Stakeholder Engagement Plan

ACP-2023-066

October 2023

CONFIDENTIAL

1. INTRODUCTION

Flylogix are an Unmanned Aircraft (UA) service provider, focused on the offshore energy sector. Flylogix have been contracted for up to ten methane surveys of oil and gas platforms in the Central North Sea from March 2024.

The operations will be conducted in a Temporary Danger Area. Flylogix have begun an airspace change request (ACP-2023-066) to establish this TDA.

2. OJECTIVES OF THIS DOCUMENT

The objective of the ACP is to engage with aviation stakeholders (airspace users, air navigation service providers and aerodromes) on the safety and operational viability of the proposed change and to ensure minimum possible impact on other air users.

This Stakeholder Engagement Plan aims to identify the relevant aviation stakeholders and anyone else who may be impacted by the proposed changes and lay out how their views will be gathered and considered.

3. AREA OF OPERATION

The proposed TDA is over the sea and has a proposed altitude of surface to 1,300ft ASL This means that the impact will mainly be on those air users who operate over the sea and residential areas etc. will not be impacted. The type of engagement has been adjusted to reflect this.

4. PREVIOUS WORK

Flylogix has completed BVLOS UAS flights, within a TDA, in the Southern North Sea in 2021, 2022 and in other areas of the North Sea. As a result, there has been previous engagement with relevant stakeholders prior to this ACP process and a list of stakeholders has been developed during these previous ACPs. This has been used as a starting point for identifying the Stakeholders to be engaged with.

5. AUDIENCE

5.1 Stakeholders identified in previous engagement:

- **NATS (Anglia Radar)** will be approached to provide a Danger Area Crossing Service (DACS) for the operations. In previous operations procedures have been developed between NATS and Flylogix to enable this.

- **Bristow SAR.** Bristow operate the UK SAR contract and shall be engaged directly in addition to JRCC

- **Oil and Gas helicopter operators.** There are four helicopter companies that fly from Norwich and Humber servicing the Southern North Sea Oil and Gas industry (Bristow, Babcock, CHC and NHV). They all operate from Norwich Airport flying out to the rigs typically at an altitude of 3,000ft or lower.

- **Fishery protection and environmental monitoring.** Airtask operate a Fishery Protection aircraft and environmental monitoring aircraft that on occasion need to operate at low altitudes over the North Sea.

- **MOD** aircraft may be operating in the area. There are military Danger Areas established to the NW of and above the operating area and RAF Marham approximately 25nm to the SW of Weybourne Airfield. DAATM shall be contacted.

- Babcock Mission Critical Services Onshore are operators of air ambulance and police aviation units.

- **2Excel Aviation** who are an aviation services provider in the area

- **Uni-Fly** who is a helicopter operator specializing in offshore windfarm hoist operations

- **General aviation.** Once offshore there is relatively little GA, particularly at low altitude. Specific airfields near the operating area have been identified (see below) in addition The General Aviation Alliance, Airspace 4 All and the Aircraft Owners and Pilots Association shall also be contacted.

5.2 Aerodromes

Our strategy is to engage all airfields within 15 miles of the TDA and larger aerodromes that may have aircraft operating from there in the area of the TDA.

- **Garton airstrip** (5 miles from proposed TDA) is a private farm strip

- **Humberside airport** (19 miles away from TDA) is a commercial airport with passenger operations and oil and gas helicopters

- **Norwich airport** (90 miles away from TDA) is well to the South of the TDA but will be engaged as oil and gas helicopters operate from there.

5.3 NATMAC

- Following feedback from the CAA we will engage with the complete NATMAC list with the exception of the MAA and Navy Command HQ as DAATM will co-ordinate the MoD response to ACPs and ACOG given that this is an ACP of a temporary nature.

5.4 Stakeholders who will not engaged on airspace design

Local Residents will not be engaged as part of the airspace change request. This is because:

- The airspace design does not impact the fact that the unmanned aircraft will operate from a site inland and the airfield is located directly on the coast minimising the flight path over land.

- The unmanned aircraft will be at 800ft when operating over land. At this altitude it creates little noise and measures less than 45dBA at a cruising altitude of 400ft causing no discernible change to background noise (based on Flylogix testing).

6. APPROACH AND MATERIALS

There are a relatively small group of stakeholders, most of whom are companies and organisations, who may be impacted by the proposed TDA. The approach therefore is to engage directly with individuals at the organisations by email. The list of each organisation contacted is included in Appendix 1

All stakeholders will be emailed a Stakeholders Information Sheet detailing the proposal and asking for feedback (see Appendix 2).

We will set up phone calls and online meetings where required with those stakeholders who have questions or feedback that requires more discussion. Details of these conversation will be taken and then sent to the stakeholder for approval before they are shared with the CAA.

If required more formal arrangements such as letters of agreement will be put in place.

7. LENGTH

Given the limited duration and anticipated impact that the TDA will have on the limited number of stakeholders it is believed that this is proportionate to reduce the engagement window to 4 weeks for feedback. This is based on the relationships already established with the stakeholders and that previous iterations of Flylogix operations. Engagement will run from 23 October to 20 November 2023.

8. POST ENGAGEMENT

Following the stakeholder engagement process detailed above, Flylogix will gather the feedback from different stakeholders and consider whether any modifications to the proposal are required prior to formally submitting a Proposed Change Request to the CAA for approval.

Once the details of the TDA are published in an AIC (or similar) Flylogix shall share the details with all stakeholders.

9. FEEDBACK WHILE TDA IS ACTIVE

Flylogix will ensure that methods of feedback are available to all stakeholders for the duration of the activation of the TDA together with an email where complaints can be raised. All complaints will be addressed and forwarded to the CAA AR Team. All stakeholders in this document shall be notified of the contact details and there will be contact details for Flylogix in the AIC notifying the TDA and on the NOTAM.

APPENDIX 1 STAKEHOLDER DETAILS

Organisation	Reason for including in engagement
NATS	ANSP
JRCC	Coastguard body that task SAR helicopters
Bristow SAR	Operate SAR helicopters
Offshore Helicopter	Oil and gas helicopter operator in North Sea
NHV	Oil and gas helicopter operator in North Sea
CHC	Oil and gas helicopter operator in North Sea
Bristow	Oil and gas helicopter operator in North Sea
Airtask	Commercial operator flying over the North Sea
Babcock Mission Critical Onshore	Helicopter operator
2Excel aviation	Commercial operator flying over the North Sea
Unifly	Wind energy helicopter operator in North Sea
GAA	An independent group and partnership of organisations representing UK General Aviation
Airspace4All	A joint undertaking between Sports and Recreational Aviation, Military Aviation and Other Aviation stakeholders
AOPA	Non-profit political organization that advocates for general aviation
Garton airfield	Private airfield near TDA
Humberside airport	Commercial airfield where oil and gas helicopters operate
Norwich airport	Commercial airfield where oil and gas helicopters operate
Airport Operators Association (AOA)	NATMAC member
Airfield Operators Group (AOG)	NATMAC member
Airspace Change Organising Group (ACOG)	NATMAC member
ARPAS-UK	NATMAC member
Aviation Environment Federation (AEF)	NATMAC member
British Airways (BA)	NATMAC member
BAe Systems	NATMAC member
British Airline Pilots Association (BALPA)	NATMAC member
British Airline Pilots Association (BALPA)	NATMAC member
British Balloon and Airship Club	NATMAC member
British Business and General Aviation Association (BBGA)	NATMAC member
British Gliding Association (BGA)	NATMAC member
British Helicopter Association (BHA)	NATMAC member
British Hang Gliding and Paragliding Association (BHPA)	NATMAC member

British Microlight Aircraft Association (BMAA)	NATMAC member
British Model Flying Association (BMFA)	NATMAC member
British Skydiving	NATMAC member
Drone Major	NATMAC member
Guild of Air Traffic Control Officers (GATCO)	NATMAC member
Honourable Company of Air Pilots (HCAP)	NATMAC member
Helicopter Club of Great Britain (HCGB)	NATMAC member
Heavy Airlines	NATMAC member
Iprosurv	NATMAC member
Isle of Man CAA	NATMAC member
Light Aircraft Association (LAA)	NATMAC member
Low Fare Airlines	NATMAC member
Ministry of Defence - Defence Airspace and Air Traffic Management (MoD DAATM)	NATMAC member
PPL/IR (Europe)	NATMAC member
UK Airprox Board (UKAB)	NATMAC member
UK Flight Safety Committee (UKFSC)	NATMAC member
United States Air Force Europe (3rd Air Force-Directorate of Flying (USAFE (3rd AF-DOF))	NATMAC member
Rob Wendes	GA pilot who asked to be involved
Wiking	Wind energy helicopter operator in North Sea

APPENDIX 2 **STAKEHOLDER INFORMATION SHEET**

Stakeholder engagement for TDA over Southern North Sea

ACP-2023-066

23 October 23

1. INTRODUCTION

Flylogix are an Unmanned Aircraft (UA) service provider, focused on the offshore energy sector. Flylogix have been contracted for up to 10 UAS flights in the Southern North Sea from beginning of Mar 24.

The operations will be conducted in a Temporary Danger Area (TDA) complex. Flylogix have begun an airspace change request (ACP-2023-66) to establish this TDA.

2. OBJECTIVES OF ENGAGEMENT AND THIS DOCUMENT

In line with the CAP1616 Flylogix are engaging with aviation stakeholders to get feedback on the safety and operational impact of the proposed TDA. This engagement will occur between 23rd October 23 to 20th November 23 and all feedback will be shared with the CAA as part of the final TDA submission.

This document has been sent to the following stakeholders for feedback. More stakeholders may be contacted as Flylogix becomes aware of them and please inform us of any stakeholders who should be added to the engagement

- ANSP - NATS (Anglia Radar)
- Oil and Gas helicopter operators – CHC, NHV, Bristow, Babcock
- SAR – JRCC, Bristow SAR
- Commercial operators working in area – Airtask, 2Excel Aviation, Babcock Mission Critical Services Onshore, Unifly
- General Aviation – Airspace4All, General Aviation Alliance, AOPA
- MOD – DAATM
- Aerodromes – Norwich Airport, Humberside Airport, Hollym airfield, Garton airfield
- The members of NATMAC

3. TYPE OF OPERATION

The operations are unmanned BVLOS flights conducted within a TDA. The purpose of the flights is to conduct methane surveys of offshore oil and gas platforms

The UA will transit at an altitude of 500ft or 800ft AMSL While conducting methane surveys around an asset, the UA will operate between 150ft and 600ft AMSL.

4. UNMANNED AIRCRAFT CHARACTERISTICS

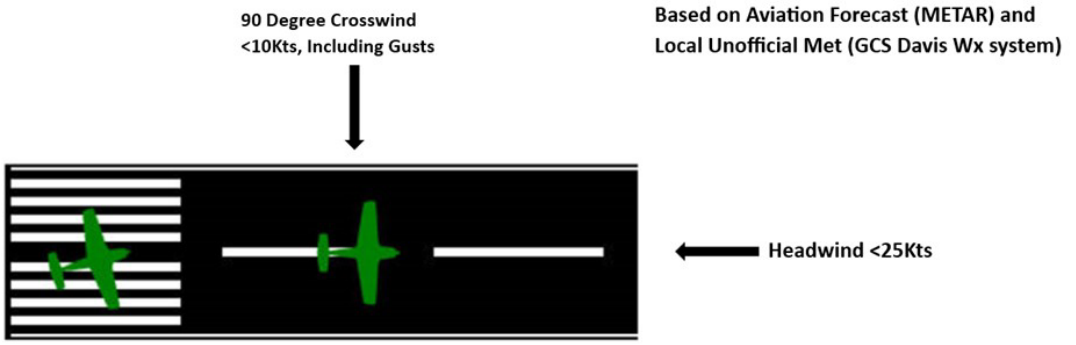
9.1 Figure 1 - The FX2 type UAS

The UA is a single propeller, fixed wing aircraft. The characteristics of the UA are summarised below:

Characteristic	Value
Type	Fixed wing, single engine, tractor propeller
Wingspan	3.48m
Length	2.74m
MTOM	52.1 kg

Flylogix is in the process of securing exemptions from the CAA for these operations. As part of the Operational Safety Case (OSC) submitted to the CAA, the following operating limitations will apply:

FX 2 Series Operational Limitations	
Visibility	VFR Day ONLY – 5Km Visibility
Cloud base	VFR – Clear of Cloud, ground in sight.
Weather	Day VMC, No Lightning Forecast or observed in the TDA, No Snow
Temperature	Above 0 degrees C and below 40 degrees C. Below the freezing layer (FMet105)
Windspeed ToL Site	Headwind <25Kts Crosswind Limit 10Kts Hard
Windspeed at Asset	Headwind <30Kts
Rain/Snow	>1.5mm of rain per hour. No Snow.



The UA will be fitted with ADS-B in and out and a Mode-S transponder. If the transponder is non-functioning, the mission will be cancelled/aborted.

5. TDA

5.1 Design Principals

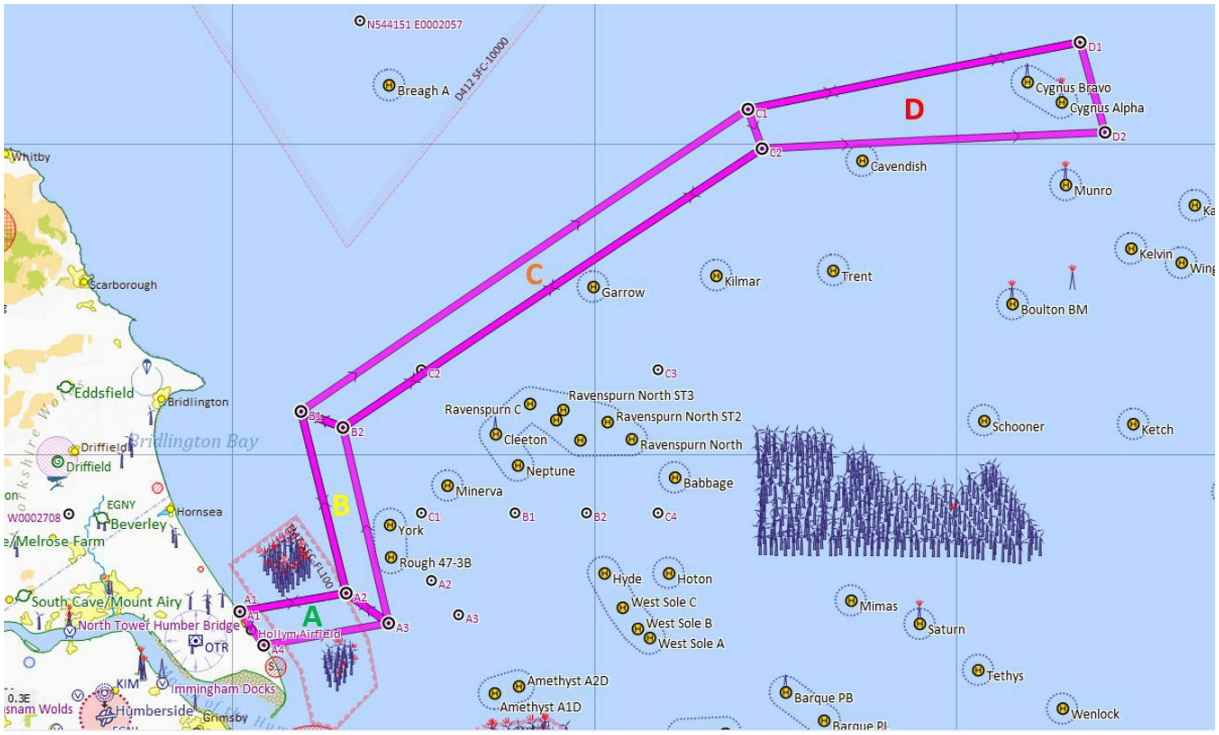
To limit the impact of the TDA complex on other air users, Flylogix applies the following design principals:

- Minimise the volume of airspace, including both footprint and altitude
    - Where required this means multiple smaller TDAs rather than a single large TDA
- Minimise, and if possible, avoid the TDA covering land and the coast. To facilitate this the UA is operated from the coast and flown Visual Line of Sight for take-off and landing – entering the TDA before going BVLOS over the water
- Avoid areas where other aircraft operate below 1,500ft – for example airfields and HTZs
- Segment each TDA to simplify any Danger Area Crossing Service
- Only activate the TDA for the period of the flight

5.2 Proposed Design

The proposed design is for 2 TDAs, to allow operations to be conducted in the Cygnus and

Ravensprun fields. Only one TDA will be activated at a time.



9.2 Figure 1 –Proposed TDAxxx with 4 segments A to D – All segments surface to 1,300ft AMSL

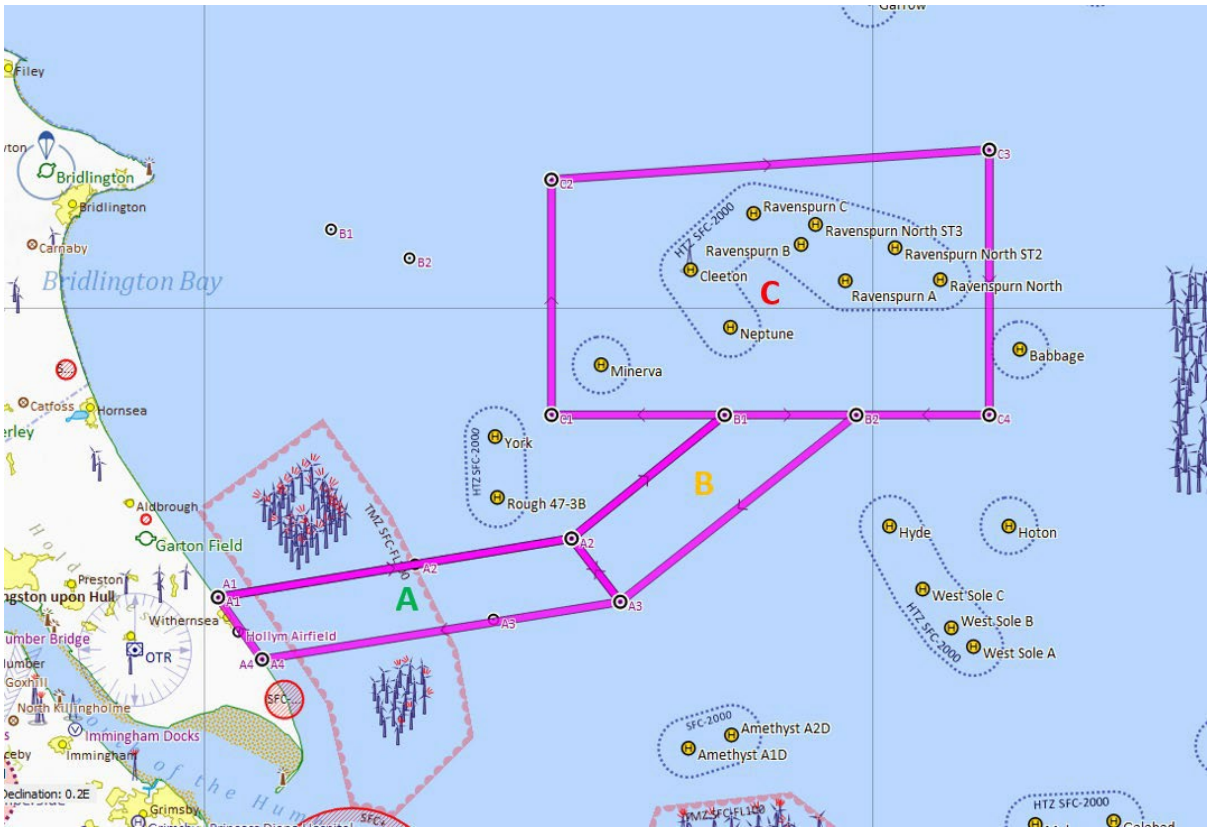


Figure 2 - Proposed TDAyyy with 3 segments A to C - All segments surface to 1,300ft AMSL

- Full coordinates for the proposed TDA complex are in the Appendix
- The TDA will be in place from 5th March 2024 to 3 June 2024 (notification will be given if this changes in the final submission) and will be cancelled before this date if all operations are completed.
- Flylogix is in discussion with Anglia Radar (NATS) to provide a Danger Area Crossing Service during the periods the TDA is active. The frequency for the service will be published on the NOTAM and in the AIC – along with Flylogix contact details.
- Flylogix will be available for direct contact by telephone before and during operations if additional information is required

5.3 TDA Design Rationale

We want to minimise the impact the TDA has on other air users. The following is a summary of the considerations made when designing the proposed TDA and rationale for its features.

5.3.1 Airfield

Hollym was selected due to the following characteristics:

- Situated on the coast, minimising the travel of the UA over land and therefore minimising risk to those on the ground
- A private airfield with relatively little traffic

5.3.2 Inshore segments

The inshore segments of both TDAs (Segment A) have been designed to

- Not cover the coast to allow other aircraft to coast follow
- Avoid the windfarm off the coast

5.3.3 Offshore segments

The consideration for the offshore segments was

- The nominal width of these segments is 4 nautical miles. This has been selected to minimise the volume of the TDA whilst providing a 2-mile-wide corridor for manoeuvring and a mile buffer zone each side
- The shape of these segments avoids all 3rd party offshore structures/assets and their HTZs to minimise impact on helicopter operations in the Southern North Sea
- The sections around the il and gas platforms has been designed to cover only those platforms being inspected.

6. PLANNING AND NOTIFICATION

Flights will be between 1.5 hours and 5 hours long. The TDA will be activated 15 minutes before take-off and end up to 4 hours after the last scheduled landing time. This contingency will be determined by weather forecast and by the uncertainty in helicopter flights and other operations at these facilities. If the UA lands before the end of the TDA activation, Flylogix will inform ATC and request of the CAA that the NOTAM is cancelled.

There are ten flights planned and flights will be predominately conducted at weekends (although some flights may take place midweek subject to traffic) and times when there is less oil and gas helicopter traffic. Flylogix may conduct multiple flights in a single day.

To activate the TDA, a NOTAM will be published at least 24 hours in advance of planned flights detailing activations times. If UA activity is cancelled for whatever reason, we will request the NOTAM is cancelled.

If direct notification is required in addition to the NOTAM publication, please make note of this in your feedback.

7. YOUR FEEDBACK

The CAA require evidence of engagement with other air users as part of the airspace change request process. We would therefore value your feedback close of business 20th November 2023 so that we can include this in our submission to the CAA. This feedback can be submitted in the following ways:

1. An email to lucy@blackswansl.com detailing any recommended changes to the TDA to improve safety or reduce impact on you – or alternatively notifying that you are happy with the proposal.

2. Setting up a call with us to give your feedback. We will take minutes of the call and get your approval of these minutes before submitting them to the CAA. Email lucy@blackswansl.com to do this.

Where possible, if feedback could be sent before the end of the engagement period this would be greatly appreciated. This affords Flylogix more time to work with you on any recommended changes to the TDA and collate your responses into a summary report for the CAA. Flylogix will send periodic reminders during engagement if no response has been received. If no response is received before the end of the engagement it will be assumed that you had no feedback.

APPENDIX 1 TDA COORDINATES

TDAXXX	
Identification and Lateral Limits	Upper Limit/Lower Limit
TDA XXXA Straight lines joining successively the following points: N534630 E0001850 N534334 E0002552 N534124 E0000510 N534442 E0000112 N534630 E0001850	Lower Limit: SFC Upper Limit: 1300FT AMSL
TDA XXXB Straight lines joining successively the following points: N540412 E0001120 N540238 E0001818 N534334 E0002552 N534630 E0001850 N540412 E0001120	Lower Limit: SFC Upper Limit: 1300FT AMSL
TDA XXXC Straight lines joining successively the following points: N543322 E0012523 N542935 E0012743 N540238 E0001818 N540412 E0001120 N543322 E0012523	Lower Limit: SFC Upper Limit: 1300FT AMSL
TDA XXXD Straight lines joining successively the following points: N543947 E0022024 N543108 E0022432 N542935 E0012743 N543322 E0012523 N543947 E0022024	Lower Limit: SFC Upper Limit: 1300FT AMSL

TDAYYY	
Identification and Lateral Limits	Upper Limit/Lower Limit
TDA YYYA Straight lines joining successively the following points: N534749 E0003256 N534428 E0003719 N534124 E0000510 N534442 E0000112 N534749 E0003256	Lower Limit: SFC Upper Limit: 1300FT AMSL
TDA YYYB Straight lines joining successively the following points: N535422 E0004641 N535422 E0005830 N534428 E0003719 N534749 E0003256 N535422 E0004641	Lower Limit: SFC Upper Limit: 1300FT AMSL
TDA YYYC Straight lines joining successively the following points: N540646 E0003108 N540820 E0011026 N535422 E0011026 N535422 E0003108 N540646 E0003108	Lower Limit: SFC Upper Limit: 1300FT AMSL