



Berwick Bank Airspace Change Proposal

Stage 2 Stakeholder Engagement Document

Date: 15 December 2023

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1 Introduction

1.1 Overview

Berwick Bank Wind Farm Ltd (Berwick Bank) are proposing a wind farm site in the North Sea, in the Outer Firth of Forth. This wind farm has the potential to deliver up to 4.1 GW of installed capacity, making it one of the largest offshore opportunities in the world. The site is located approximately 47 nautical miles (nm) to the south-east of Aberdeen Airport and 31nm to the north-east of Ministry of Defence (MOD) Leuchars Station (Leuchars). Berwick Bank will consist of up to 307 wind turbines with a maximum blade tip height of 355 metres (m) above lowest astronomical tide (LAT). Figure 1 below provides the location of the proposed Berwick Bank Wind Farm site.

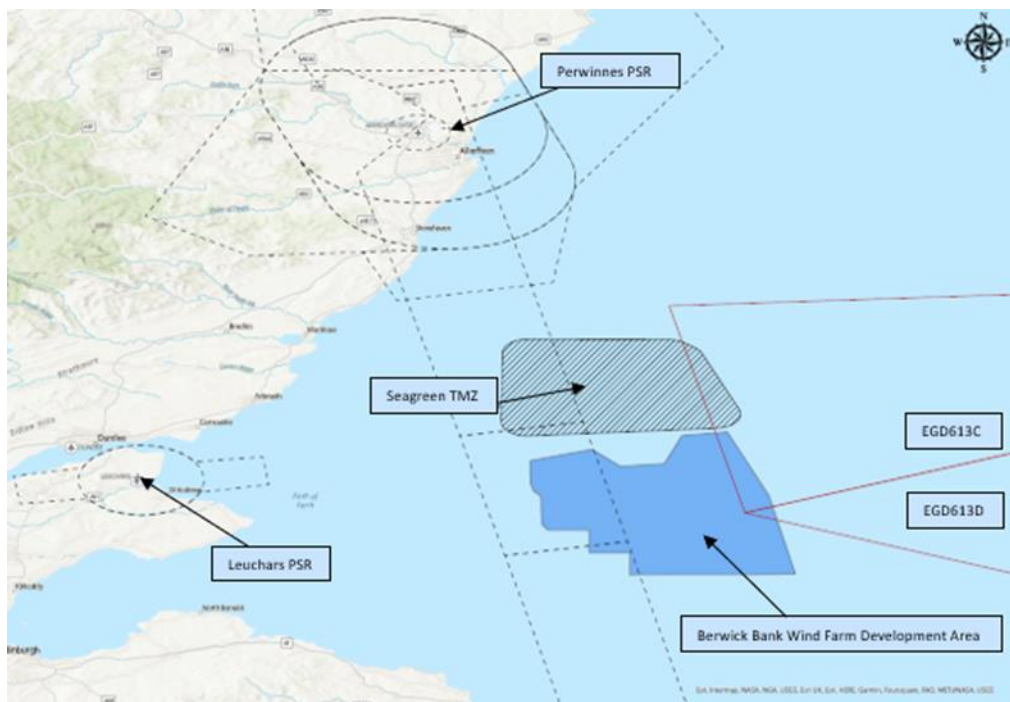


Figure 1 - Wind Farm Location

As part of the development consent process for Berwick Bank Wind Farm, SSE through Berwick Bank have engaged with relevant aviation stakeholders to determine the impact of Berwick Bank's operational wind turbines on aviation radar systems and operations. In particular and relevant to the ACP, both the MOD and National Air Traffic Services (NATS) En-Route PLC (NERL) have confirmed that, without mitigation, the development will have an operational effect due to an adverse impact on their ability to provide an Air Traffic Service (ATS) as a result of interference (radar clutter) caused by the detection of the operational wind turbines



by the current PSR systems in operation at MOD Leuchars Station (Leuchars), Prestwick Centre and Aberdeen Offshore.

As part of a scheme for mitigation of the predicted wind turbine effects on the Leuchars and Perwinnes Primary Surveillance Radars (PSR), Berwick Bank are progressing with an Airspace Change Proposal (ACP) in accordance with Civil Aviation Authority (CAA) Civil Aviation Publication CAP1616 [Ref 001].

1.1.1 Document Purpose and Scope

This ACP is being developed in conformity with Civil Aviation Publication (CAP) 1616 as regulated by the UK CAA.

In accordance with CAP 1616, the purpose of this document is to provide a narrative, explaining the steps, rationale, and outcomes of engagement activities that have taken place in Stage 2 of the process. Full details regarding the progress of this ACP can be found on the CAA Airspace Change Portal, available via the link below.

[ACP-2022-094 - Berwick Bank Offshore Wind Farm](#) [Ref 002]

This document is structured as follows:

1. Introduction (this Section)
2. Berwick Bank Stage 2 Engagement Activities
3. References
4. Stage 2 Stakeholder List (Appendix A1)
5. Engagement emails to Stakeholders (Appendix A2)
6. Stage 2 Responses Received (Appendix A3)
7. Copies of Sponsor Engagement Emails (Appendix A4)
8. Stage 2 Stakeholder Correspondence (Appendix A5)

It is recommended that this document is read alongside the Design Options Document [Ref 003], available on the CAA Airspace Change portal. The Design Options Document provides additional context and the proposed design options included as part of this ACP.

Please note, this document is not intended to act as a formal response to any stakeholders, it is exclusively a record of engagement activities that have taken place. In addition, it must be highlighted that this document refers to Stage 2 only and does not include any engagement that occurred during Stage 1. Furthermore, this document does not act as a basis for formal consultation, which takes place in Stage 3.



2 Berwick Bank Stage 2 Engagement Activities

2.1 Overview

This section of the document describes the engagement activities that Berwick Bank have undertaken as part of Stage 2 of the CAP 1616 process. Please note that this section includes relevant responses, with more detail supplied in the Annexes or as stand-alone documents on the ACP portal.

2.1.1 Stage 2 Engagement Requirements

Following the completion of Step 2A (Options Development), in complying with the CAP 1616 process, a change sponsor is required to carry out a round of engagement with key stakeholders to test their Design Options against the Design Principles (DPs) agreed at Stage 1.

It must also be noted that during Step 2B Initial Options Appraisal (IOA), it becomes much clearer as to which stakeholders are impacted, as the proposed design options are analysed in more detail. As per CAP 1616, Appendix C, Paragraph C29, “this insight should be used to inform the development of the consultation strategy in Stage 3.”

2.2 Method of Stakeholder Engagement

Due to the location of the proposed wind farms, some 30 nautical miles (nm) out to sea, the sponsor has deemed it appropriate and more effective to conduct this engagement via email. The same approach was taken during stage 1 of the ACP and there was a response rate of 13% from stakeholders during that period.

Considering the geographical location of the wind farms and having already identified a comprehensive stakeholder engagement list (Appendix A1) which included those stakeholder bodies that contributed to the development of the Design Principles in Stage 1, each was sent an email on 30 October 23 by the ACP Sponsor. The email (Appendix A2) gave a brief overview of the project, explained why the feedback of stakeholders was being sought, described how to provide such feedback, and gave a deadline for responses of 01 December 23. The email also included an attached document (available on the CAA portal) which showed the draft Design Options and offered stakeholders opportunity for a face-to-face personal meeting or an online call. A reminder email (Appendix A2) was sent on 20 November 23.

No stakeholders sought face-to-face meetings or an online call.

2.3 Design Principles Validation

As specified in CAP 1616, Appendix C, Paragraph C27 “the change sponsor is required to design options that meet the design principles developed during Stage 1b



they must seek feedback from key stakeholders to test their hypotheses.” Based on this, Berwick Bank took steps to seek feedback on the proposed design options. Stakeholders were provided with an adequate timeframe (5 weeks [30/10/2023-01/12/2023]) within which to respond.

In total, 6 responses were received (Babcock’s response referred to both Police Scotland and Scottish Air Ambulance operations but has been treated as a single response in any calculations of response rate). That is the same response rate as we achieved during Stage 1 of this ACP.

Whilst detailed analysis of the responses will be considered in subsequent stages, they can be broadly summarised as follows:

The options which utilise RAG blanking and the establishment of a TMZ appear to get more support than other options, there has been a clear consensus by half of those responding that Option 7G would be a preferred option. The response

The similar response level that was seen in Stage 1B validates the method of engagement chosen.

Based on broad feedback from within the aviation industry, elicited from an appropriate cross-section of stakeholders, we therefore consider that the Design Principles have been validated. We accept that feedback reflects opinions and perspectives on certain options that may provide better mitigation than others on the issue of wind farm induced clutter, but importantly, it is for subsequent stages of the CAP 1616 to seek to address these.

Following the submission of all Stage 2 documentation, the change sponsor shall engage with all respondents and signpost them to the finalised Stage 2 documentation on the CAA Airspace Change Portal. All options, together with the comprehensive feedback obtained during Stage 2, will then be considered carefully and in detail. As per the CAP 1616 process, stakeholders will be consulted on the final design options within Stage 3 of the process.

2.4 Regulatory Environment

2.4.1 Overview

As part of the CAP 1616 process, the change sponsor is required to engage with the CAA as and when appropriate to facilitate progressing through the various stages and steps within the process. This engagement has taken place with the nominated Case Officer/Technical Regulator at the CAA at Stage 1 and will continue as Stage 2 (this stage) progresses.



3 References

Ref	Title (Link)	Origin
[Ref 001]	CAP 1616 Airspace Design: Guidance on the regulatory process for changing airspace design including community engagement requirements. V4 Issued March 2021 (Link)	CAA
[Ref 002]	Berwick Bank Wind Farms Ltd ACP Created December 2022 Ref ACP-2022-094 (Link)	Sponsor
[Ref 003]	Berwick Bank Step 1B Design Principles: Stakeholder Engagement V1 Issued September 2023 (Link)	Sponsor

Table 1 - References



A1 Stage 2 Stakeholder List

Organisation	Organisation Email
Aberdeen Airport ATC	xxx@nats.co.uk cc in correspondence xxx@nats.co.uk
Air Ambulance (Gama Aviation)	xxx@gamaaviation.com
Aircraft Owners and Pilots Association (AOPA)	xxx@aopa.co.uk
Airfield Operators Group (AOG)	xxx@goodwood.com cc in correspondence xxx@bartaby.org
Airlines UK	xxx@airlinesuk.org
Airport Operators Association (AOA)	xxx@aoa.org.uk cc in correspondence xxx@aoa.org.uk
Airspace Change Organising Group (ACOG)	xxx@acog.aero cc in correspondence xxx@acog.aero
Airspace4All	xxx@a4asl.com
Association of Remotely Piloted Aircraft Systems UK (ARPAS-UK)	xxx@arpas.uk
Aviation Environment Federation (AEF)	xxx@aef.org.uk
BAe Systems	xxx@baesystems.com
Bristow Helicopters	xxx@bristowgroup.com
British Airline Pilots Association (BALPA)	xxx@balpa.org cc in correspondence xxx@balpa.org
British Airways (BA)	xxx@ba.com
British Balloon and Airship Club	xxx@btinternet.com
British Business and General Aviation Association (BBGA)	xxx@bbga.aero



Organisation	Organisation Email
British Gliding Association (BGA)	xxx@gliding.co.uk
British Hang Gliding and Paragliding Association (BHPA)	xxx@bhpa.co.uk cc in correspondence xxx@bhpa.co.uk
British Helicopter Association (BHA)	xxx@britishhelicopterassociation.org
British Microlight Aircraft Association (BMAA)	xxx@bmaa.org cc in correspondence xxx@gmail.com
British Model Flying Association (BMFA)	xxx@bmfa.org
British Skydiving	xxx@britishskydiving.org
CHC Helicopters	xxx@chcheli.com
Drone Major	xxx@dronemajorgroup.com cc in correspondence xxx@dronemajorgroup.com
General Aviation Alliance (GAA)	xxx@yahoo.co.uk
Guild of Air Traffic Control Officers (GATCO)	xxx@gatco.org
Heavy Airlines	xxx@fly.virgin.com
Helicopter Club of Great Britain (HCGB)	xxx@ryelands.net
NHV	xxx@nhv.be
Honourable Company of Air Pilots (HCAP)	xxx@airpilots.org
Iprosurv	xxx@gmail.com
Isle of Man CAA	xxx@gov.im
Light Aircraft Association (LAA)	xxx@laa.uk.com
Low Fare Airlines	xxx@easyJet.com
Maritime and Coastguard Agency (MCA)	xxx@mcga.gov.uk
Military Aviation Authority (MAA)	xxx@mod.gov.uk
Ministry of Defence - Defence Airspace and Air Traffic Management (MoD DAATM)	xxx@mod.gov.uk
National Air Traffic Services (NATS)	xxx@nats.co.uk cc in correspondence xxx@nats.co.uk and xxx@nats.co.uk
Navy Command HQ	xxx@mod.gov.uk
Northern Lighthouse (PDG Helicopters)	xxx@pdgaviation.com



Organisation	Organisation Email
Offshore Helicopters	xxx@offshoreheli-uk.com
Police Scotland and Air Ambulance (Babcock Mission Critical Services)	xxx@babcockinternational.com
Pollution Patrol	xxx@2excel.uk
PPL/IR (Europe)	xxx@pplir.org cc in correspondence xxx@tdn.email
Search and Rescue (Bristow Helicopters)	xxx@bristowgroup.com
UK Airprox Board (UKAB)	xxx@airproxboard.org.uk cc in correspondence xxx@airproxboard.org.uk
UK Flight Safety Committee (UKFSC)	xxx@ukfsc.co.uk
United States Visiting Forces (USVF), HQ United States Country Rep-UK (HQ USCR-UK)	xxx@us.af.mil

From the Stage 1 engagement with stakeholders, we have chosen to add the Maritime and Coastguard Agency as a stakeholder as they are directly referenced in Design Principle 5. We have also included the Airspace Change Organisation Group (ACOG) as a stakeholder so that any other work in the North Sea that may affect our Design Options can be highlighted if it is not already in the public domain.



A2 Engagement Emails to Stakeholders

The following email, with an associated attachment which outlined the draft Design Options was sent by the ACP Sponsor to all stakeholders listed on Annex A1 on the 30 October 2023

A2.1 Initial Email

Dear Sir or Madam,

We are contacting you to request your input to the development of Design Options as part of an Airspace Change Proposal (ACP) for the Berwick Bank Wind Farm. Berwick Bank Wind Ltd, a wholly owned subsidiary of SSE Renewables is developing the Berwick Bank Wind Farm. Berwick Bank is progressing with a process for airspace change to mitigate the impact the development is predicted to create, through radar detection of the operational wind turbines at both the Ministry of Defence Leuchars Station and Perwinnes Primary Surveillance Radar (PSR) sites.

Berwick Bank started the ACP in December 2022 with the submission of a Statement of Need to the CAA. During September 2023, the first of a seven-stage change process was successfully completed when the proposal passed through the Stage 1 DEFINE Gateway. The work undertaken during Stage 1 helped to establish a shortlist of Design Principles that have acted as a framework against which Design Options have been drawn up.

We would now like to share these with those representative bodies that contributed to the development of the Design Principles in Stage 1, to ensure that stakeholder concerns have been properly understood and accounted for in designing these options. We are seeking any views or comments that you may wish to express regarding the draft procedure designs shown in the attached document by return email (xxx@sse.com).

Details of how to respond are also included in the attached document and all responses should be returned by 1 December 2023.

Should you wish to discuss the design proposals in more detail, we can offer the opportunity of a face-to-face personal meeting or an online call. Thank you for your engagement in this airspace change process.

Screenshot at A4.1



An email by way of reminder was also sent to all stakeholders on 20 November 2023.

A2.2 Reminder Email

Dear Sir or Madam,

SSE on behalf of Berwick Bank Wind Farms Ltd contacted you on 30th October 2023 requesting feedback on our design options to mitigate against radar interference anticipated as a result of the Berwick Bank Wind Farm on the Leuchars and Perwinnes Primary Surveillance Radar systems.

Thank you if you have already responded. We understand that not everyone is going to be able to respond, however if you are able, we would appreciate your feedback by the 01 December 2023. We can offer the opportunity of a face-to-face personal meeting or an online call to discuss the proposals.

Screenshot at A4.2

A2.3 Clarification Question to DAATM

Following on from a HazID Meeting on 21 November 2023 which was attended by members of the MOD Leuchars Station ATC Team and DAATM a question arose about the viability of a TMZ solution considering the technical performance of the Leuchars PSR. This was addressed in an email to the DAATM as seen below.

Hi xxx,

Just a follow up from this morning's meeting with regards to putting a bit more meat on the bone.

During session 2 which was the hazards due to the wind turbines we discussed the following.

- Receiver Saturation.
- Receiver de-sensitisation causing loss of targets with small RCS.
- Degradation of target processing capability.

Now if the TMZ is applied as the preferred airspace solution, then to a degree the TMZ would mitigate the above issues.



I wondered if you could raise these issues to the safeguarding team for further clarity on the matter. All the above bullet points all have one similar question which needs to be addressed and that is.

As the 'clutter' is masked by the radar blanking, the PSR is still processing the data and then filtering out the bits not required. Will the introduction of the wind turbines cause issues with the PSR in terms of processing power and filtering the clutter?

Also, as discussed on the call, MoD Leuchars believe that their PSR has 2 slots in which to introduce blanking. One is in use for Seagreen and the other already in use for NNG.

As there are technically no more slots available for use, would it be technically possible to have one card blank both the Seagreen and Berwick Bank TMZ if they were one continuous structure?

Email Screenshot at A4.3, Response from ATM Safeguarding screenshot at A5.6

On 28 November 23 NATS responded with their opinion on the draft Design Options (contained in Appendix A3, and at A5.4). They also asked that the sponsor clarify for all stakeholders what the vertical level of any TMZ solution would be. The clarification email is below at A2.4.

A2.4 Clarification Email

Good Evening,

To clarify a point that has been raised by another stakeholder, we would like to inform you of the vertical dimensions that any TMZ solution could have.

"To enhance safety measures, we propose setting the top level of any Transponder Mandatory Zone (TMZ) at FL100, aligning with the mandatory requirement to carry and operate Secondary Surveillance Radar (SSR) at or above FL100 in UK airspace*. This adjustment ensures continuous SSR data coverage for Air Traffic Control Officers (ATCOs) over any Range Azimuth Gating (RAG) area, thereby offering the utmost safety mitigation for these solutions."

*UK Civil AIP – ENR 1.6 ATS Surveillance Services and Procedures – 2.2.2.1.1 - When operating at and above FL 100 pilots of aircraft shall select the relevant Mode A conspicuity code (see paragraph 2.2.2.1.3) and the Mode C pressure-altitude reporting mode of the transponder.

Screenshot at A4.4



A3 Stage 2 Responses Received

If a stakeholder responded (even to express 'no comment'), then it is detailed below, and their email can also be found in Annex A4. If we had no reply then it will not be listed below.

Stakeholder Response Email Ref	Organisation	Response Received	Further Action
A5.1	Police Scotland and Air Ambulance (Babcock Mission Critical Services)	30 October 2023 – Nil concerns or objections.	No further action required until Stage 3. Response does not include relevant comments on additional/amended Design Options.
A5.2	Aberdeen Airport ATC	14 November 2023 – Reply to inform us that Chris Porter (NATS) will be managing the NATS NERL response.	No further action required until Stage 3. Response does not include relevant comments on additional/amended Design Options.
A5.3	CHC Helicopters	<p>28 November 2023 – The response highlighted option 7G as their preferred choice.</p> <p>CHC also passed on information about [REDACTED] [REDACTED] [REDACTED]</p>	<p>Comment validates Option 7G.</p> <p>No further action required until Stage 3. Response does not include relevant comments on additional/amended Design Options.</p> <p>With regards to the [REDACTED], the change sponsor will investigate the technical solution that was communicated to them in the email. This currently sits outside of this ACP but will be considered to provide a validated and enduring technical solution going forwards.</p>



Stakeholder Response Email Ref	Organisation	Response Received	Further Action
A5.4	NATS	<p>28 November 2023 – The response highlighted option 7G as the preferred airspace solution. They also believe that option 7F is viable, but believe that when compared to option 7G, it adds complexity and risk for GA/MOD airspace users and provides no real advantage.</p> <p>NATS also asked that we clarify the vertical dimensions of any TMZ solution to all stakeholders.</p>	<p>Comment validates Option 7G, but also highlights their opinion on option 7F.</p> <p>No further action required until Stage 3. Response does not include relevant comments on additional/amended Design Options.</p> <p>The change sponsor has responded to NATS second comment and sent an email to all stakeholders advising them of the vertical dimensions of all proposed TMZ solutions. (See A4.4 for email)</p>
A5.5 and A5.6	ATM Safeguarding (via DAATM clarification question)	<p>After completing a HazID Session (21 Nov 23) with MOD Leuchars Station a number of technical questions about the PSR required answering (A2.3 and A4.3). The questions were sent by the change sponsor to DAATM who sent on to the ATM Safeguarding Team. The full response can be seen in their email.(A5.6)</p>	<p>Nil further action required until stage 3. Response contains technically relevant comments; however, it does not include comments on additional/amended Design Options.</p> <p>The response provides useful technical guidance that may become useful in later stages of this ACP depending on the selected Design Options that progress.</p> <p><i>The email has been kept providing transparency for all readers of this document.</i></p>

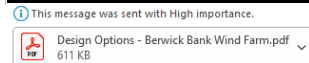
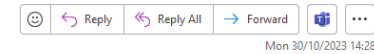


Stakeholder Response Email Ref	Organisation	Response Received	Further Action
A5.7	DAATM	<p>Comment Received on 29 November 23.</p> <p>The response included comments against all of the design options. They stated that option 7G would provide sufficient mitigation and reduce aircrew and ATC workload by simplifying the airspace into one transponder zone.</p>	<p>These comments support certain options, but also clearly state where it feels issues may arise if they were to be implemented.</p> <p>No further action required until Stage 3. Response does not include relevant comments on additional/amended Design Options.</p>

A4 Sponsor Sent Emails

A4.1 Email for Initial Engagement

[EXTERNAL] Berwick Bank Offshore Wind Farm - Airspace Change Proposal Design Options Request for Feedback




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

Dear Sir or Madam,

We are contacting you to request your input to the development of Design Options as part of an Airspace Change Proposal (ACP) for the Berwick Bank Wind Farm. Berwick Bank Wind Ltd, a wholly owned subsidiary of SSE Renewables is developing the Berwick Bank Wind Farm. Berwick Bank is progressing with a process for airspace change to mitigate the impact the development is predicted to create, through radar detection of the operational wind turbines at both the Ministry of Defence Leuchars Station and Pervinnes Primary Surveillance Radar (PSR) sites.

Berwick Bank started the ACP in December 2022 with the submission of a Statement of Need to the CAA. During September 2023, the first of a seven-stage change process was successfully completed when the proposal passed through the Stage 1 DEFINE Gateway. The work undertaken during Stage 1 helped to establish a shortlist of Design Principles that have acted as a framework against which Design Options have been drawn up.

We would now like to share these with those representative bodies that contributed to the development of the Design Principles in Stage 1, to ensure that stakeholder concerns have been properly understood and accounted for in designing these options. We are seeking any views or comments that you may wish to express regarding the draft procedure designs shown in the attached document by return email 

Details of how to respond are also included in the attached document and all responses should be returned by **1 December 2023**.

Should you wish to discuss the design proposals in more detail, we can offer the opportunity of a face-to-face personal meeting or an online call. Thank you for your engagement in this airspace change process.

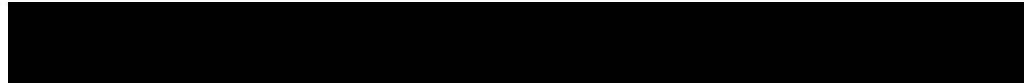
Regards,




Project Development
One Waterloo Street
Glasgow
G2 6AY

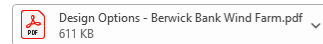
A4.2 Email Reminder

[EXTERNAL] RE: Berwick Bank Offshore Wind Farm - Airspace Change Proposal Design Options Request for Feedback



Mon 20/11/2023 09:26

 This message was sent with High importance.



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

Good Morning All,

Please receive this email as a gentle reminder that all responses and comments on the attached Berwick Bank ACP Design Options are requested **no later than the 1st Dec 23**.

Regards,

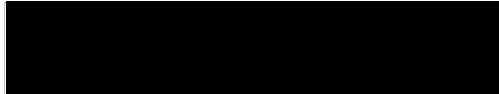


Project Development
One Waterloo Street
Glasgow
G2 6AY

A4.3 Clarification Questions Email to DAATM

(Following HazID Meeting with MOD Leuchars Station)

Clarification Q's - Berwick Bank TMZ



Tue 21/11/2023 15:02

Hi [Redacted]

Just a follow up from this morning's meeting with regards to putting a bit more meat on the bone.

During session 2 which was the hazards due to the wind turbines we discussed the following.

- Receiver Saturation.
- Receiver de-sensitisation causing loss of targets with small RCS.
- Degradation of target processing capability.

Now if the TMZ is applied as the preferred airspace solution, then to a degree the TMZ would mitigate the above issues.

I wondered if you could raise these issues to the safeguarding team for further clarity on the matter. All the above bullet points all have one similar question which needs to be addressed and that is.

As the 'clutter' is masked by the radar blanking, the PSR is still processing the data and then filtering out the bits not required. Will the introduction of the wind turbines cause issues with the PSR in terms of processing power and filtering the clutter?

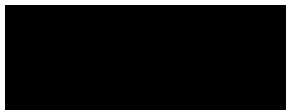
Also, as discussed on then call, MoD Leuchars believe that their PSR has 2 slots in which to introduce blanking. One is in use for Seagreen and the other already in use for NNG.

As there are technically no more slots available for use, would it be technically possible to have one card blank both the Seagreen and Berwick Bank TMZ if they were one continuous structure?

On separate note, I checked up on the Seagreen TMZ with no controlling authority. This was decided upon because of the lack on non-transponder traffic in that area, and I would hazard a guess from what the controllers said this morning that they infrequently get non-transponding aircraft as routine out that way. So, we may operate Berwick Bank TMZ without a controlling auth too (?). This wouldn't stop Leuchars controlling within it and providing a service to transponder aircraft but would preclude them from authorising entry into the area for non-transponding aircraft.

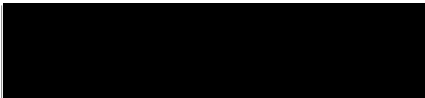
Also, as the issue of TDA 597 was mentioned as sitting over the area, activated by Notam and active from FL85 – FL660, could you also provide clarity on the fact that the providers of any radar service when operating in there rely on a radar other than that which the Leuchars PSR provides, and if so which one would they routinely rely on, noting that the Perwinnes PSR may undergo a similar blanking modification.

Regards,



A4.4 Email to Clarify Vertical Dimensions of TMZ Solution

[EXTERNAL] Berwick Bank Offshore Wind Farm - Airspace Change Proposal Design Options Request for Feedback-Update



Wed 29/11/2023 19:55

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

Good Evening,

To clarify a point that has been raised by another stakeholder, we would like to inform you of the vertical dimensions that any TMZ solution could have.

"To enhance safety measures, we propose setting the top level of any Transponder Mandatory Zone (TMZ) at FL100, aligning with the mandatory requirement to carry and operate Secondary Surveillance Radar (SSR) at or above FL100 in UK airspace*. This adjustment ensures continuous SSR data coverage for Air Traffic Control Officers (ATCOs) over any Range Azimuth Gating (RAG) area, thereby offering the utmost safety mitigation for these solutions."

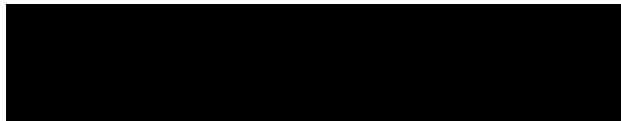
*UK Civil AIP – ENR 1.6 ATS Surveillance Services and Procedures – 2.2.2.1.1 - When operating at and above FL 100 pilots of aircraft shall select the relevant Mode A conspicuity code (see paragraph 2.2.2.1.3) and the Mode C pressure-altitude reporting mode of the transponder.

Regards,



A5 Stage 2 Stakeholder Correspondence

A5.1 Police Scotland and Air Ambulance (Babcock Mission Critical Services) Response



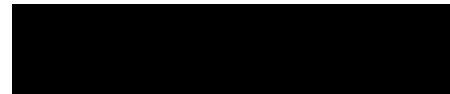
WARNING: This email was sent from outside SSE. Think twice before opening any links or attachments and report anything you are unsure about with your 'Report Phishing' button.

Classification: UNCLASSIFIED

Good afternoon,

I can confirm that Babcock Onshore is the Aviation provider for both the Scottish Air Ambulance Charity and also Police Scotland. Due to the location of the proposed Offshore wind farm we do not have any concerns or objections at this time.

Best wishes,



A5.2 Aberdeen Airport ATC Response

[EXTERNAL] RE: Berwick Bank Offshore Wind Farm - Airspace Change Proposal Design Options Request for Feedback



Tue 14/11/2023 11:02

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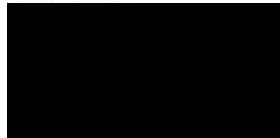
Hi [REDACTED]

[REDACTED] will be managing the NATS NERL response.

Regards

[REDACTED]

NATS



A5.3 CHC Helicopters Response

[REDACTED]

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Hi [REDACTED]

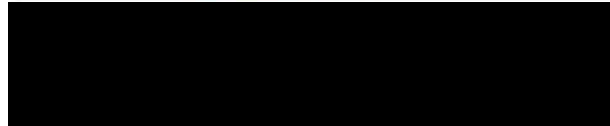
I would go with Option 7G. However, [REDACTED] should contact [REDACTED] and speak to him about the [REDACTED]

Regards,

[REDACTED]

CHC Helicopter
Humberside Airport
Kirmington
DN39 6YH

A5.4 NATS Response



WARNING: This email was sent from outside SSE. Think twice before opening any links or attachments and report anything you are unsure about with your 'Report Phishing' button.

Good afternoon,

Thank you for providing NATS the opportunity to review and respond to your Design Options.

Of all the proposed options, our preferred option is 7G: RAG Blanking and simplified polygon TMZ 'rubber banded' and TMZ extended to include a 2nm Buffer (as applicable) which to the North joins together with the established Seagreen TMZ. Although Option 7F is viable, we believe that, compared to 7G, it adds complexity and risk for GA / MoD airspace users and provides no real advantage.

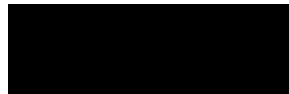
Please note that for any of the proposed TMZ options we are unable to see any definition of vertical dimensions within the document - please can you provide stakeholders with further details.

As highlighted in our email of 14th November, because there is a new CAP1616 Edition 5 coming into force in January you may wish to consider its impact on your ACP.

Rgds

A small black rectangular redaction box covering the signature line.

NATS



A5.5 DAATM Response (via ATM Safeguarding)



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



Please see below for the answer to your questions posed on the impact of Berwick Bank on Leuchars PSR and potential TMZ extension.

Kind regards,



The email being referenced above is contained at A5.6

A5.6 DAATM Technical Response (via ATM Safeguarding)



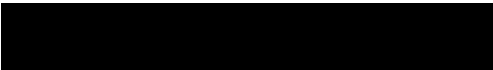
Good evening [REDACTED]

Apologies for the delay in getting back to you in reference to the questions that were asked by the Osprey rep' for the Berwick Bank developer. It required a little digging in order to understand the PSR's capabilities and how the operators use the PSR. I've answered the questions in red below:

1. *As the 'clutter' is masked by the radar blanking, the PSR is still processing the data and then filtering out the bits not required. Will the introduction of the wind turbines cause issues with the PSR in terms of processing power and filtering the clutter?*
I have been assured by the Leuchars maintenance team that there should be no extra loading on the Radar processing power due to clutter filtering.
2. *Leuchars believe that their PSR has 2 slots in which to introduce blanking. One is in use for Seagreen and the other already in use for NNG. As there are technically no more slots available for use, would it be possible to have one card blank both the Seagreen and Berwick Bank TMZ if they were considered one continuous structure?*
Post consulting the ADEWS Windfarm SME, Leuchars DSATCO and the Aquila commissioning engineer for the Watchman at Leuchars: The Watchman PSR does have a limitation of only being able to blank out 2 Range Azimuth Gated (RAG) polygon areas. These are currently used for Seagreen and NnG. Whilst the update that changed the Watchman to an A4 variant did include 4 RAG maps these maps do not expand on the PSR limitation, but only allows the operator to change the PSR receiver sensitivity level for changing weather conditions. Any change to the Seagreen TMZ to encompass the Berwick Bank windfarm could be done but this would require the current Seagreen RAG polygon area to be expanded (remapped) to include the Seagreen / Berwick Bank TMZ(s).

I hope that helps Izzi? Happy to talk further on the subject if it doesn't.

Kind regards,



A5.7 DAATM Response

[EXTERNAL] FW: MOD Response to Berwick Bank ACP Stage 2



Thu 30/11/2023 09:11

WARNING: This email was sent from outside SSE. Think twice before opening any links or attachments and report anything you are unsure about with your 'Report Phishing' button.

Good afternoon,

Please find below the Stage 2 ACP responses from DAATM, on behalf of MOD. Please note that responses to this ACP are solely to highlight the impact of the proposed options to MOD activities; it is understood that the sponsor has engaged with MOD Safeguarding Teams on the technical aspects of the windfarm application, which DAATM has no authority over.

Option 1.

The MOD agrees that this option would be unmanageable and would not provide a satisfactory solution.

Option 2.

Operating completely SSR-alone would mean an unacceptable increase in MAC risk for MOD airspace users. It would not be feasible for Leuchars to continue to provide SRAs under this option, as the refresh rate of the MSSR at Leuchars is not enough to comply with the AMC laid out in RA 3293 for SRAs using co-operative surveillance systems, so the PSR is required for these approaches. SSR-alone Ops would therefore remove the only IFR approach to Rwy 08 and redundancy for Rwy 26 should the ILS fail.

Option 3.

Whilst the option of an infill radar with the cost borne by the sponsor may be appealing to MOD, it is understood that this is unlikely to be financially viable and is considered to be a technical solution, rather than an airspace solution.

Option 4.

The potential introduction of Class D/E airspace would likely negatively impact the freedom of manoeuvre of MOD airspace users and would be overly restrictive as an airspace structure. The proposed development area, whilst not overlapping, does come very close to one of the QEC established CVOAs but the location itself would not create any significant impact to operations. If Option 4 became a consideration this would cause more impact, however it is noted that the sponsor deems this to be unviable.

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Option 5.

The MOD agrees that this would not be a viable solution as the radar is not blanked under this solution, which would render the TMZ obsolete.

Option 6.

The MOD agrees that this would not be a viable solution as the radar is not blanked under this solution, so the impact on the windfarm would not be mitigated. Potential benefit for an RMZ to be included in a RAG Blanking/TMZ option.

Option 7.

From an Area Radar and ASACS perspective, coverage is provided via an alternative NATS radar with a base of cover below FL100. Whilst blanking and a TMZ is not ideal, it was not considered to be a major impact on their operations.

The following responses were provided by Leuchars:

7(A) – Not viable without further mitigation.

7(B) – No benefit without being used in conjunction with RAG blanking.

7(C) – Provides sufficient mitigation but potential HF issues for ATC and aircrew due to irregular shape and the gap between it and the Seagreen TMZ, which may invite transits and inadvertently create a bottleneck of non-squawking aircraft.

7(D) – As 7(C), but the overlapping nature of the buffer zones with Seagreen may cause confusion about precedence of TMZs.

7(E) – Provides sufficient mitigation but potential issue due to the gap between it and the Seagreen TMZ, which may invite transits and inadvertently create a bottleneck of non-squawking aircraft.

7(F) – The overlapping nature of the buffer zones with Seagreen may cause confusion about precedence of TMZs.

7(G) – Provides sufficient mitigation and reduces aircrew and ATC workload by simplifying the airspace into one transponder mandated zone. Option 7(G) provides the most effective mitigation against the hazards generated by the Berwick Bank Wind Farm from a Leuchars perspective.

Other comments

Subject to the assumption that Leuchars will have a serviceable and assured PSR beyond Jun 24, Leuchars would consider acting as the controlling authority during LARS open hours. Noting that there is currently no controlling authority for Seagreen TMZ, a CoA to be considered by the sponsor could be that the TMZs are combined with one controlling authority (regardless of who this is), rather than having separate TMZs where one has a controlling authority and the other doesn't. If they are to have separate controlling authorities, then from a Leuchars perspective the two TMZs should remain as two distinct areas without overlap.

The MOD would request that the top level of any structure be limited to FL100, which is the base level of the D613 complex of Danger Areas, which overlap with the proposed TMZ options; FL100 would also align with the top level of the adjacent Seagreen TMZ.

The MOD would also want access to only be restricted to non-transponding aircraft (subject to controlling authority permission) and would request it noted that SSR equipped aircraft do not require ATC clearance to enter the TMZ (assuming that is the final selected option).

If you have any questions, please do not hesitate to ask.

Best regards,

