FLYLOGIX

TDA Submission

ACP-2022-044

23rd June 2023

CONFIDENTIAL

1. INTRODUCTION

Flylogix are an unmanned aircraft service provider, focused on the offshore energy sector. Flylogix have been contracted to complete methane emission surveys of oil and gas platforms from Shetland in 2023. These surveys will be achieved by using an unmanned aircraft with a methane sensor fitted to it. The operations will be conducted in a Temporary Danger Area (TDA).

Flylogix have submitted an airspace change request (ACP-2022-044) to establish this TDA.

2. OBJECTIVES OF THIS DOCUMENT

This document gives the final submission for the TDA.

3. DESIGN PRINCIPLES

When designing the proposed TDA Flylogix had four principles

1. Minimise the airspace within the TDA to reduce the impact on other air users
    a. Where possible, segment the TDA to minimise the airspace contained within active portions of the TDA for individual operations and to ease DACS provision and deconfliction.
2. Ensure that in the planned flights and in the event of a failsafe the UA will not come within 1 mile horizontally of the edge of the TDA. Flying within 1 mile of the edge of the TDA triggers an emergency procedure in line with the OSC.
3. Keep the design of the TDA as simple as possible, to make it easy to communicate to others and reduce the chance of error, for example when inputting as a geofence into the UA autopilot.
4. Tactically manage the TDA through NOTAM to ensure it is only active when required, minimising the impact on other air users

4. FEEDBACK AND ACTIONS FROM STAKEHOLDER ENGAGEMENT

Flylogix conducted Stakeholder Engagement to understand the safety and operational viability of the proposed TDA and to ensure minimum possible impact on other air users. The strategy for this engagement is outlined in *Stakeholder Engagement Plan - ACP-2022-044* and the results of the engagement are included in *Summary of Stakeholder Engagement - ACP-2022-044*. Both of these have been submitted to the CAA and uploaded to the Airspace Change Portal.

During the Engagement Period, Flylogix had an additional offshore asset added to the operation's requirements. As a result, Flylogix updated the engagement document titled "Details for

Stakeholder - ACP-2022-044 v1.3" to include two additional TDA segments, J & K, which covered the added offshore asset. On the 1st of June 2023 the updated TDA design was sent to all stakeholders.

At the time, 6 stakeholders had already responded to the request for engagement including: Bristow SAR, DAATM, HIAL, Babcock Mission Critical Services Onshore, Avinor, and the British Gliding Association. All of whom were sent the updated TDA design and all but the British Gliding Association responded to say that the changes to the TDA did not affect their feedback.

Below is a summary of the feedback received during the Engagement Period which affected the TDA design and/or the operational procedures related to its use:

- NATS requested that, to allow operators and organisations time to prepare after official promulgation of the TDA, that some time is given between the TDA publication date and the start of activity. Additionally, they requested the addition of a line to the AIC.
    - Flylogix, due to client scheduling requirements, plans to begin activity for this TDA in September. The TDA period has therefore been changed to August 31st to November 28th giving operators one working week to familiarise themselves with the published TDA prior to first activation
- NATS requested that two segments of the TDA be further segmented to increase flexibility of operations and provision of DACS
    - Flylogix has modified the TDA design by splitting segments I & E into two segments each with a smaller segment (new segments L & M approximately 5 nautical miles long) encapsulating the target offshore asset.
    - As the area/volume of airspace covered by the TDA design has not changed (only further segmented) nor has the purpose, Flylogix does not believe this requires further engagement with other stakeholders.
- Isavia ANS highlighted that if the TDA were to fall within Reykjavik FIR, this would need to be coordinated with them.
    - Flylogix reviewed the TDA boundaries and discovered a small section cut approximately 200m into Reykjavik FIR. As a result, an additional coordinate has been added to TDA J to prevent this.
    - As the area/volume of airspace covered by TDA J has actually reduced as a result of this minor change nor has the purpose changed, Flylogix does not believe this requires further engagement with other stakeholders.
- Multiple stakeholders requested DACS and that contact details of the RPAS flight team be provided so that deconfliction can take place.
    - It is standard operating procedure for Flylogix to organise DACS for RPAS operations. If DACS cannot be provided by NATS then RPAS operations shall be cancelled. It is also standard procedure to include contact information for the RPAS flight crew on the NOTAM activating the TDA.

4.1 Notification and procedures

Some air users asked for notification, in addition to the NOTAM, or formal procedures to allow access to the airspace if required.

Actions to consult on timing of flights

- Airtask- Flylogix will email Airtask to ensure that there is no conflict with planned operations by NCAS or Fisheries Protection before activating the TDA through NOTAM.
- Aberdeen ATC – Flylogix will contact Aberdeen ATC by telephone or email to confirm they can provide a Danger Area Crossing Service before issuing a NOTAM to activate the TDA.

Actions to notify the TDA is active

- JRCC & Bristow – Flylogix will email these stakeholders to notify them of the activation of the TDA and exchange relevant contact details for use during the operation.

ANSP emergency contacts

- In the event of a flyaway and incursion within another country's airspace, we have been provided the following contact information:
    - Iceland - Shift Manager of Reykjavik OACC - [REDACTED]
    - Norway - Supervisor Polaris ACC Stavanger - [REDACTED]

4.2 DACS frequency

During the engagement period, Flylogix had stated that the AIC publication of the TDA would have the relevant DACS frequency listed as in previous Flylogix TDAs. After requesting the correct frequencies from NATS Aberdeen, Flylogix was advised that NATS has moved away from the previously quoted phrase due to the complexity around different sectors and request that the following be written on the AIC:

"Within EG DXXXXX, a Danger Area Crossing Service (DACS) will be available from Sumburgh Radar or Brent Radar on the appropriate frequency as defined in UK AIP ENR 1.6 Paragraph 4.5.2.2."

Flylogix has implemented this. Evidence of this correspondence has been included in Appendix 1.

5. PROPOSED DESIGN

This has been laid out in the standard format of an AIC for clarity. Any changes to the originally proposed TDA have resulted from Stakeholder Engagement and application of the design principles laid out in Section 3.

TEMPORARY DANGER AREA (SHETLAND ISLANDS)

BVLOS UAS SURVEYING

31st August 2023 to 28th November 2023

1. During the period between 31st August 2023 to 28th November 2023, a Remotely Piloted Aircraft System (RPAS) will conduct BVLOS surveying of offshore installations situated up to 120 nautical miles East and West of Shetland. The RPAS will depart from Scatsta Airfield and operate between surface and 800ft AMSL.

2. As the RPAS will be operating Beyond Visual Line of Sight and does not have full Detect and Avoid capability, a Temporary Danger Area complex will be established as below. The RPAS is also equipped with an ADS-B and Mode-S transponder.

3. The TDA complex is sponsored by FlyLogix Ltd in accordance with Airspace Change reference ACP-2022-044.

4. The TDA consists of thirteen segments, only those segments required for a flight will be activated.

ALL DATES AND TIMES OF ACTIVATION WILL BE NOTIFIED BY NOTAM

5. **EG DxxxA**

When required between 31st August 2023 to 28th November 2023, a TDA is established within the area bounded by straight lines joining successively the following points:

a) N602341 W0012139

b) N602821 W0012144

c) N603012 W0010939

d) N602459 W0010920

e) N602341 W0012139

6. The TDA is established between surface and 1300 FT AMSL.

7. Within EG DxxxA, a Danger Area Crossing Service (DACS) will be available from Sumburgh Radar or Brent Radar on the appropriate frequency as defined in UK AIP ENR 1.6 Paragraph 4.5.2.2

8. **EG DxxxB**

When required between 31st August 2023 to 28th November 2023, a TDA is established within the area bounded by straight lines joining successively the following points:

a) N602459 W0010920

b) N603012 W0010939

c) N603145 W0004026

d) N602703 W0004253

e) N602459 W0010920

9. The TDA is established between surface and 1300 FT AMSL.

10. Within EG DxxxB, a Danger Area Crossing Service (DACS) will be available from Sumburgh Radar or Brent Radar on the appropriate frequency as defined in UK AIP ENR 1.6 Paragraph 4.5.2.2

11. **EG DxxxC**

When required between 31st August 2023 to 28th November 2023, a TDA is established within the area bounded by straight lines joining successively the following points:

a) N602703 W0004253

b) N603145 W0004026

c) N610030 E0011850

d) N605650 E0012526

e) N602703 W0004253

12. The TDA is established between surface and 1300 FT AMSL.

13. Within EG DxxxC, a Danger Area Crossing Service (DACS) will be available from Sumburgh Radar or Brent Radar on the appropriate frequency as defined in UK AIP ENR 1.6 Paragraph 4.5.2.2

14. **EG DxxxD**

When required between 31st August 2023 to 28th November 2023, a TDA is established within the area bounded by straight lines joining successively the following points:

a) N605650 E0012526

b) N610030 E0011850

c) N611102 E0014850

d) N610029 E0015056

e) N605650 E0012526

15. The TDA is established between surface and 1300 FT AMSL.

16. Within EG DxxxD, a Danger Area Crossing Service (DACS) will be available from Sumburgh Radar or Brent Radar on the appropriate frequency as defined in UK AIP ENR 1.6 Paragraph 4.5.2.2

17. **EG DxxxE**

When required between 31st August 2023 to 28th November 2023, a TDA is established within the area bounded by straight lines joining successively the following points:

a) N602703 W0004253

b) N603145 W0004026

c) N603912 E0012918

d) N603413 E0013009

e) N602703 W0004253

18. The TDA is established between surface and 1300 FT AMSL.

19. Within EG DxxxE, a Danger Area Crossing Service (DACS) will be available from Sumburgh Radar or Brent Radar on the appropriate frequency as defined in UK AIP ENR 1.6 Paragraph 4.5.2.2

20. **EG DxxxF**

When required between 31st August 2023 to 28th November 2023, a TDA is established within the area bounded by straight lines joining successively the following points:

a) N602703 W0004253

b) N603145 W0004026

c) N592408 E0011433

d) N592109 E0010701

e) N602703 W0004253

21. The TDA is established between surface and 1300 FT AMSL.

22. Within EG DxxxF, a Danger Area Crossing Service (DACS) will be available from Sumburgh Radar or Brent Radar on the appropriate frequency as defined in UK AIP ENR 1.6 Paragraph 4.5.2.2

23. **EG DxxxG**

When required between 31st August 2023 to 28th November 2023, a TDA is established within the area bounded by straight lines joining successively the following points:

a) N592109 E0010701

b) N592408 E0011433

c) N591741 E0013749

d) N591319 E0013242

e) N592109 E0010701

24. The TDA is established between surface and 1300 FT AMSL.

25. Within EG DxxxG, a Danger Area Crossing Service (DACS) will be available from Sumburgh Radar or Brent Radar on the appropriate frequency as defined in UK AIP ENR 1.6 Paragraph 4.5.2.2

26. **EG DxxxH**

When required between 31st August 2023 to 28th November 2023, a TDA is established within the area bounded by straight lines joining successively the following points:

a) N602310 W0013932

b) N602928 W0013830

c) N602821 W0012144

d) N602341 W0012139

e) N602310 W0013932

27. The TDA is established between surface and 1300 FT AMSL.

28. Within EG DxxxH, a Danger Area Crossing Service (DACS) will be available from Sumburgh Radar or Brent Radar on the appropriate frequency as defined in UK AIP ENR 1.6 Paragraph 4.5.2.2

29. **EG DxxxI**

When required between 31st August 2023 to 28th November 2023, a TDA is established within the area bounded by straight lines joining successively the following points:

a) N601916 W0035413

b) N602425 W0035515

c) N602928 W0013830

d) N602310 W0013932

e) N601916 W0035413

30. The TDA is established between surface and 1300 FT AMSL.

31. Within EG DxxxI, a Danger Area Crossing Service (DACS) will be available from Sumburgh Radar or Brent Radar on the appropriate frequency as defined in UK AIP ENR 1.6 Paragraph 4.5.2.2

32. **EG DxxxJ**

When required between 31st August 2023 to 28th November 2023, a TDA is established within the area bounded by straight lines joining successively the following points:

a) N602703 W0004253

b) N603145 W0004026

c) N605923 E0000052

d) N612831 E0004148

e) N612409 E0004533

f) N602740 W0003246

g) N602703 W0004253

33. The TDA is established between surface and 1300 FT AMSL.

34. Within EG DxxxJ, a Danger Area Crossing Service (DACS) will be available from Sumburgh Radar or Brent Radar on the appropriate frequency as defined in UK AIP ENR 1.6 Paragraph 4.5.2.2

35. **EG DxxxK**

When required between 31st August 2023 to 28th November 2023, a TDA is established within the area bounded by straight lines joining successively the following points:

a) N612409 E0004533

b) N612831 E0004148

c) N613818 E0013611

d) N613325 E0013924

e) N612409 E0004533

36. The TDA is established between surface and 1300 FT AMSL.

37. Within EG DxxxK, a Danger Area Crossing Service (DACS) will be available from Sumburgh Radar or Brent Radar on the appropriate frequency as defined in UK AIP ENR 1.6 Paragraph 4.5.2.2

38. **EG DxxxL**

When required between 31st August 2023 to 28th November 2023, a TDA is established within the area bounded by straight lines joining successively the following points:

a) N603413 E0013009

b) N603912 E0012918

c) N603956 E0014542

d) N603454 E0014624

e) N603413 E0013009

39. The TDA is established between surface and 1300 FT AMSL.

40. Within EG DxxxL, a Danger Area Crossing Service (DACS) will be available from Sumburgh Radar or Brent Radar on the appropriate frequency as defined in UK AIP ENR 1.6 Paragraph 4.5.2.2

41. **EG DxxxM**

When required between 31st August 2023 to 28th November 2023, a TDA is established within the area bounded by straight lines joining successively the following points:

a) N601842 W0040837

b) N602344 W0040934

c) N602425 W0035515

d) N601916 W0035413

e) N601842 W0040837

42. The TDA is established between surface and 1300 FT AMSL.

43. Within EG DxxxM, a Danger Area Crossing Service (DACS) will be available from Sumburgh Radar or Brent Radar on the appropriate frequency as defined in UK AIP ENR 1.6 Paragraph 4.5.2.2

44. Further information regarding a DACS can be found within UK Enroute Information ENR 1.1 – General Rules.

45. DACS approval is not guaranteed

46. Further enquiries can be made to Airspace Regulation (Utilisation), Safety and Airspace Regulation Group, Civil Aviation Authority on telephone number 01293768202.

47. As part of the ACP process requirements, Flylogix is collecting feedback and complaints regarding this TDA and its impact over its duration which will be shared with the CAA. All feedback regarding this may be sent via email to [REDACTED]

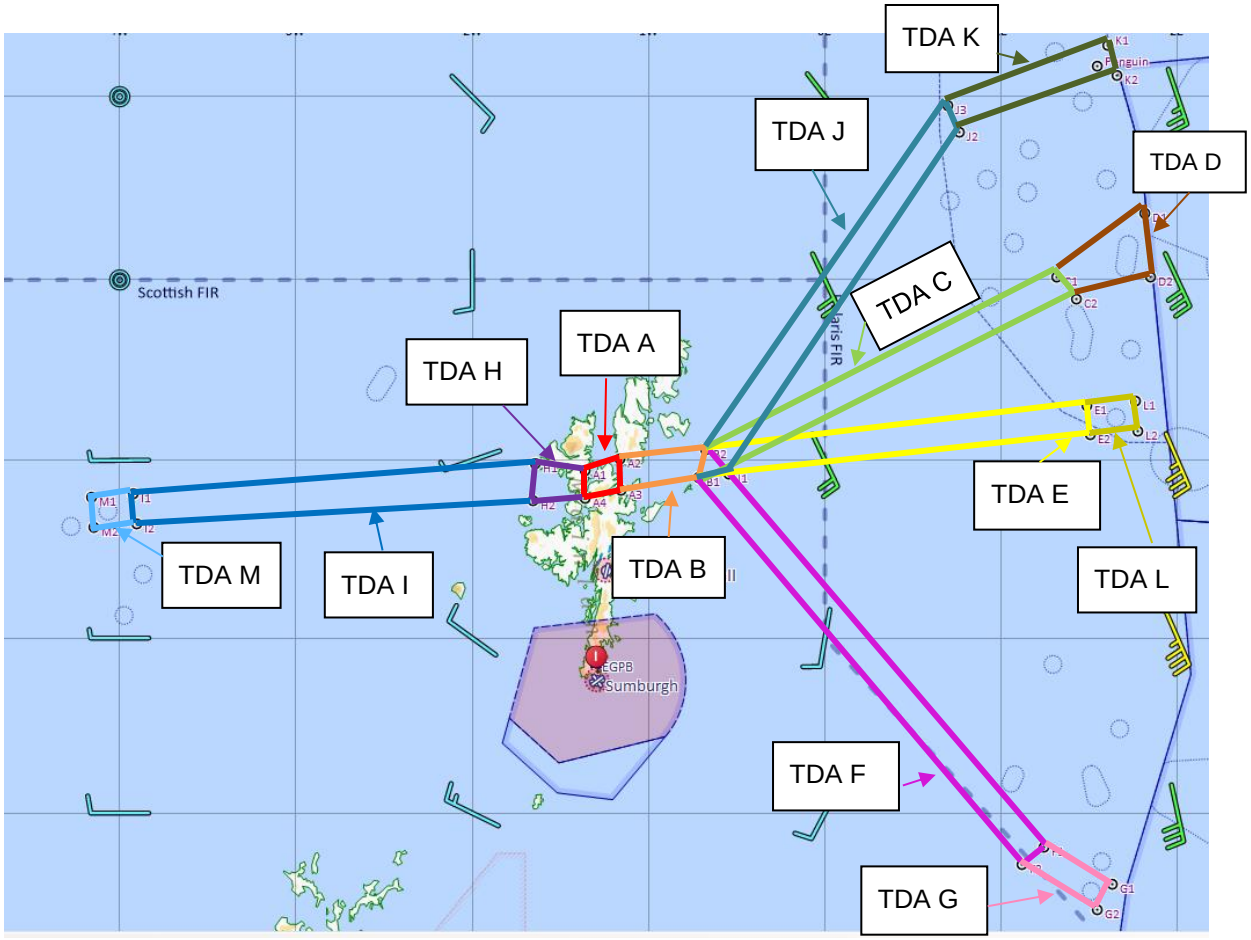

Figure 1 – Map of TDA Proposal (segments bounded by separate colours)

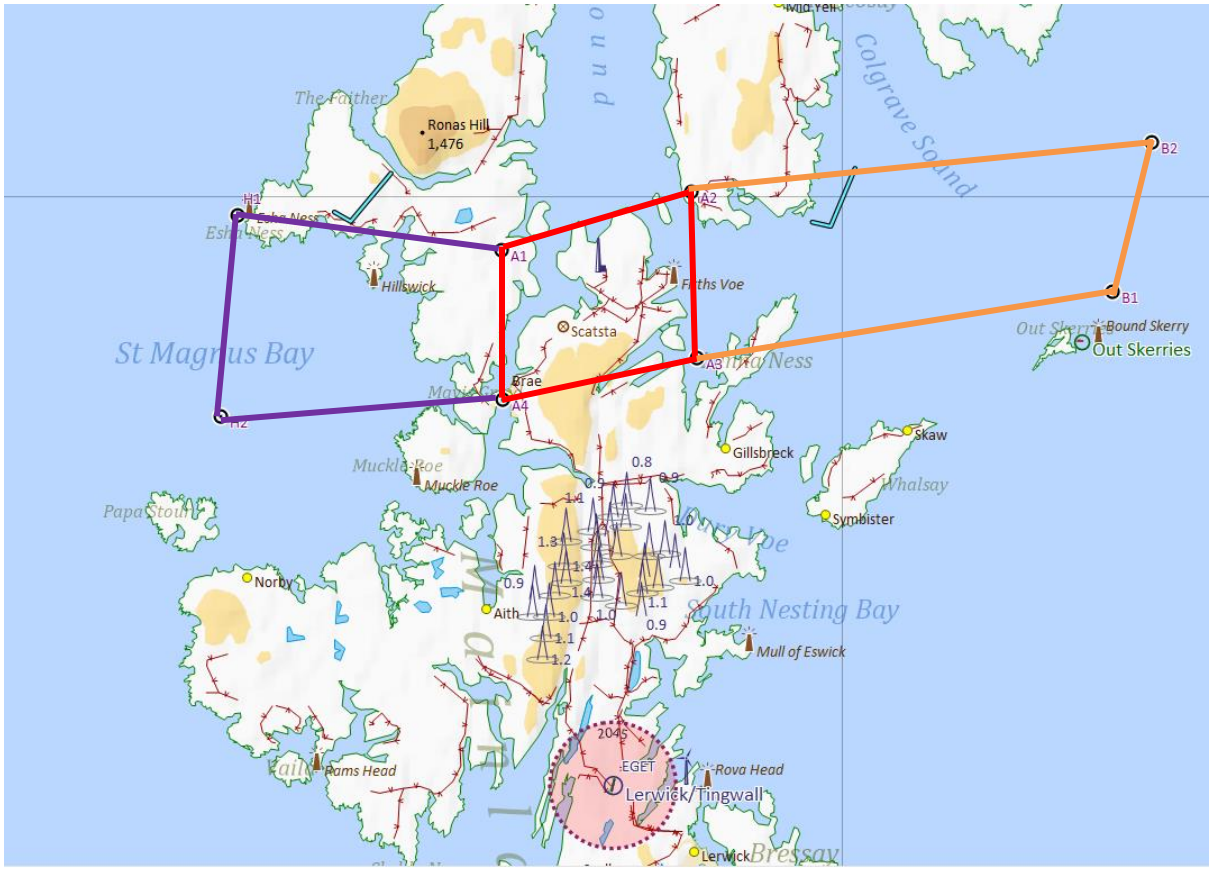

Figure 1 - Map of overland TDA Segments A, B, and H

APPENDIX 1 **NATS CORRESPONDENCE EVIDENCE**

Re: Feedback request on Temporary Airspace Change Proposal (ACP-2022-044)

[redacted]

Wed 6/21/2023 11:27 AM

[redacted]

Dear [redacted]

Thank you very much for the confirmation, I will include that statement in our draft AIC.

Best,

[redacted]

FLYLOGIX

#ALWAYSGOINGFURTHER

Flylogix Holdings Limited is a limited company in England and Wales. Company registration number: 14713925. Registered office: Merlin House, 4 Meteor Way, Lee-on-the-Solent, Fareham, PO13 9FU.

[redacted]

Sent: Wednesday, June 21, 2023 11:11 AM

[redacted]

Subject: RE: Feedback request on Temporary Airspace Change Proposal (ACP-2022-044)

Hi [redacted]

We moved away from the quoted phrase due the complexity around the different sectors (2 radar sectors and 3 frequencies)… what we used last time was:

Within EG DXXXXX, a Danger Area Crossing Service (DACS) will be available from Sumburgh Radar or Brent Radar on the appropriate frequency as defined in UK AIP ENR 1.6 Paragraph 4.5.2.2.

Cheers

[redacted]

NATS

[redacted]

Manager ATC

[redacted]

Control Tower Building,
Aberdeen Airport
Dyce, Aberdeen AB21 7DU
www.nats.co.uk

NATS PRIVATE

NATS Internal

[redacted]

Sent: 21 June 2023 10:28

[redacted]

Subject: [EXTERNAL] Re: Feedback request on Temporary Airspace Change Proposal (ACP-2022-044)

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

Hi [redacted]

I just wanted to touch base on this as I am putting together the final submission to the CAA regarding ACP-2022-044. If you can confirm the frequencies for DACS provision today or tomorrow that would be greatly appreciated.

Best,

[redacted]

[redacted]
Sent: Monday, June 19, 2023 1:05 PM
[redacted]
Subject: Re: Feedback request on Temporary Airspace Change Proposal (ACP-2022-044)

Hi [redacted]

Now that the engagement period for ACP-2022-044 has ended, I am producing a final submission document for the CAA which includes a draft AIC publication.

In the past we have included a statement along the lines of "Within EG XXXX, a Danger Area Crossing Service (DACS) will be available from Sumburgh Radar on frequency 131.3 MHz and 124.900 MHz (when West of meridian 3 degrees West)"

Please could I confirm what the correct statement/frequencies should read?

Best,

[redacted]

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