MINUTES OF TDA CONNECTING THE IS LES OF SCILLY AND CORNWALL FOR OPERATIONS OF CARGO UAVS (ACP-2020-15) ASSESSMENT MEETING HELD ONLINE ON 13th AUGUST 2020

13/08/2020

Distribution List

Present	Appointment	Representing
[redacted]	[redacted]	CAA
		CAA
		CAA
		CAA
		CAA
		CAA
		Windracers Ltd
		Windracers Ltd
		U. of Southampton

CAA Assessment Meeting Opening Statement

The CAA has received the Statement of Need, Agenda and presentation in advance of this Assessment Meeting and can confirm that the documents are required to be published together with the minutes of this meeting on the airspace change portal.

The purpose of the Assessment Meeting as set out CAP1616 is for the Change Sponsor to present and discuss their Statement of Need, provide information on how it intends to fulfil the requirements of the airspace change process and present its provisional timescales. Lastly, the sponsor is required to provide information on how it intends to meet the engagement requirements of the process.

	ACTION
Item 1 – Introduction All attendees were introduced. [redacted] read the CAA opening statement (as above). [redacted] invited Windracers to present their Statement of Need.	
Item 2 – Statement of Need (discussion and review) [redacted] did a presentation, covering the following points: **i. Project objectives:** • Prove capability of technology to carry out long-range freight operations between islands. • Complete first phase of BVLOS development pathway as per CAP1861 – Nov 2019.	

- In May 2020 ULTRA UAS was trialed as NHS COVID-19 relief service between EGHF and an airstrip in the Isle of Wight. This project will help prepare the system and team for the attention of other emergencies.

ii. Proposed operations

The proposed operations is a point-to-point route between EGHC and EGHE.
The designed route is mainly within Class G airspace, in the bounds of Land's End transit Corridor and briefly crossing the Culdrose AIAA.
The UAS would be conspicuous to LARS systems.
The UAS would be operated by two crews, one on each end. The crews will swap the control half-way.

iii. TDA design principles

Design principles were divided into two groups:

- Technical requirements
  - UAS route should lie within Radio Line of Sight (RLOS)
  - The design should pose low ground risk
  - There should be no gaps between the TDA and the ATZs of EGHC and EGHE.

- Related to air traffic
  - LARS coverage
  - Strategic separation (Stakeholder engagement0
  - Low-impact on stakeholders

iv. Known aviation activity

A brief review of the aviation activity within the Land's End corridor was done. This included the analysis of ADS-B and MLAT data of about 200 commercial flights and 200 military flights.

The information shows a trend in commercial flights of crossing between EGHC and EGHE under 2000 ft AMSL. It also shows scattered military flights towards the north of the Land's End corridor and only few traces within.

This analysis has many limitations as it does not take in account low level flights, however the Sponsor is aware of numerous military helicopter flights from Culdrose RNAS and the lack of information regarding GA flights as these traffics might not use electronic conspicuity.

v. Proposed design

An initial draft of a TDA was presented. This is a rectangle of ~1.5 NM width and 23 NM length joining both ATZs.
The TDA is divided in four segments lengthwise. Two short segments attached to the ATZs going from surface to 2500 ft AMSL and the two longer central segments going from 2000 ft to 4000 ft AMSL.

vi. Risk mitigations

A series of risk mitigations have been considered and are believed to provide additional means of separation between the UAS other traffic.

- Initial operations will occur on weekends or night, when commercial flights are not expected.
- UAS crew will file flight plans.
- UAS crew will be signed in with an ATC.
- Electronic conspicuity ADS-B out will be operated in the UAS at all times.

- Windracers will require an ATSU to provide DAAIS of the TDA.
- The UAS features redundant navigation systems and advanced failsafe mechanisms.
- The UAS id equipped with position and navigation lights.

vii. Work to date

Windracers had recent experience with similar operations, flying between mainland England and the Isle of Wight. As mentioned before this experience has left a number of lessons learnt with regards to operational procedures, deconfliction and system's performance that have been successfully applied. The company is confident that can carry out safe BVLOS point-to-point operations.

viii. Other requirements

At the time of this meeting, Windracers is preparing the Operating Safety Case to apply for an UAS exemption. This OSC will be submitted within a week. Ofcom radio licences are also to be sought in order to use the high-power C2 radios at the required locations.

Item 3 – Issues or opportunities arising from proposed change

[redacted] requested information about additional opportunities and issues that could arise from this proposed Airspace Change.

[redacted] informed about future projects of Windracers, related to the provision of services to other island territories of the UK. He also mentioned that this project has a very positive impact in other government agendas related to cleaner transport of cargo.

[redacted] added that ULTRA UAS currently uses a state-of-the-art "masterless" flight control system that provides very high level of reliability and this would be an opportunity to exploit its safety features.

[redacted] also talked about long-term goals of BVLOS operations within unsegregated airspace. This project has been presented to the CAA innovation hub. These operations would be the first stage to demonstrate the technological capability and suitability of the system. It'd also help identify operational requirements to continue in the following stages.

Item 4 – Options to exploit opportunities or address issues identified

[redacted] **identified through discussions they were looking to use the** CADS (Centralised Aviation Data Service) to share and receive information about air traffic in the area. [redacted] noted that whilst this was a useful tool it only provided information on what was planned and was **not a live picture and did not provide deconfliction.** He further stated that RNAS Culdrose had a large amount of helicopter traffic which had not been included in the traffic levels displayed and they routinely operated in that area. He advised the sponsor should liaises to the Military through DAATM. He also asked whether a unit had been approached to provide a DACS rather than the DAIS which may be more appropriate in busy areas. [redacted] further sought clarification that the users of the Land's End Transit Corridor when then had been approached were content with the overlaying of the Danger Area above them to permit transit of the UAS.

[redacted] noted there was a dependency upon the Dangerous Air Cargo permission. Windracers indicated if this permission was not possible by the desired deadline, they would be able to deliver other supplies instead. [redacted] noted this fact should be included in the engagement to enable stakeholders to make an informed judgement when considering any impact to their own operations. [redacted] requested clarification regarding the type of operations that ULTRA UAS would carry out within the airports' ATZs. [redacted] Clarified that within the ATZs the UAS will take-off and land under VLOS rules and transition to and from BVLOS. He also talked about the experience gained during the BVLOS operations at EGHF. For these flights specific deconfliction procedures were designed that included participation of the MCA and AGHF AGCS. This experience will be used to design effective deconfliction procedures.	
Item 5 – Provisional indication of the scale level and process requirements [redacted]Made reference to the Airspace Change process flowchart in CAP1616. He made clear that Windracers should follow only those stages required for Temporary Airspace Changes. Following this meeting, these are: Stage 3/4: Related to stakeholder engagement (Length of this stage depending on the engagement strategy) and compile documentation and submission. Stage 5: CAA Assessment (Decide Gateway). Usually takes 28 days. Stage 6: Implementation and monitoring [redacted] talked about stakeholder engagement. He advised Windracers that the process for a Temporary Airspace Change requires a process of Targeted Engagement and not a Consultation. However, it is recommended to design a stakeholder engagement strategy following CAP1616, Appendix C. The stakeholder engagement should target relevant aviation stakeholders, both local and national representative bodies. It is also recommended to use the NATMAC distribution list to identify potential stakeholders including the Ministry of Defence through Defence Airspace and Air Traffic Management (DAATM). Should flights occur below 7000 ft above inhabited areas, those populations should also be included in the engagement as they are prone to be affected by the aviation activities. An effective engagement strategy should include: • Methodology to identify stakeholders • Audience • Engagement approach • How feedback will be treated [redacted] Explained that these operations require an exemption issued by the CAA UAS Team. Windracers should apply for that exemption by submitting an Operating Safety Case in accordance with CAP722A. This OSC Should Include: • Volume 1. Operations Manual • Volume 2. Systems • Volume 3. Safety Assessment	

It is important that both air and ground risks are addressed. Also, it should include evidence of the competency of the crew members and the availability of an insurance policy in accordance to regulation (EC) No 785/2004.

Item 6 – Provisional process timescales

The following timeline was agreed after the meeting:

	17-Aug	24-Aug	31-Aug	07-Sep	14-Sep	21-Sep	28-Sep	05-Oct	12-Oct	19-Oct	26-Oct	02-Nov
Stage 3: Stakeholder Engagement												
Stage 4: Document and submit												
Stage 5: CAA Assessment												
Stage 6: Implement												

Item 7 – Next steps

- [redacted] should submit the Operating Safety Case for the review of the UAS Team.
- It is recommended that [redacted] designs an engagement strategy to be checked by CAA (not mandatory)
- [redacted] should document all evidence of the stakeholder engagement and submit to the CAA to complete Stage 3.

Item 8 – Any other business

There being no other topics to be discussed, the meeting was closed.

ACTIONS ARISING FROM TDA CONNECTING THE IS LES OF SCILLY AND CORNWALL FOR OPERATIONS OF CARGO UAVS (ACP-2020-15) ASSESSMENT MEETING

Subject	Name	Action	Deadline
Meeting Minutes	[redacted]	Complete meeting minutes and submit	20/08/2020
Project Timeline	[redacted]	Agree on timeline with CAA	20/08/2020
Meeting Minutes	[redacted]	Upload meeting minutes	27/08/2020
Operating Safety Case	[redacted]	Submit UAS OSC application	20/08/2020

[redacted]
ACP Sponsor