CAA Environmental Assessment

Temporary Airspace Change Proposals

Title of airspace change proposal	TDA RPAS Operations (Northern North Sea)
Change sponsor	Flylogix Holdings Ltd
Project reference	ACP-2023-083
Account Manager	[redacted]

Instructions

In providing a response for each question, please ensure that the 'status' column is completed using the following options:

- YES
- NO
- PARTIALLY
- N/A

To aid the decision maker, highlight each question accordingly to illustrate what is:

resolved YES not resolved PARTIALLY not compliant NO

1. Introduction

This Airspace Change Proposal (ACP) is for a temporary change to airspace design to allow Flylogix Holdings Limited ('the sponsor') to conduct Remotely Piloted Aircraft Systems (RPAS) Beyond Visual Line of Sight (BVLOS) operations to complete methane emission surveys of offshore oil and gas platforms in the Northern North Sea. The RPAS is a single propeller, fixed wing aircraft fitted with a methane sensor. In order to conduct these flights safely, in accordance with current regulatory requirements and in the absence of suitably approved detect-and-avoid capability, the BVLOS activity must be segregated. To achieve this, the

sponsor has requested a Temporary Danger Area (TDA) complex for the three-month period to undertake this work. The TDA complex originates from Shetland and is to provide access to oil and gas platforms in the North Sea East and West of Shetland. It is proposed that operation takes place between 2 May 2024 and 14 July 2024. The UAS is to be operated from Scatsta, a disused airport approximately 15nm from the closest airfield at Tingwall.

The airspace design comprises a total of 20 TDA segments. For the North Sea East TDA segment A (Scatsta Airport) and segment B both have partial land coverage with TDA segments C – L all offshore. The West of Shetland complex comprises TDA A and segments M – S. Segment M is partially onshore. All TDA segments are established between surface (SFC) to 1300ft AMSL. See Figures 1 and 2: Map of TDA Proposal.

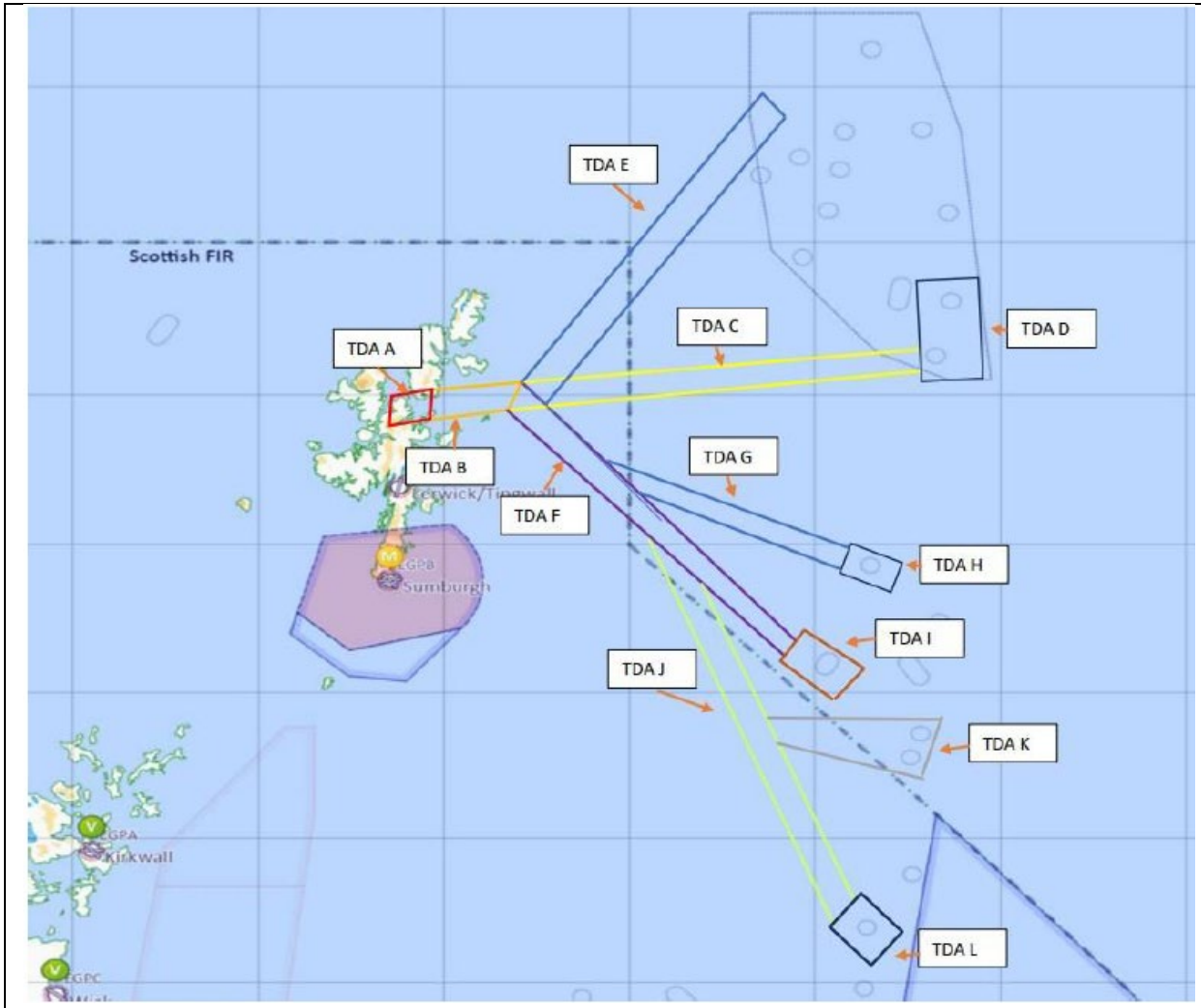

Figure 1: Map of North Sea East TDA segments A and B (onshore) and segments C – M (offshore).

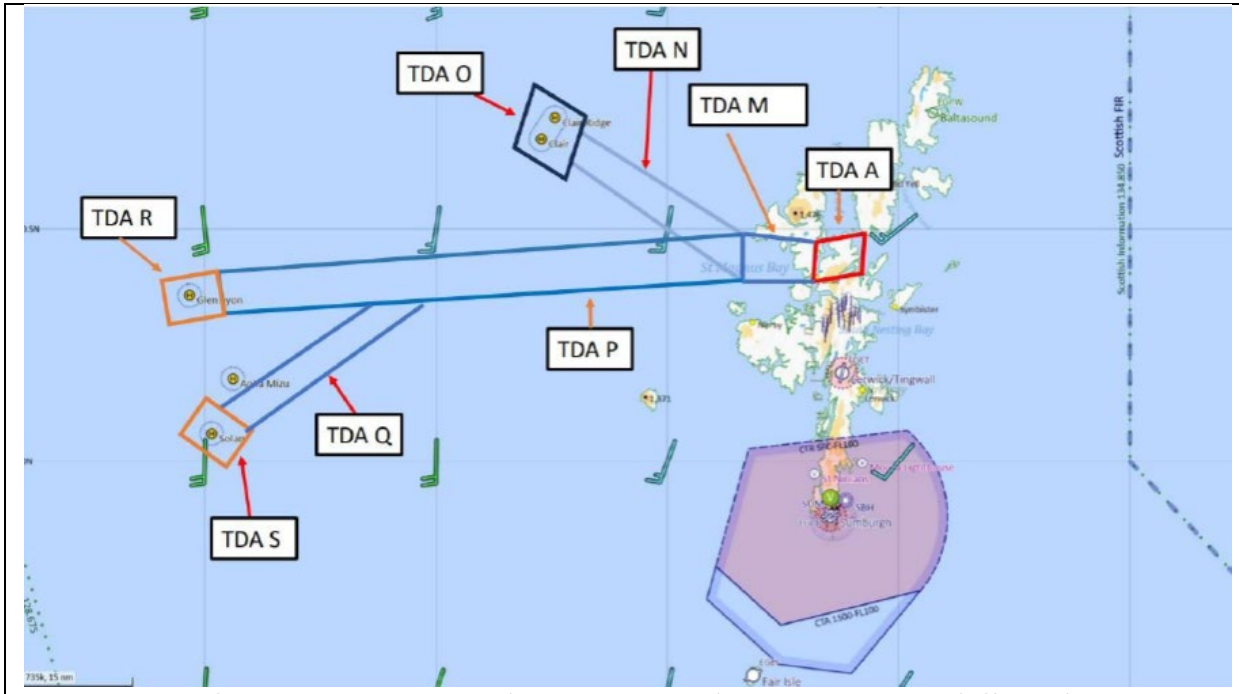

Figure 2: Map of TDA segments A and N (partially onshore) and segments P- S (offshore).

Section 70(2) of the Transport Act 2000 requires the CAA to take account of any guidance on environmental objectives given to it by the Secretary of State (SofS) when carrying out its air navigation functions, namely the Air Navigation Guidance 2017 (ANG 2017). For temporary changes to airspace design, ANG 2017 paragraph 2.13 requires that the CAA consider the sponsor's assessment of the noise impact before a decision on the proposal is made, unless the CAA is satisfied that the specific details of the proposal mean that this is not needed. In addition, ANG 2017 paragraph 2.3 states that in circumstances where a temporary airspace arrangement would affect the distribution of air traffic below 7,000 ft., where practicable, the communities that may be affected should be informed prior to the change being implemented. The sponsor is therefore also expected to consider the anticipated noise impacts as a result of any consequential changes on other airspace users (i.e., impacts below 7,000 ft.). CAP1616 v4, paragraphs B81 – B85, outline the environmental assessment requirements that sponsors of temporary ACPs are required to follow. Due to the short-term

nature of temporary changes, there is no requirement for the sponsor to assess longer-term environmental impacts (i.e., CO2, local air quality, tranquillity, biodiversity).

2. Statement of Need		Yes/No
2.1	Does the Statement of Need include any environmental factors?	Yes
	Yes, the Statement of Need (SoN) includes reference to an anticipated reduction in environmental impacts with the proposal claimed to reduce the need to send staff to collect data from offshore energy infrastructure. The sponsor also states that the proposal aligns with the four objectives of the Airspace Modernisation Strategy which includes Environment, which is achieved by '*utilising more efficient and environmentally friendly aircraft for survey work.*'	

3. Information conveyed to those affected		Status
3.1	Has the change sponsor adequately provided a justification for the change?	Yes
	Yes, the sponsor has justified that as per CAP 722, BVLOS RPAS operations require a certified Detect and Avoid (DAA) system. In its absence, current regulations require RPAS BVLOS flights to be contained within segregated airspace in order to separate from other airspace users. The sponsor has proposed a TDA structure to be established to provide this segregation and conduct their operations.	
3.2	Has the change sponsor adequately confirmed the effective period of the change?	Yes
	Yes, the sponsor has stated that the proposed TDA will be notified for a total duration of 90 days, with three periods of flight indicatively planned between 2nd May 2024 and 14th July 2024. The sponsor has indicated that there are fifteen flights planned which will generally be conducted at weekends when there are fewer oil and gas helicopter movements, although some flights may take place on weekdays subject to traffic. The operator may conduct multiple flights in a single day.	

3.3	Has the change sponsor provided sufficient details of the frequency of flights?	Partial
	In v8 of the Final Submission (submitted 18/04/2024) the sponsor states that they plan to conduct a total of 15 flights during the 90-day period and may conduct multiple flights per active day. The flights will be undertaken during three separate periods which are indicatively planned for 2 May to 19 May 2024, 30 May to 16 Jun 2024 and 28 June to 14 July 2024 (subject to weather and serviceability). Flights are between 3 and 4.5 hours in duration with the activation time scheduled to include a period of 15 minutes before take-off and up to 3 hours after last scheduled landing time (as contingency for weather delays). The frequency of flights stated in Section 6: Noise Assessment within the Final Submission states, '*When the total flights have been concluded, no more than 10 and mainly at the weekends, the AIC will be cancelled*.' This contradicts the previous statements in the document in respect of frequency of flights. A condition requiring the sponsor to confirm the frequency of flights has been proposed (see 6.2).	
3.4	Has the change sponsor provided sufficient details of the typical altitudes of operations?	Yes
	Yes, the sponsor has stated that the RPAS flights will be transiting up to an altitude of 600 - 800ft AMSL, this allows a 500ft vertical separation between the UAS and upper limit of the TDA (1300 ft).	
3.5	Has the change sponsor adequately provided a qualitative description of changes to traffic patterns, illustrated using operational diagrams overlaid on Ordnance Survey maps or similar? *The diagrams should be of sufficient detail for those affected to identify where they live in relation of the changes in traffic pattern.*	Partial
	The sponsor has provided maps showing the proposed TDA, but these are not of sufficient resolution to identify possible impacted onshore communities. The sponsor has also provided minimal information in respect of the potential changes to traffic patterns caused as a result of the ACP. The sponsor has referenced a review of FlightRadar24 data and stated that there would be, '*negligible GA traffic (although it is accepted that non-transponding traffic will not be detected) over the area of interest and therefore it is not anticipated that there will be any changes to traffic patterns' (Final Submission v8, Chapter 6: Noise Assessment).* The sponsor has not provided any data to support this assessment or provided any specific information from local GA sources which could indicate the number of non-transponding aircraft likely to be impacted by the ACP. The sponsor has provided some rationale to support their assessment that there will be little to no impact on the flight path or volume of air traffic flying below 7000ft over inhabited areas. The sponsor states that only low-level traffic has the potential to be affected as the proposed TDA extends only up to 1,300 ft amsl. All manned aircraft are expected to operate above this altitude. The sponsor has stated that, '*the volume of traffic in the operating area is mostly comprised of Oil and Gas helicopters flying offshore, with some GA. Oil and Gas helicopter operators are known to operate between 1500-3000ft and therefore will likely be unaffected by the TDA. Additionally, this traffic is predominantly offshore and is unlikely*	

	to be within the onshore segments of the TDA.' To mitigate the potential impact of the TDA on other airspace users, the sponsor has indicated that the TDA will be tactically managed through NOTAM to ensure that it is only active when required and only those segments of the TDA required for flight will be activated. A Special Use Airspace Crossing Service (SUACS) will be provided by Sumburgh Radar, Brent Radar or Aberdeen Radar. There is no evidence in the engagement material of any unresolved conflicting interests with other aviation activities. All stakeholders that responded seem content with the proposal and the idea that deconfliction can take place either tactically or at the late planning stage to deconflict activity.	
3.6	Has the change sponsor adequately provided typical noise levels at key locations?	Partial
	Partial, the sponsor has provided typical noise levels for the RPAS based on "Flylogix testing". This indicates that with the aircraft operating at 400ft AGL and at a lateral distance of 1km, the noise produced is </= 45dB expressed as LAmax. The sponsor has provided no information on the testing methodology or on the ambient conditions during the test and it should be noted that a distance of 1km from a noise source would not represent typical test conditions as there are a number of variables that could affect the noise level measured such as, extraneous background noise and other surface effects such as ground topography etc. Accepting the stated LAmax noise level of 45dB at 400ft AGL, based on the accepted acoustic principle of attenuation over distance, the predicted noise level at 800ft AGL (at a lateral distance of 1km) would be 39dB. The sponsor has not provided typical noise levels for the take-off and landing phases of the UAS flight however, as these phases are scheduled to take place at an airfield (Scatsta) the risk of noise impact adversely affecting the local community or other sensitive receptors is minimal. The sponsor has not provided typical noise levels at key locations but has described the land areas under the TDA and in the vicinity of Scatsta Airport as being very sparsely populated. The mapping provided is not of sufficient resolution to enable potential receptors to be identified and therefore the sponsors assertion cannot be verified however, review of online mapping confirms that there are a very limited number of potential sensitive receptors likely to be impacted within the onshore segments of the TDA. Consequential noise impact from other airspace users has not been quantitatively assessed but this is also likely to be minimal, see Question 3.5.	
3.7	Has the information at 3.1 to 3.4 above been adequately conveyed to those affected?	No
	The sponsor has stated in the Stakeholder Engagement Summary, that local residents were not engaged for the following reasons. • *The airspace design does not impact the how the UA will operate Scatsa and needs to cross over land to get to the sea.*	

	• *The route over land is over remote farmland and has been selected to avoid direct overflight of buildings.* • *The unmanned aircraft will be at 800ft when operating over land. Flylogix testing shows that with the aircraft operating at 400ft AGL and at a distance of 1km away, the noise produced is ≤45dB. This combined with the fact that the aircraft only transits over land and does not hold (other than at the airfield), the noise impact of the RPA will be minimal and for short periods of time.* The Air Navigation Guidance 2017 paragraph 2.3 states that in circumstances where a temporary airspace arrangement would affect the distribution of air traffic below 7,000 ft., where practicable, the communities that may be affected should be informed prior to the change being implemented. In this case, it is accepted that there are likely to be minimal impacts from the operation of the RPA operation and that the route has been planned specifically to avoid overflight of buildings. It is recommended that any information provided to representative organisations and/or local communities should include operational diagrams of sufficient detail for those potentially affected to identify where they live in relation of the changes in traffic patterns.

4. Assessment of noise impacts		Status
4.1	Was the detail of the assessment of the noise impact agreed between the change sponsor and the CAA, or determined by the CAA (where there was no agreement)? *The CAA is required to consider the sponsor's assessment of the noise impact of each proposed temporary change to airspace design before it makes its decision on the proposal, unless it is satisfied that the specific details of the proposal mean that this is not needed. The detail of this assessment should be agreed between the sponsor and the CAA at an early stage of the sponsor's planning. Assessments may include consideration of both primary and secondary noise metrics. If agreement cannot be reached, the CAA will determine the detail of the assessment.*	No
	The detail of the assessment of the noise impact was not agreed between the change sponsor and the CAA; therefore, the CAA determined the detail of the required noise impact assessment upon receipt of the final submission.	
4.2	Has the assessment of noise impacts identified in Question 4.1 been adequately assessed and presented in the final submission to the CAA?	Partial
	The sponsor has provided some noise data in the document '*Stakeholder Engagement Summary*' and *'TDA Final Submission V8'*, but the data has not been fully presented (see Q3.6 above). However, based on the noise data that has been provided and given the limited number of flights and the planned routing to avoid overflight of buildings, it is unlikely that any potential noise sensitive receptors will be subject to noise levels from the UAS in excess of 65 dB LASmax (daytime noise threshold). There are no night flights planned.	

4.3	Summary of anticipated noise impacts from the final proposed temporary airspace change.
	Noise impacts from the final proposed temporary airspace change are anticipated to be minimal. This is based on the low number of planned UAS movements (maximum 15) over the duration of the proposed TDA period of 90 days. The UAS flight route, whilst not sufficiently detailed in the TDA Submission V8, is clearly over sparsely populated land and the sponsor has stated that routes will be specifically planned to avoid overflight of buildings. The noise level specified for the UAS platform at the planned cruise height of 800 ft is well below the 65dB LAmax noise threshold for disturbance for daytime aircraft movements, based on a lateral separation distance of 1 km from sensitive receptors. The TDA is predominantly offshore with only three segments (A, B and M) partially onshore. The sponsor has assessed through evaluation of flight data and engagement with aviation stakeholders, that there will be minimal impact on other airspace users and that the consequential noise impacts are likely to be negligible. The sponsor has proposed to further mitigate impact on other aircraft through tactical management of the TDA through NOTAM, provision of a SUACS and deconfliction arrangements (where possible) with oil and gas helicopter traffic.

5. Compliance with relevant policy and guidance from Government or the CAA		**Status**
5.1	Has the change sponsor satisfied all relevant policy and/or guidance, with regards to environmental impacts of the proposed airspace change? *Notably, has the change sponsor complied with the environmental requirements in:* • *CAP1616: Airspace change: Guidance on the regulatory process for changing the notified airspace design and planned and permanent redistribution of air traffic, and on providing airspace information;* • *CAP1616a: Airspace Change: Environmental requirements technical annex;* • *DfT Air Navigation Guidance 2017: Guidance to the CAA on its environmental objectives when carrying out its air navigation functions, and to the CAA and wider industry on airspace and noise management.* If a change sponsor has not complied with any aspect of those documents, have they provided a rationale and is it reasonable?	Yes
	The sponsor has satisfied all relevant policy and/or guidance with regards to environmental impacts of the proposed airspace change.	

6. Recommendations/Conditions		Status
6.1	Are there any Recommendations which the change sponsor **should try** to address either before or after implementation (if approved)? If yes, please list them below. ***GUIDANCE NOTE:*** *Recommendations are something that the change sponsor **should try** to address either before or after implementation, if indeed the airspace change proposal is approved. They may relate to an area in which the change sponsor is reliant upon a third party to actually come to an agreement and consequently they do not carry the same 'weight' as a Condition.*	Yes
	• It is recommended that any information provided to representative organisations and/or local communities should include operational diagrams of sufficient detail for those potentially affected to identify where they live in relation of the changes in traffic patterns.	
6.2	Are there any Condition(s) which the change sponsor **must fulfil** either before or after implementation (if approved)? If yes, please list them below. ***GUIDANCE NOTE:*** *Conditions are something that the change sponsor **must fulfil** either before or after implementation, if indeed the airspace change proposal is approved. If their proposal is approved, change sponsors **must** observe any condition(s) contained within the regulatory decision; failure to do so **will usually** result in the approval being revoked.*	Yes
	• The sponsor is required to clarify the frequency of flights (see Q.3.3)	

Environmental assessment sign-off	Name	Signature	Date
Environmental assessment completed by Airspace Regulator (Environment)	[redacted]	[redacted]	18/04/2024
Environmental assessment approved by Manager Airspace Regulation (or alternative delegation of authority)	[redacted]	[redacted]	29/04/2024