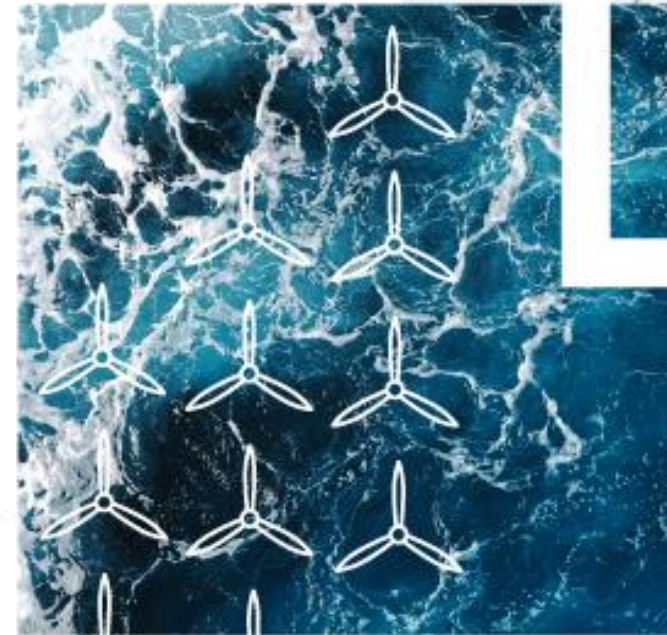


Berwick Bank Offshore Wind Farm Development

Airspace Change Proposal – Stage 1 Assessment Meeting

23rd January 2023



Introductions

Statement of Need (Submitted Nov 22)

Current Situation:

Berwick Bank Wind Farm Ltd has recently submitted [Dec 22] its Consent Application to the Scottish Government to develop a substantial offshore wind farm off the East Coast of Scotland. Located in the North Sea, in the outer Firth of Forth, Berwick Bank 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. Construction is anticipated to occur between 2024-2026 (Offshore Construction ~Mar 25).

Issue:

As part of the Planning Process, Berwick Bank has engaged with all relevant aviation stakeholders to determine the impact of the Berwick Bank Wind Farm wind turbine generators on aviation radar systems and operations - in particular, NERL and the MOD. Both have confirmed that the development has the potential to have an adverse impact on their primary surveillance radar systems for the provision of air traffic control services in the vicinity of the Berwick Bank Wind Farm. As a result, Berwick Bank has acknowledged that a suitable mitigation must be developed in order for this Development to coexist with the operations of both NERL and the MOD.

PSRs potentially impacted:

- a. Leuchars Station PSR
- b. Deadwater Fell PSR
- c. Perwinnes PSR

Action:

Internal assessment of the mitigations available has led Berwick Bank Wind Farm Ltd to now wish to commence the initiation of a CAP1616 compliant airspace change proposal in order to manage the development of the airspace related mitigations. The Berwick Bank Offshore Wind Farm is of strategic importance to the UK and Scottish Government as they strive to achieve their Net Zero Targets and therefore, the Project is keen that the airspace change proposal is initiated as soon as possible.

ENR5.1 (Prohibited/Restricted/Danger Areas) AD-EGXX-2.17 (ATS Airspace) AD-EGXX-2.22 (Flight Procedures).

All altitudes from Surface to 20,000feet and above.

Project Background

The purpose of this briefing is for SSE Renewables to inform the CAA regarding the proposed development of Berwick Bank Offshore Wind Farm in accordance with the CAA Airspace Change Proposal (ACP) process as specified in CAP 1616 in order to progress the aviation mitigations needed to discharge the anticipated consent conditions.

The Proposed Development Array Area covers an area of 1,010.2 km² in the outer Firth of Forth, approximately 47.6 km offshore of the East Lothian coastline and 37.8 km from the Scottish Borders coastline at St. Abbs and has a generating capacity of 4.1GWs. The Proposed Development array area is already the subject of Agreement for Lease (AfL) from Crown Estate Scotland (CES). The generating station will comprise up to 307 wind turbines, making Berwick Bank one of the largest offshore wind opportunities in the world.

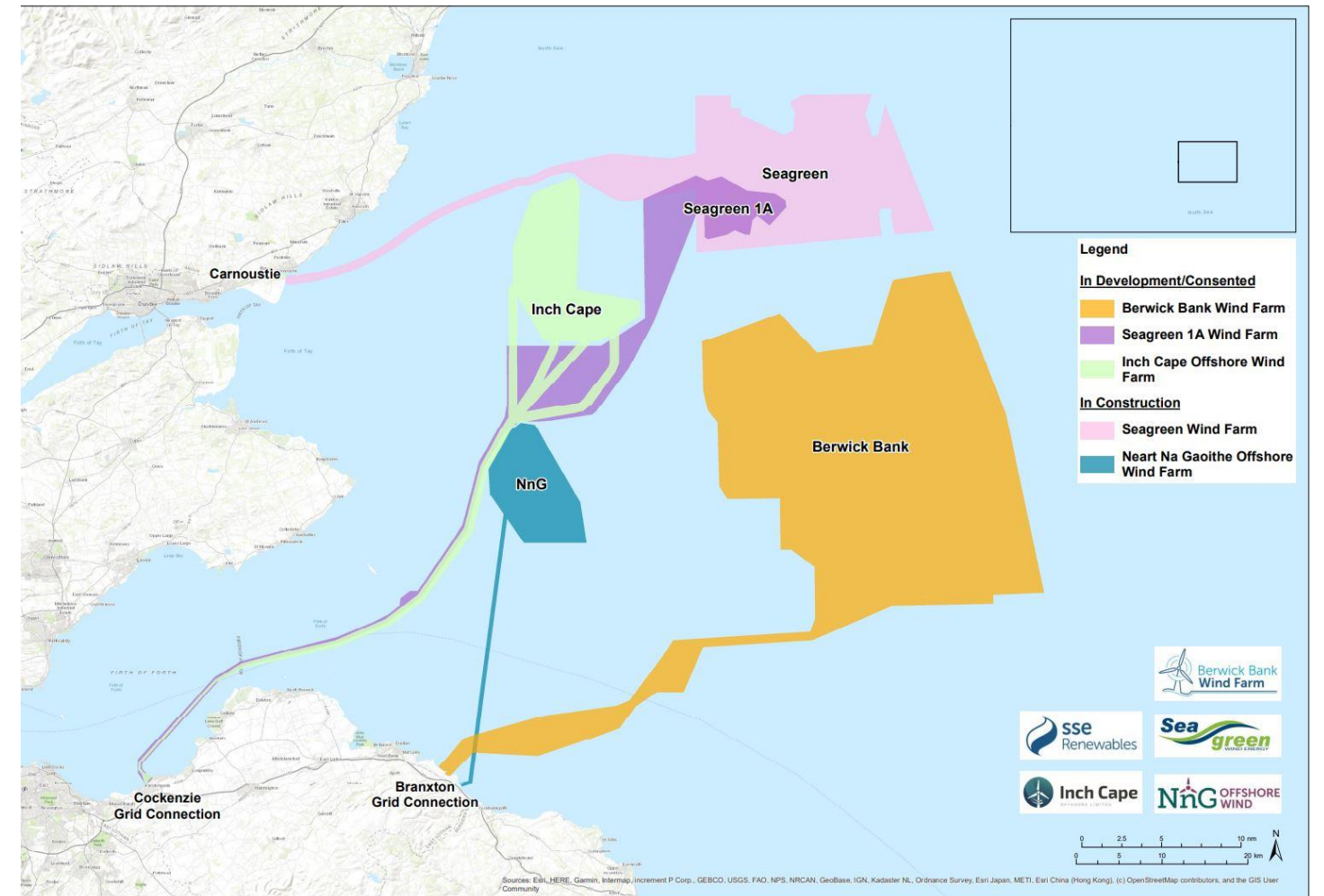
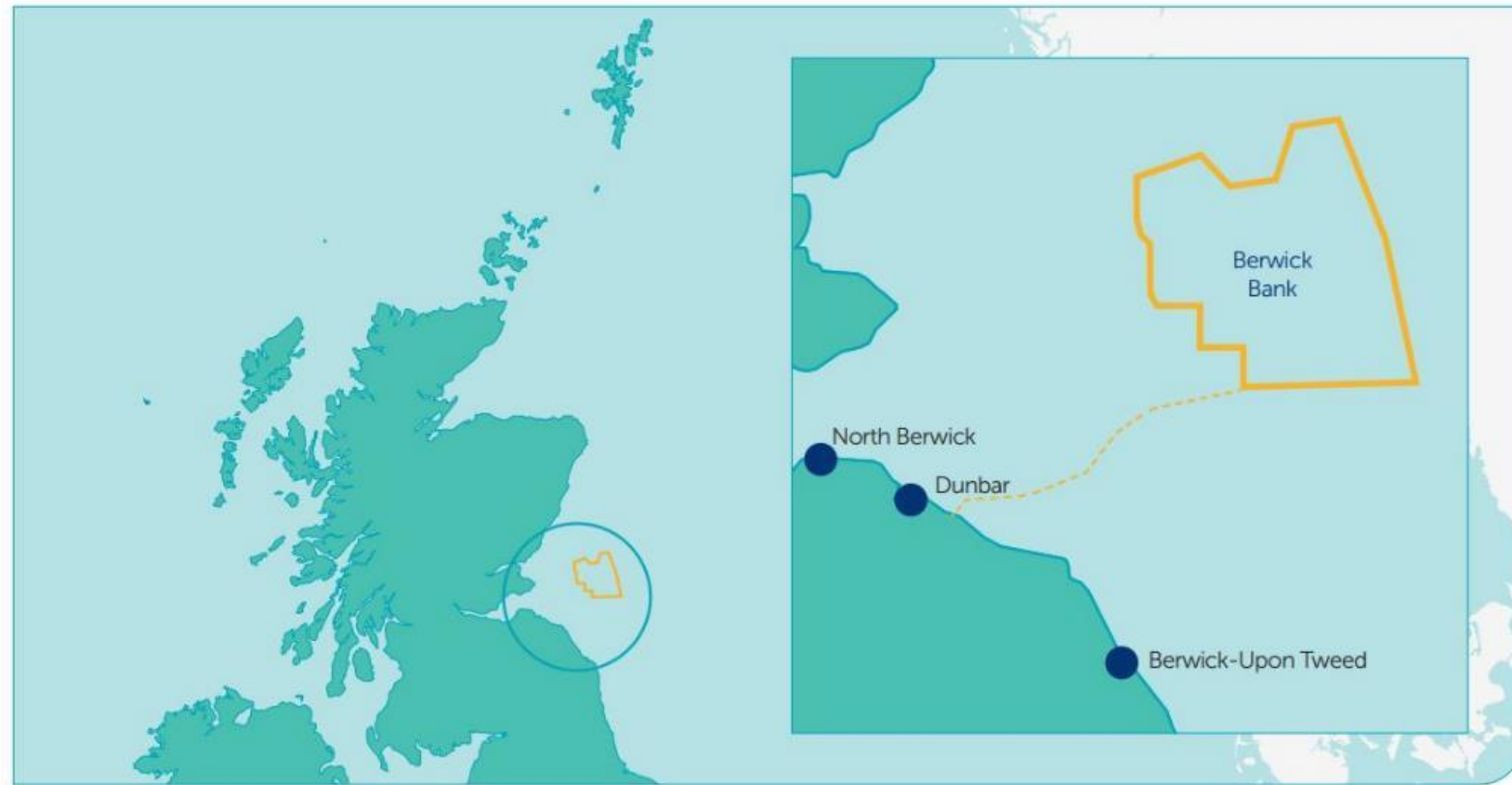
As part of the planning process, Berwick Bank has conducted engagement with the relevant aviation stakeholders which has resulted in issues being raised by both the MOD and NATS on the grounds of potential interference of their respective primary surveillance radars caused by the proposed wind turbine generators (WTGs) and the subsequent impact on their ability to provide Air Traffic Services (ATS).

The development is considered of strategic importance not only to the Scottish Government, but also the UK Government's Business, Energy and Industrial Strategy (BEIS) Department's Net Zero Offshore Wind Targets of 40GWs by 2030.

As such, with a long lead time between proposal and implementation, Berwick Bank considers it wise to instigate the ACP process, as laid out in CAP 1616, as the appropriate vehicle to investigate the airspace related issues (and mitigations) associated with the Berwick Bank Development.

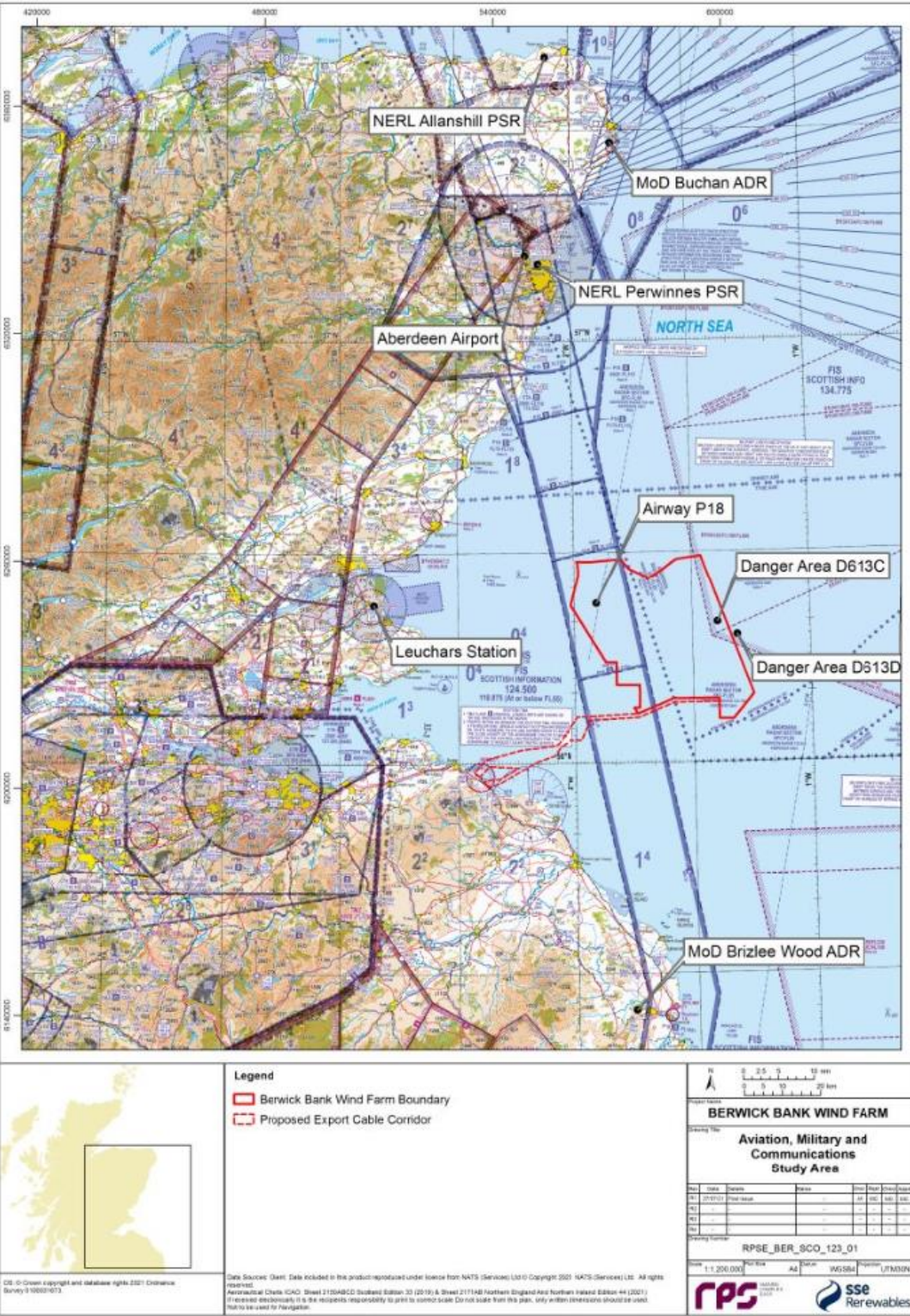
In line with CAP 1616, Berwick Bank has submitted a Statement of Need to initiate the ACP Process.

BERWICK BANK WIND FARM



Baseline Impact of Proposed Development

- In terms of airspace, the western portion of the Proposed Development is located underneath Airway P18 which is primarily used by commercial aircraft routing to, and from, Aberdeen Airport; the airway is activated upwards from Flight Level (FL) 115 (11,500 ft) in the northwest section of the Proposed Development and from FL 155 (15,500 ft) in the southwest section.
- The north-eastern portion of the Proposed Development overlaps the lateral boundaries of Danger Areas D613C and D613D. These Danger Areas are activated periodically from FL 100 (10,000 ft) to FL 660 (66,000 ft) for military air combat training and supersonic flight.
- The presence of wind turbines within the boundaries of these Danger Areas, and just outside the lateral boundaries of Airway P18, are not in themselves expected to impact on aviation operations.



The introduction of Berwick Bank WTGs has the potential to create clutter on radar screens, among other issues, likely to interfere with the provision of Air Traffic Services (ATS) and suitable mitigation will be required. As such:

- NERL has confirmed that the Berwick Bank WTGs are likely to be detected by the Perwinnes PSR and that mitigation will be required.
- The MOD has confirmed the potential of the proposed development to be visible to the Leuchars Station and Deadwater Fell Primary PSRs.

Issues Arising from Proposed Development and Options to Exploit Opportunities for Mitigation

Issues caused by the Proposal Development:

- Introduction of clutter on ATC radar displays:
 - Reduction in safety;
and/or
 - Reduced provision of ATS
- Potential 'shadowing' of radar returns
- Physical obstructions
- Reduced performance of Communication, Navigation and Surveillance (CNS) Systems

Benefits of the Proposal:

- Removal of primary radar clutter through associated radar blanking.
- Creation of an airspace structure that allows for:
 - Improved safety; or
 - Safety remains 'at least as safe' as currently assessed.
 - Provision of ATS enhanced through creation of known air traffic environment.
- Reduced impact of radar 'shadowing'

Provisional Indication of the Level and Process Requirements

Expectation (following experience of SSE's Seagreen 1 Application) of Level 2B Change due to being over the sea and minimal impact to other airspace users:

- Implications of potential impact on ATS means that Berwick Bank wish to ensure relevant stakeholders are aware of any potential changes and have the opportunity to comment on any proposal.
- Project has a long lead time to implementation; however, Berwick Bank has near-term funding and consenting decisions meaning that an agreed mitigation solution is required several years prior to implementation

Provisional Process Timescales

Stage	Gateway Date	Submission Deadline
Assessment Meeting	23 Jan 23	N/A
Stage 1 – Define	31 st Mar 23	17 th Mar 23
Stage 2 – Develop & Assess	30 th Jun 23	16 th Jun 23
Stage 3 – Consult (14 weeks)	22 nd Mar 24	8 th Mar 24
Stage 4 – Update & Submit	N/A	Changed to 28 th Jun 24 (previously 29 th Apr 24)
Stage 5 - Decide	29 th Nov 24	N/A
Stage 6 - Implement	20 th Dec 24 (AIRAC 03/2025) *	20 Dec 24

*This date may be subject to delay dependent upon construction schedule and Berwick Bank would not wish to implement an agreed change any earlier than necessary.

Next Steps

Some engagement has taken place as part of the planning process; however, further detailed engagement will concern specific aviation aspects of the proposal and the Design Principles with the following:

- NERL to be engaged regarding specific impacts.
- Ministry of Defence (MOD) to be engaged but likely to advance their own [technical] mitigation requirements. However, a [technical] mitigation solution (if required) could be formed in cooperation with a civil airspace solution. MOD has been engaged as part of the Section 36 Planning Process.
- Those listed opposite.

Recipients of Perwinnes Radar:

- Aberdeen Airport

Helicopter Operators:

- Maritime Coastguard Agency Babcock
- Bristows
- British International Helicopters
- CHC Scotia
- Emergency Helicopter Support Units

Ministry of Defence:

- Provision of ATC radar services and airborne threat detection

NATS:

- Provision of ATS within UK airspace

NATMAC:

- Members of NATMAC

Others:

- Any other person/organisation considered appropriate as CAP 1616 process is progressed

AOB and Questions?