BVLOS demonstration of Cargo UAV within the Orkney Islands). The attached letter detail	s the proposed TDA and our intended operations.
Pending CAA approval, this ACP will now be active between November 16 th and December 22 nd , 2023.	
We understand that this update may have implications for your operations, please do get in contact if you are impacted by the revised timeline.	
Thank you for your time and attention, we will continue to update you on any changes to this ACP and fully appreciate your continued collaboration.	
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ours sincerery,	
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5.33 DAATM	5 5 A
5.33 DAATM	5 5 A
5.33 DAATM RE: ACP-2022-049 Update	6 6 A .
5.33 DAATM RE: ACP-2022-049 Update Good morning	୍ କ୍ 🥠 Tue 2023-08-22 09:
F.33 DAATM RE: ACP-2022-049 Update Good morning Thank you for the information. Best regards,	6 6 A .
Sood morning Thank you for the information.	5 5 A
Sood morning Thank you for the information.	5 5 A
Sood morning Thank you for the information.	5 5 A

Hello

Thank you for consulting us on the proposed changes to the Windracer operation.

We are currently in the process of developing guidance to assist UAV/UAS operators in ensuring that appropriate protocols are in place to mitigate the risk of causing disturbance to relevant species in the marine environment. We are therefore keen to provide feedback on the proposed operation (ACP-2022-049). Could you please confirm a date that you require our response? Although we would typically aim to respond as soon as possible, we would normally request 20 working days from the date of consultation to respond which would be 18th September. Would this date be suitable for you?

Kind regards,

Re: ACP-2022-049 Update Q ~ Image: Second sec

Good afternoon

That sounds fantastic! We'd definitely be interested in reading the guidance for UAS operators when you have it (or assisting in the development if you have questions about our operations). I can only apologise that I've only just seen this email. We will be submitting this proposal to the CAA shortly however if you have feedback that impacts our operations we will relay this on to the CAA and adjust our operations where necessary.

Best regards,

Quaternary Engagement

Quaternary Engagement Email	
Windracers UAS Operations in Orkney (ACP-2022-049)	
Contact Operations	\bigcirc Reply \bigotimes Reply All \rightarrow Forward \square
Contact Operations	Fri 23/02/2024 10:37
Windracers UAS Operations in Orkney (ACP-2022-049) Update 23.02.2024.pdf	
Dear Airspace Stakeholder,	
I am writing today to kindly request your feedback to the Temporary Airspace Change Proposal ACP-2022-049 (TDA to enable BVLOS demonstration Temporary Danger Areas (TDAs) connecting the Orkney Islands to provide middle mile UAS delivery and supplement current supply chains. The lette provide feedback for these temporary airspace changes.	
This ACP will be active between May 13th and August 2nd, 2024. We understand that this update may have implications for your operations, please	do get in contact if you are impacted by the revised timeline.
Based on the feedback received from the aviation community, the following changes have been made to the ACP: Geometry	
 Kirkwall Airport has been removed from the list of operating locations, TDA-A is being removed from the list of TDAs as a result of no longer operating from Kirkwall, Eday Airport has been named the new Hub location, 	
Timetable	
CAP-2022-049 will be active between May 13th and August 2nd, 2024. CAP-2022-049 timetable has been updated,	
Contact details	
Please use for future correspondence.	
Thank you for your time and attention, should you have any questions or feedback please email Yours sincerely,	
Quaternary Engagement Responses	
F.35 Sumburgh SAR	
RE: [Suspected SPAM] Windracers UAS Operations in Orkney (ACP-2022-049)	
To Contact Operations	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
HL.	
Thank you for the email. I have nothing additional to add to my feedback previously provided (26 Feb 23) on	this ACP.
Kind regards,	
F.36 Loganair	
RE: Windracers UAS Operations in Orkney (ACP-2022-049)	
	$\begin{array}{c c} & & \\ & & \\ \hline & & \\ \hline & & \\ & & \\ \hline \\ \hline$
To • Contact Operations	Fri 23/02/2024 12:03
Follow up. Completed on 04 March 2024.	
Morning	
inoning .	

Thanks for your email. Can you confirm:

- The take-off and landing times associated with your timetable deconflicts with our published schedule with respect to the +/- 15 minutes that other users with PPR have to adhere to; If your timetable (or ours) requires adjustment you won't take-off or land within +/-15 minutes of our operation?
- 2

Regards,

1



Good Morning

Apologies, we had originally deconflicted with the Winter Timetable. We will update the schedule to deconflict with the Summer Timetable. We will not schedule take off/landing within 15 minutes of Logan Air operations.

Thank you for getting in touch.

Best regards,

F.37 GA member from Lamb Holm Airfield

Aviation Stakeholder Declaration of Interest	
	$\begin{array}{c c} & & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ $
To Contact Operations	Fri 23/02/2024 14:28
Cc •	
 Follow up. Completed on 04 March 2024. 	
Morning All,	

Allow me to introduce myself. My name is . I own and operate an aircraft from Lamb Holm Airfield in Orkney. I have recently retired from HIAL at Kirkwall working with Air Traffic Services after 22 years and am now looking forward to a summer of flying around my beloved Islands within Orkneys Airspace. I have invested a great deal of money to ensure I can fly into the North Isles of Papay Westray, Westray, North Ronaldsay, Eday, Stronsay and Sanday. I have secured an annual landing card with its associated privileges and I have registered with Orkney Islands Council as an approved user of their Airfields. I will be observing the OIC Airfield Rules of Use and compliant with their conditions.

You can imagine my concern when I received, second hand, information regarding your intended application for changes to airspace use in the Class G Airspace over Orkney during the summer flying season May to August. I would appreciate being added individually to your list of aviation enthusiasts that will be directly affected by your intended areas of panned UAV activity. I would then be in a better position to provide you with relevant feedback on your proposal that can and will directly affect my flying activities.

I appreciate your cooperation and look forward to hearing from you.

Re: Aviation Stakeholder Declaration of Interest					
Contact Operations	S Reply	Keply All	→ Forward	1	
			Mon 04	4/03/2024	16:01
Windracers UAS Operations in Orkney (ACP-2022-049) Update 23.02.2024.pdf					
Good Afternoon					

Thank you for getting in touch, we'll add you to our engagement list immediately. I have also attached the recent letter sent out to stakeholders in case this was not also shared with you. Here is more information based on your previous email.

- For all flights, routes and timings will be published via NOTAM at a minimum of 24 hours prior to departure.
- Contact details for the ground control operator will be communicated through NOTAM.
- We will be in direct contact with Kirkwall ATC who will be providing DAAIS.

We do of course aim to not disrupt other airspace users and we are happy to answer any questions you may have regarding this ACP.

F.38 Sumburgh Airport

RE: Windracers UAS Operations in Orkney (ACP-2022-049)			
	S Reply All	→ Forward	ii
To • Contact Operations		Sat 24/02	2/2024 13:25
Hia			
Thank you for getting in touch regarding ACP-2022-049. As the operation is well outside of our area of responsibility, proposal. As our approach service, Sumburgh Radar, is provided by NATS in Aberdeen, and that this proposal may a separate stakeholder engagement with them.		÷	ve a
Kind regards,			
ж. С.			
F.39 HIAL			
RE: Windracers UAS Operations in Orkney (ACP-2022-049)			

 Sun 25/02/2024 08.4

 Follow up. Completed on 04 March 2024.

Good morning,

Please find some initial feedback below.

There appears to be a potential conflict in your intended flight schedule on Tuesdays.

On Tuesdays, the Loganair islander flight LOG719 is scheduled to depart Kirkwall at 10:30, with arrival at Papa Westray at 10:45, and departure from Papa Westray to North Ronaldsay at 10:52. However, their turnarounds can take longer than this, with 10 minutes or longer being quite normal. Since your intended schedule for Tuesdays is to arrive on Papa Westray at 10:55, this seems to be in conflict with the LOG719 flight, especially if it is delayed even slightly.

Probably an easy fix to plan around. Other Islander flights to Papa Westray on Tuesdays take place at ~10:00 and ~16:50, including a hop to Westray both times. There are no scheduled flights to Eday on Tuesdays.

All other days seem well de-conflicted against the Islander flights.

Kind regards

Re: Windracers UAS Operations in Orkney (ACP-2022-049)					
Contact Operations	S Reply	Keply All	→ Forward	0	
			Mon 04	4/03/2024 1	16:03

Good afternoon

Apologies the schedule sent out was deconflicted with the Winter Timetable. We will update to deconflict with the Summer Timetable and get this sent out shortly.

Hope all is well with you.

F.40 SaxaVord Spaceport

RE: [EXTERNAL]:Windracers UAS Operations in Orkney (ACP-2022-049)			
	S Reply	Keply All	→ Forward
To Contact Operations			Fri 23/02/2024 12:18
Thank you, we have no issue with your plan.			
Kind Regards			
3 U			
RE: [EXTERNAL]:Windracers UAS Operations in Orkney (ACP-2022-049)			
	S Reply	Reply All	→ Forward
To • Contact Operations			Mon 26/02/2024 09:09
Hi			
I believe that you may have already received a reply from SaxaVord Spaceport by another person on the distribution	n list.		
To be sure, SaxaVord Spaceport does not have any input to CAP-2022-049 at this time.			

SaxaVord Spaceport

F.41 DAATM

RE: Windracers UAS Operations in Orkney (ACP-2022-049)					× 23
	S Reply	🤲 Reply All	\rightarrow Forward	Ū	
To Contact Operations			Mon 26	/02/2024	13:03
Good afternoon					
No foreseen negative impact to MOD airspace users, thank you.					
Best regards,					

F.42 AVISU

RE: Windracers UAS Operations in Orkney (ACP-2022-04)	9)
	$\bigcirc \text{ Reply } \bigotimes \text{ Reply All } \rightarrow \text{ Forward } \bigcup $
To • Contact Operations	Tue 27/02/2024 08:53
Good morning,	
Many thanks for your email seeking aviation stakeholder engagement on your	Temporary Airspace Change Proposal ACP-2022-049. I have forwarded your email to at

Many thanks for your email seeking aviation stakeholder engagement on your Temporary Airspace Change Proposal ACP-2022-049. I have forwarded your email to at SaxaVord Spaceport for their action, vice a response from AVISU (although, I am confident that SaxaVord were on the distribution (belt and braces). Best regards,



You recently sent an email to AVISU as a stakeholder in your ACP. AVISU is working with SaxaVord Spaceport and I am replying on behalf of AVISU. AVISU does not have any input to CAP-2022-049 at this time.

Note - you have received separate replies from SaxaVord as a stakeholder to your ACP.

Regards

F.43 CHC Helicopter

RE: [External]:Windracers UAS Operations in Orkney (ACP-2022-049)			
	S Reply	S Reply All	→ Forward
To Contact Operations			Wed 28/02/2024 11:23
Follow up. Completed on 04 March 2024.			
Hi			
I don't see an issues from our operational perspective as long as it will be NOTAMed			
Many thanks			
Kind Regards			
Re: [External]:Windracers UAS Operations in Orkney (ACP-2022-049)		4	
CO Contact Operations	S Reply	S Reply All	→ Forward
			Mon 04/03/2024 16:10
Hi			
Thank you for getting in touch. We will be NOTAMed at least 24 hours in advance of flights.			
Kind regards,			

F.44 NLB

RE: [EXT] Windracers UAS Operations in Orkney (ACP-2022-049)								
	$\begin{array}{c c} \leftarrow \\ \hline \\$							
To Contact Operations	Mon 04/03/2024 17:20							
I Follow up. Start by 05 March 2024. Due by 05 March 2024.								
Good Afternoon								
Thank you for your email dated 23 rd February 2024, seeking feedback on to the Temporary Airspace Change Proposal AC	:P-2022-049.							
NLB do not have any planned activities within the zone areas during this period.								
As previously advised, NLB would like to be advised of any additional route or date changes as and when they occur, but all other involvement would be with our helicopter operator (PDG Helicopters), who would advise NLB of any issues that would affect our tasking in the Orkney areas.								
As with previous consultations NLB are happy to engage in further communications in regard to this ACP as it develops.								
Best wishes,								

F.45 NatureScot

RE: Windracers UAS Operations in Orkney (ACP-2022-049)			
	Keply All	→ Forward	1
To ● Contact Operations		Mon 04	4/03/2024 11:11
 Follow up. Completed on 04 March 2024. 			
RE: ACP-2022-049 Update V Outlook item			
Hello ,			

Thank you for getting in touch with the revised timetable for the Windracers UAS Operations in Orkney (ACP-2022-049). Our previous assessment and advice to you on this proposal was based on the knowledge that the trial flights were to take place outside the main breeding season (previously between November 16th - December 22nd 2023) – see our previous advice attached. The operational timetable has now changed and is due to take place during the main breeding season for various bird species which are protected features of the Special Protection Areas (SPAs) within or in close proximity to the trial flights. There are now additional concerns with the flights being proposed during the breeding season, and so we will need to reassess the proposal and update our advice and recommendations to avoid or mitigate any potential impacts on the SPA protected bird species.

Due to current availability of staff, would it be possible to provide our updated response by the 29th March 2024?

Kind regards,

NatureScot

nature.scot | @nature_scot | Scotland's Nature Agency | Buidheann Nàdair na h-Alba

Re: Windracers UAS Operations in Orkney (ACP-2022-049)				
Contact Operations	S Reply	🤲 Reply All	→ Forward	i
			Mon 04	/03/2024 16:43

Good afternoon

Thank you for getting in touch and for all advice you have given in the course of this ACP. We will of course take on any feedback you have over the revised scheduling. We will be submitting our proposal on the 22nd of March so any feedback received before then would be greatly appreciated. If this is not possible we will send any feedback received after this date to the CAA as an addition to the application.

We do understand that the dates may raise concerns regarding the breeding season so some points of note are:

- The operations will be from existing airports that are utilised by crewed aviation and be flown at similar heights (1000 ft) to that of existing operators in the area.
- We would be checking the airfield prior to take off and landing for birds or indeed any wildlife.
- We would be running a live impact assessment throughout the operations so you would be able to get in touch if an impact was seen.
- Any interactions with sea birds will also be logged using the Nature Scot Drone Feedback form.

Please do let us know if you have any questions that will help provide advice and recommendations regarding the proposed operations.

RE: Windracers UAS Operations in Orkney (ACP-2022-049) To ● Contact Operations Mon 04/03/2024 18: follow up. Start by 05 March 2024. Due by 05 March 2024. Hello

Thank you for the additional information. We appreciate that you have already taken on board some of our advice on the operation, including the use of the Drone Feedback form.

I am keen to know if there is any opportunity to modify the course of the flight within the proposed flight corridors TDA C and TDA B? We are particularly concerned that the current flight paths are likely to overlap with the following protected areas:

Calf of Eday Special Protection Area (SPA) <u>https://sitelink.nature.scot/site/8478</u> and Site of Special Scientific interest (SSSI): <u>https://sitelink.nature.scot/site/295</u>
 Papa Westray (North Hill and Holm) SPA: <u>https://sitelink.nature.scot/site/84585</u> and Site of Special Scientific interest (SSSI): <u>https://sitelink.nature.scot/site/2337</u>
 These sites are protected for various breeding seabirds, which are particularly sensitive to disturbance during the breeding season. While there are existing flight operations in this airspace, given that the Windracer UAS is trialling new technology at this location, it is therefore unknown if birds will react in a similar or different way to this novel operation.
 Flying the Windracer UAS in close proximity to these protected sites could therefore pose a risk of disturbance and potentially have a likely significant effect on the qualifying species. In order to minimise any potential disturbance, if the flight path could avoid flying over these protected areas, this could reduce the potential impact on the qualifying species. If you could confirm if there is any flexibility to modify the flight paths within the flight corridors below, we would be able to provide more specific advise on a suitable distance and a buffer zone around the boundary of the SPAs to help minimise any impacts. It is likely this distance will be approximately 2 miles.



Figure 1 Proposed TDA Geometry – Phase 1: Orkney Islands ACP-2022-049

If you could provide some detail to my questions above, we will be able to provide you with our full response in due course. The SPA/SSSI boundaries for each protected area are available in the links above to Sitelink. Please let me know if you require this spatial data in any other format.

Kind regards,

NatureScot

nature.scot | @nature scot | Scotland's Nature Agency | Buidheann Nàdair na h-Alba

RE: Windracers UAS Operations in Orkney (ACP-2022-049)		~		2710 - 70	
	S Reply	🤲 Reply All	→ Forward	Q j	
To Contact Operations			Wed 06		4 09:40
Hello					

To follow up on my last email sent on the 4th March at 18:00, I wanted to clarify a couple of points to hopefully help you respond to our question.

Just to be clear, we are asking if the flight paths can be slightly diverted / shifted to the side from the current route. We would only be looking for a small to moderate change, but in some cases by up to a maximum of approximately 2 miles (although it will likely be less). The purpose of this is to avoid flying over the SPA/SSSIs as I explain in my emails below.

In terms of the suggested buffer distances, we advise that 500 meters for Calf of Eday SPA, 500 meters for Papa Westray (North Hill and Holm) SPA, and potentially 750m for Mill Loch SSSI would be sufficient to minimise disturbance to the breeding birds present, specially breeding cormorant on the Calf of Eday SPA, breeding arctic tern on Papa Westray (North Hill and Holm) SPA and red-throated diver at Mill Loch SSSI. For the Calf of Eday SPA, the buffer would be from the shoreline of the Calf of Eday island, not the SPA boundaries which extend further into the sea. Similarly, for the Holm of Papa Westray the buffer should be applied to the shoreline of this island.

I hope provides further clarification to support my initial advice and request for more information sent on Monday.

Please get in touch if you have any further questions. I look forward to your response.

Kind regards,

NatureScot

nature.scot | @nature_scot | Scotland's Nature Agency | Buidheann Nàdair na h-Alba

FW: Windracers UAS Operations in Orkney (ACP-2022-049)				
	S Reply	Keply All	→ Forward	1
			Wed 13	
RE: ACP-2022-049 Update Outlook item				
Hello				

I am wondering if you are able to respond to our question below about your flexibility to shift flight trajectories by up to 500-750m around the SPAs and SSSI highlighted below? This information will help to inform our advice on the operation in terms of the mitigation which is required to avoid an adverse effect on site integrity and to avoid a significant effect on the protected bird species. Once we have your response, we will be able to advise and respond fully on this proposal.

If you could get back to me on this question, we should be able to get a response to you as soon as possible. However, unless you are able to respond to me today, it is unlikely that I will be able to provide our advice until 29th March at the latest as I will be on leave from Friday 15th until the end of March. I appreciate your offer to provide our advice to the CAA after your deadline of the 22nd March.

As I previously advised in September 2023 (see attached) in response to the initial Winderacer Operation (ACP-2022-049), the operation overlaps with several SPAs which are protected for various breeding and non-breeding bird species. The site's status means that the requirements of the Conservation (Natural Habitats, & Regulations 1994 as amended (the 'Habitats Regulations') apply or, for reserved matters, The Conservation of Habitats and Species Regulations 2017. Consequently, the Civil Aviation Authority is required to consider the effect of the proposal on the SPA before it can be consented (commonly known as Habitats Regulations Apprial). The NatureScot website has a summary of the legislative requirements [The Habitats Directive and Habitats Regulations]

I have attached our previous response for your reference only. Since our advice was based on the understanding that this operation would be taking place outside the breeding season for the SPA birds present, the advice in this email is no longer relevant since the timing of the operation has now changed to be within the breeding season. Hence the need to update our advice.

Kind regards,

Nature Scot |

nature.scot | @nature_scot | Scotland's Nature Agency | Buidheann Nàdair na h-Alba

CONFIDENTIAL

COntact Operations ← Reply All → Forward Thu 21/03/202

Good Morning

Thank you for getting in touch and apologies for the delayed response. We have been looking for the best way to avoid the SPAs and SSSIs.

Our routes over Papa Westray should not come within 500m of the North Hill and Holm SPA. The closest we would fly is 650m as shown in the diagram below (apologies for the quality):



My suggestion for both the Calf of Eday SPA and the Mill Loch SSSI would be to increase our height over those areas to 1500ft. We have carried out a noise impact assessment and found a measurement of 52.7 dB at 850 ft. Extrapolating from this we would expect a volume of <50 dB if operating at 1500 ft. This would be for a very short period of time as the aircraft would not loiter above these areas.

We had originally placed a loiter point close to the Calf of Eday (Loiter Point A) so I have moved that to loiter points B and C to minimise impact.



It is worth noting that Windracers have flown in these areas before and did not receive any feedback of disturbance to wildlife.

Thank you again for this advice which allows us to minimise the impact of these operations wherever possible.

Kind regards,

Hello

Thank you again for consulting us on this proposal, and for providing the additional information outlined below. Apologies for the delay in issuing our advice - please find this attached. I hope you find this helpful, but if you have any questions on what we have advised, please do not hesitate to get in touch.

Kind regards,

NatureScot |

nature.scot | @nature_scot | Scotland's Nature Agency | Buidheann Nàdair na h-Alba

← Reply ≪ Reply All → Forward

Good morning

I hope you are having a good day and apologies for the delay in relying. We sent your advice directly to the CAA so they are aware and it will form part of their decision making towards this ACP.

We very much appreciate the advice you have put together. I was wondering if you had the SPAs and SSSIs in KML/KMZ file format? If so, we can load this into our system which would help with operational planning.

These flights are part of the SATE initiative to build a sustainable aviation test environment (SATE) around the Orkney Islands, part of which will be the increased usage of UAVs in the area. I therefore recommend that we carry out a survey as suggested. In the letter you say you can advise further on the survey design which would help us in collecting the appropriate data and then further confirm that we are correctly interpreting any results. In annex 1 it is suggested that we use an on-board camera to capture video footage. To add to this, I suggest we also carry out a noise impact assessment.

Let me know if you have any further questions about our operations.

Hello

Thank you for the update.

The information you requested on is available online via our SiteLink information service on the Open Data Hub which can be found here: https://www.nature.scot/information-library-data-and-research/snhi-data-services You can download the spatial data and shapefiles in different formats, depending on your needs. SPA and SSSI data is stored under Protected Areas.

Given the potential increase in UAV operations in this area, and that we have already advised on the uncertainties around how birds may respond to these types of novel aircraft activities, carrying out the survey as advised will be required to inform our advice on the potential impacts arising from this proposal and any future operations. We are developing indications for UAV operators, which will be in place while UK-wide best practice guidance is under development on the use of UAV in portected sites and in the vicinity of sensitive species. I vould be happy to keep you informed once this guidance is available. In the interim, we also strongly encourage feedback from UAV users. Flights near seabird colonies, Schedule 1 or 1A species, or large groups of waterfowl can be logged on the UAV Flights Bird Disturbance Feedback Form (attached).

As this is a novel operation with some uncertainty over the potential impacts on natural heritage features, there is no specific guidance which is entirely applicable nor which we can recommend for this specific case. We have a guidance note on surveys for offshore wind farms which only refers to land-based vantage point surveys (which would be the recommended survey type for the Windracer operation) <a href="https://www.nature.scot/doc/guidance-note-2-guidance-support-offshore-wind-sequications-advice-marine-ornithology-baseline-In addition, the Seabird monitoring handbook for Britain and Ireland (incc.gov.uk) is a valuable resource for seabird surveys. Finally, IACC have publiched guidance on Ummanned Aerial Vehicles for use marine-monitoring. However, we advise that these guidance resources are not aimed specifically at monitoring disturbance associated with UAVs, nor for a UAV operation of this scale, and so the design of the final survey methodology will need to take this into consideration.

As a reminder, for any bird species, any activity that prevents birds from using a nest may be an offence under the Wildlife and Countryside Act. For species listed on Schedule 1, any form of disturbance to nesting birds could be an offence, and for those on Schedule 1A, disturbance of individuals at any time may be regarded as 'reckless harassment' and therefore also an offence. Therefore, repeated disturbance of birds in these circumstances must be avoided. We fulfil our advisory role on protected species birds through the provision of standing advice and on texpect to be consulted other than in exceptional circumstances not covered by the relevant standing advice available at Planning and development; protected animals and <u>Protected Species; birds</u>. You should consider the need for species licences as part of any development and contact <u>licensing@mature.scot</u> regarding any licence application.

I hope this information is helpful,

Kind regards,

Nature Scot |

nature.scot | @nature_scot | Scotland's Nature Agency | Buidheann Nàdair na h-Alba

F.46 NATS

RE: Windracers UAS Operations in Orkney (ACP-2022-049)

To 💿 Contact Operation

NATS NERL plc (including Aberdeen offshore) has carried out an Impact Assessment which has concluded 'no impact' on the changes stated within the documentation

Regards

Updated ConOps supplied by Windracers

Windracers ConOps				
	" Reply All	→ Forward	Ø	
				2
Concept of Operations - ACP-2022-049 - 4.1.docx 6 MB				

Dear All,

Please see attached the updated ConOps. Please do let me know if you have any queries relating to the proposed operations. As always we're happy to take on any feedback received.

The updates are shown below

4.1	All	Update DAAIS to SUAAIS as per Supplementary Instruction CAP413 2024/01. Update to all diagrams to reflect the removal of TDA – A.
	Acronyms and Abbreviations	Update.
	1. Introduction	Update to dates.
2	3. Scheduling	Update to dates. Update to schedule.
8	4. Communications	Update to contact details. "The GCS Operator will listen on SAFETYCOM"
8	6. Operating Procedures	Removal of Kirkwall specific requirements for ATC such as requesting permission for take-off (Note: Windracers will still inform Kirkwall of intention to take-off). Loiter Points – Table 6 updated to reference ARP instead of DVOR. Emergency Services – Update.

The attached document is for review, I will send the formal document to be signed on the 15/03/2024.

Replies to Windracers ConOps update

F.47 Orkney Island Council			
RE: Windracers ConOps			
	S Reply	🦐 Reply All	→ Forward 🚺 ····
Follow up. Completed on 13 March 2024.			Tue 12/03/2024 12:12
Classification: OFFICIAL			
Thanks			
I wonder if it may be beneficial to have a round table (or screen) discussion with all stakeholders as things are progressing (rather than individual	discussions)?		
Kind regards			

Meeting held 18/03/2024 - Details in Appendix C

F.48 NLB

RE: [EXT] Re: [EXT] Windracers UAS Operations in Orkney (ACP-2022-049)	
	\bigcirc Reply \bigcirc Reply All \rightarrow Forward $\textcircled{1}$
To Contact Operations	Wed 13/03/2024 14:06
Thank you,	
Kind regards	

Appendix G – Noise assessment

A noise assessment was carried out on the 17/03/2023 at Llanbedr airfield, Wales for ULTRA. This test adhered to the guidelines provided by the CAA's Environmental Regulators.

The test was carried out by commanding ULTRA into a standard circuit at 850ft, with the decibel meter positioned as close to the centre of the circuit as possible. The test was run for a total of 10 minutes, with an LA_{max} value of 52.7 dB being recorded.

Using the inverse square law and applying the 10 dB tonal penalty, an altitude threshold of 652.3ft was calculated (see Figure 1 below).

Point 1	
Distance from the source	850 <u>ft •</u>
Sound pressure level	62.7 dB
Point 2	
Distance from the source	652.3 <u>ft</u>
Sound pressure level	65 dB

Figure 1 Distance attenuation calculation

Planned flights are at 1000ft AMSL and therefore do not require notification of noise levels.

Appendix H - Public Announcement Outlets

The following groups will be contacted to display information on Windracers activities and contact details for any feedback relating to ACP-2022-049.

Community Centers and Hubs

Orkneycommunities.co.uk is a website that consolidates all the community centers under one website. The communities listed below have been chosen as they were identified to look the most active within the community.

1. Holm Community Centre (Mainland Orkney)

Address: Holm Community Centre, Orkney KW17 2RT Phone Number: 01856781472 Email Address: holmcommunitycentre@outlook.com Website: https://www.orkneycommunities.co.uk/holmca/

2. Kirkwall & St Ola Community Centre (Mainland Orkney)
Address: Community Centre, Broad St, Kirkwall KW15 1DH
Phone Number: 01856873354
Email Address: Website: https://jmaps.net/kirkwall-st-ola-community-centre

3. St Andrews Community Centre (Mainland Orkney)
Address: Tankerness, Kirkwall, Orkney KW17 2QU
Phone Number: 01856861371
Email Address: Website: -

4. Cromarty Hall (South Ronaldsay)

Address: R2GQ+7M St Margaret's Hope Phone Number: Edwina Lloyd: (+44) 07947538932 Email Address: bookingsec.cromartyhall@gmail.com Website: https://www.cromartyhall.co.uk/

5. Birsay Community Hall (Mainland Orkney)

Address: Birsay, Orkney KW17 2NB Phone Number: (01856) 721 301 Email Address: admin@birsayhall.co.uk Website: https://birsayhall.co.uk/

6. Eday Heritage Centre (Eday)

Address: Eday, Orkney KW17 2AB Phone Number: Luara Merry (Ranger for Eday) 07841 009693 Email Address: -Website: https://www.facebook.com/people/Eday-Heritage-Centre/100068781206332/

7. Westray Development Trust (Westray)

Address: Unit 1, Quarry Road, Pierowall, Westray, Orkney, KW17 2DF Phone Number: 01857 677858 Email Address: admin@westraydevelopmenttrust.co.uk Website: https://westraydevelopmenttrust.co.uk

8. Papay

Address: The Kelp Store, Papa Westray, KW17 2B Phone Number: Jonathan 07970 732615 (Papay Ranger) Email Address: cdopapay@gmail.com (Email for the development trust) Website: https://www.papawestray.co.uk/

9. North Ronaldsay Bird Observatory

Address: Twingness, North Ronaldsay, Orkney. KW17 2BE Phone Number: 01857 633200 Email Address: enquiries@nrbo.org.uk Website: https://www.nrbo.org.uk/

Social Media and Online Forums

1. BBC Radio Orkney

Address: Castle Street, Kirkwall, United Kingdom Phone Number: 01856 873939 Email Address: -Website: -

2. Orkney Island Council

Address: School Place, Kirkwall, Orkney, KW15 1NY Phone Number: 01856 873535 Email Address: communications@orkney.gov.uk Website: https://www.orkney.gov.uk/News