

Response to Request for Further Information – ABP-318943-24

PROPOSED RENEWABLE ENERGY DEVELOPMENT IN THE
TOWNLANDS OF CAPPATEEMORE EAST, BALLYCANNON
WEST, BALLYCANNAN EAST, BALLYCAR SOUTH, BALLYCAR
NORTH AND GLENNAGROSS, COUNTY CLARE.

BALLYCAR GREEN ENERGY LIMITED

SEPTEMBER 20TH, 2024

BALLYCAR GREEN ENERGY LIMITED | STATION ROAD, ADARE, CO. LIMERICK

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Appendix 1: Aviation Response Statement

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1.0 Introduction

This document has been prepared in response to the Request for Further Information (RFI) issued by An Bord Pleanála (the Board) dated 26th July 2024 in respect of the live Strategic Infrastructure Development (SID) planning application (the Application) before them for consideration (ref: ABP-318943-24) regarding the proposed renewable energy development (the Proposed Development) by Ballycar Green Energy Limited (the Applicant) in the townlands of Cappateemore East, Ballycannon West, Ballycannon East, Ballycar South, Ballycar North and Glennagross, County Clare.

The RFI was issued via post to Malachy Walsh and Partners (MWP), Blennerville, Tralee, Co. Kerry, the planning consultant engaged by the Applicant. It should be noted that MWP did not receive this RFI request via post and both MWP and Applicant were not aware of the RFI until 15th August 2024. This submission comprehensively sets out the Applicant's response to the RFI received.

1.1 Background

The Applicant sought planning permission from the Board in January 2024 for the following Proposed Development, set out in the public notices as follows:

The proposed development for which permission under Section 37E is being sought will include the following:

- 12 No. Wind Turbines (blade tip height up to 158m). Eleven of the turbines will have a hub height of 90m and a blade length of 68m and one turbine (T10) will have a hub height of 82m and a blade length of 68m.
- 12 No. Wind Turbine foundations and Hardstand areas.
- 1 No. Permanent Meteorological Mast (90m height) and foundation and associated hardstand areas.
- 1 No. electrical substation (110kV) including associated ancillary buildings, security fencing and all associated works.
- 2 No. Developed Site Entrances, one temporary entrance to facilitate construction traffic and one permanent entrance.
- New and upgraded internal site access tracks.
- Provision of an on-site Visitor cabin and parking.
- All associated underground electrical and communications cabling connecting the proposed turbines to the proposed onsite substation.
- Laying of approximately 1.5km of underground electricity cabling to facilitate the connection to the national grid from the proposed onsite substation to connect to an existing 110kV overhead line.
- Temporary works on sections of the public road network along the turbine delivery route (including hedge or tree cutting, relocation of powerlines/poles, lampposts, signage, and local road widening).
- 1 No. Temporary construction site compound and additional mobile welfare unit.
- 1 No. Borrow pit to be used as a source of stone material during construction.
- 3 No. spoil deposition areas (one at borrow pit location).
- Associated surface water management systems.
- Tree felling for wind farm infrastructure.

The applicant is seeking a ten-year permission and an operational period of no less than 35 years from the date of commissioning the Wind Farm.

An Environmental Impact Assessment Report (EIAR) and a Natural Impact Statement (NIS) have been prepared in respect of the proposed development and accompany this application.

An RFI in relation to the Proposed Development was issued by the Board, dated July 26th.

2.0 Item 1 of the RFI

Item 1 of the RFI from the Board is as follows:

Significant concerns in relation to Aviation Safety have arisen given the proximity and scale of the proposed development to the Woodcock Hill Radar as set out in the observations received by the Board from AirNav Ireland and Shannon Airport Authority DAC. Notwithstanding the Applicant's response to the observations received, the Applicant is requested to review these submissions further and respond accordingly e.g. through the submission of a technical report. The applicant is advised that their response should demonstrate that sufficient consultation with AirNav Ireland and Shannon Airport Authority has been undertaken and all Aviation concerns have been addressed to their satisfaction.

2.1 Review of AirNav Ireland Submission

A comprehensive review of the AirNav Ireland submission dated 8th March 2024 was undertaken. A summary of this is provided below.

- AirNav Ireland state that they have reviewed the “Ballycar Wind Farm Aviation Technical Assessment”, compiled by CYRRUS on behalf of the Applicant.
- They have analysed the potential impact on the surveillance infrastructure from the Proposed Development and conclude that it would degrade the performance of the Woodcock Hill radar.
- They further state that there are no credible and implementable mitigations on the Woodcock Hill radar itself to eliminate the radar beam deflections, reflections and shadowing from the proposed turbines.
- It is the opinion of AirNav Ireland that the Proposed Development would compromise the Woodcock Hill radars compliance with EU mandated surveillance performance criteria required to support 5 Nautical Mile horizontal separation of aircraft in En-Route Irish airspace and 3 Nautical Mile horizontal separation in Dublin airspace.
- AirNav Ireland have engaged in meetings and in a workshop in Dublin in February 2024 to explain and illustrate the potential impact of the Proposed Development on the Woodcock Hill radar.
- It is the opinion of AirNav Ireland that the Proposed Development would result in a reduction in the level of safety in the Shannon En-Route and Dublin Air Traffic Control centres and therefore, objects to the development proceeding.

2.2 Response to AirNav Ireland Submission

Background

The AirNav Ireland concerns communicated to the Board relate to the operation of the Woodcock Hill radar station. The independent expert technical assessments provided as part of the planning application were compiled by Cyrrus, an Irish Aviation Authority (IAA) approved procedure designer.

These technical assessments were undertaken in accordance with EUROCONTROL Guidelines (pan-European, civil-military organisation supporting European aviation).

The independent expert opinions commissioned and provided to the Board held either that:

- a) the performance of the radar equipment at Woodcock Hill will not be impacted by the Proposed Development; or
- b) as indicated by the manufacturer, modest upgrading of the equipment can be undertaken to fully mitigate any impact.

Update

This position is confirmed by the attached technical report, with further illustration and detail provided to validate the position. Furthermore, details are provided regarding reference sites where aviation safety has been fully maintained in conjunction with the operation of wind farm installations. Such sites include Newcastle International Airport and UK Department of Defence radar installations which are operated in conjunction with significant wind farm presence.

The Aviation Response Statement contained in Appendix 1 addresses and resolves each of the concerns raised by AirNav Ireland as follows.

2.2.1 Deflections

- Expert reports demonstrate that Woodcock Hill radar station will not experience deflections due to the Proposed Development.
- The radar equipment installed at Woodcock Hill uses inbuilt processing techniques to remove the issue of deflections from its system. As confirmed by the manufacturer, no additional optimisation is required of the system as this functionality is part of the equipment's standard processing.

2.2.2 Reflections

- The Thales RSM970 MSSR at Woodcock Hill utilises a two-stage system to prevent reflections being displayed.
- To prevent possible reflection issues some minor optimisation of the radar may be required.
- This can be incorporated in scheduled maintenance, and the Applicant has confirmed to AirNav Ireland that they are willing to provide for any associated costs either in whole or, in conjunction with other interested parties, in part.

2.2.3 Shadowing

- This issue will not compromise the operation of the Woodcock Hill radar since the shadow regions that may be generated beyond the Proposed Development will not extend into airspace where aircraft are flying.

- This is demonstrated by the expert technical reports completed by Cyrrus who have calculated the depth, width and height of the shadowing associated with the Proposed Development using EUROCONTROL Guidelines.
- The maximum depth of the shadow regions beyond the Proposed Development will vary between 2.3km and 3.6km, with widths of up to 65m and with a maximum height of 352m or 1,155 feet above sea level, as per EUROCONTROL calculation methods.
- The Shannon Airport Minimum Altitudes, as published by the Irish Aviation Authority, in the area of the Proposed Development are a minimum of 2,300 feet to 3,000 feet above sea level i.e., the altitude of the shadow region generated by the turbines is significantly below that where aircraft flight is permitted in this area. Furthermore, en-route aircraft travelling through the airspace are at a minimum altitude of 7,500 feet above sea level (significantly above the shadow region).
- The maximum shadow area determined by Cyrrus is backed up by field trials conducted in the UK and UK Civil Aviation policy, as referenced in the attached Aviation Response Statement.

2.2.4 En-Route Traffic

In AirNav Ireland's submission to the Board a concern – not previously raised – was included regarding EU mandated surveillance required to support aircraft separation in respect of en-route traffic.

In maintaining the previous position that all aviation concerns can be satisfactorily addressed, please see Appendix 1: Aviation Response Statement which notes:

- Woodcock Hill radar station will not experience reflections (with minor optimisation) or deflections due to the Proposed Development. Therefore, there will be no impact on en-route traffic within Irish or Dublin airspace from reflections or deflections.
- Any potential shadows fall below an altitude of 1,115 feet above sea level. The minimum flying height for en-route traffic through Irish airspace is 7,500 feet. Therefore, there is no possibility for any shadowing impacts of the Proposed Development on en-route traffic.
- Due to intervening landform and the Earth's curvature (see section 3.4.4 of the Aviation Response Statement), the Woodcock Hill radar is not suitable for detection or control of aircraft below approximately 9,000 feet in Dublin airspace. Therefore, the introduction of the Proposed Development would have no material impact on the operation of the radar with respect to Dublin airspace and would not compromise EU mandated surveillance aircraft separation in Dublin airspace.
- It is clear that the Proposed Development will not result in any compromise regarding EU mandated surveillance required to support aircraft separation, including in respect of en-route traffic in Irish airspace and in respect of aircraft in Dublin airspace.

2.2.5 Conclusion on AirNav Ireland Submission

As summarised above from Appendix 1: Aviation Response Statement, the Applicant's position is consistent in relation to aviation safety and addressing concerns satisfactorily. Appendix 1 contains further detail, illustration and references to validate this position. In particular, the specific concern regarding en-route aircraft raised by AirNav Ireland in their submission has been conclusively addressed.

In addition, EU aviation regulations are also relevant whereby air navigation services will transition from ground-based radar systems such as the Woodcock Hill MSSR to satellite navigation systems. Such

systems will negate current issues with ground based radar systems (topography, built environment, etc.). The IAA has developed a transition plan outlining the movement to satellite based navigation systems and rationalisation of navigation infrastructure up to 2030. Satellite based aircraft navigation systems will negate any potential impacts associated with wind farms on aircraft navigation.

The Applicant has provided AirNav Ireland with an undertaking that the cost of any radar equipment optimisation will be met by the Applicant (in association with other interested parties, if applicable). Due to the timelines applying to the delivery of the Proposed Development, this optimisation can be done in conjunction with normal AirNav Ireland maintenance schedules i.e. with no operational impact.

2.3 Consultation with AirNav Ireland

As has been acknowledged by AirNav Ireland, the Applicant has engaged extensively with the IAA/AirNav Ireland since January 2022. This engagement continued after the planning application was submitted for the Proposed Development, with additional engagement in February and May 2024. The attached Aviation Response Statement shall be issued to AirNav Ireland.

Following review of the Aviation Response Statement we would respectfully request that AirNav Ireland will revert to its previous position of support in principle for the Proposed Development.

Should AirNav Ireland require that additional information or clarification needs to be considered in relation to the Proposed Development, we would respectfully suggest that the Board give consideration to exercising its right to convene a “limited agenda” hearing with both parties.

2.4 Further Considerations

In addition to the resolution of safety concerns, it is highlighted that the location of the Proposed Development is consistent with the statutory Clare County Development Plan and the local authority’s Wind Energy Strategy. The Proposed Development is in an area designated as “Strategic” for wind energy developments in the County Development Plan which was adopted following extensive public consultation. The Chief Executive of Clare County Council has advised An Bord Pleanála that the development will “positively contribute to national, regional and local objectives in relation to renewable energy.” The Proposed Development supports the delivery of Government climate and energy policy, including the legally binding targets set out in the Climate Action and Low Carbon Development Act, 2021 and the requirement on public bodies to support the delivery of climate action under the Public Sector Climate Action Strategy 2023-2025. Additionally, it is noted that “Environment” is one of AirNav Ireland’s five corporate values. AirNav Ireland has committed to reducing climate impact through innovation and the Proposed Development provides a clear and tangible means to do so.

2.5 Review of Shannon Airport Authority Submission

A comprehensive review of the Shannon Airport Authority DAC submission dated 3rd March 2024 was undertaken. A summary of this is provided below.

- In general terms, the siting of the wind turbines associated with the Proposed Development may have implications for the operations of the communication, navigation and surveillance systems used by AirNav Ireland. The geographical siting of these turbines may also have implications for the flight paths of aircraft.

- Arising from their own internal assessment, the Proposed Development will have no impact on the aerodrome OLS (obstacle limitation surface). It is unlikely that there will be any Annex 14 OLS impacts due to the Proposed Development.
- Shannon Airport notes and shares the concerns of AirNav Ireland specifically relating to radar systems and notably the Woodcock Hill radar surveillance system.
- It was initially thought that with appropriate mitigation measures any impacts on this piece of infrastructure by the Proposed Development would potentially be negated.
- Following recent engagement between the developer, AirNav Ireland, State Aerodromes and IAA Aerodrome Division, it became apparent that these impacts could not currently be mitigated against.
- Shannon Airport Authority fully supports the updated AirNav Ireland position of not being able to support the development on the basis that appropriate mitigation measures cannot be deployed to prevent impacts on the Woodcock Hill radar site and therefore objects to this development proceeding.
- Shannon Airport Authority suggest that for developments of this type the following conditions/requirements must be mandated:
 - If the turbines are within 45km of Shannon Airport's ARP and are greater than 100m in height they would be required to be included in the IAA Electronic Air Navigation Obstacle Dataset;
 - Also, standard: Chapter Q (Visual Aids for Denoting Obstacles) of the Certification Specifications for Aerodrome Design – Issue 6 contained in the EASA aerodrome rules must be applied to the turbines as they would be regarded as an extensive object; and
 - During the construction phase of the any development, any crane activity on the site must be pre-approved by the completion of the Shannon Airport Crane Operations application form (at least 30 days in advance) of any crane erection taking place.

2.6 Response to Shannon Airport Authority Submission

In response to the Shannon Airport Authority submission and RFI issued by the Board, please see Aviation Response Statement contained in **Appendix 1**.

It is important to note that, as communicated to the Board by Shannon Airport in its submission dated 3rd March 2024, the Proposed Development will have no impact on the Shannon Airport obstacle limitation surfaces which define the limits for objects affecting the aerodrome's airspace. It has also been confirmed that the Proposed Development will not affect the Shannon Airport Instrument Flight Procedures including flight paths into/from Shannon Airport.

It is noted that Shannon Airport Authority has advised the Board that it supports the AirNav Ireland position in relation to concerns about the operation of the Woodcock Hill radar. These concerns have been satisfactorily addressed in Appendix 1: Aviation Response Statement and summarised above in Section 2.2.

3.0 Item 2 of the RFI

Item 2 of the RFI from the Board is as follows:

A planning application for a Strategic Infrastructure Development wind farm case number ABP-318782-24 (Oatfield) was received by the Board on the 22/12/2023 in close proximity to the subject application site. The applicant is requested to submit a revised/updated NIS addressing in-combination considerations that may arise from the proposed development and the Oatfield wind farm proposal.

3.1 Response to Item 2

In response to item 2 of the RFI issued by the Board, please see Natura Impact Statement (NIS) contained in **Appendix 2**. The updated NIS addresses in-combination considerations with reference to SID case number ABP-318782-24, Oatfield Wind Farm. Furthermore, the NIS also considers in-combination effects with reference to SID case number ABP-320705-24, Knockshanvo Wind Farm. A planning application for the Knockshanvo Wind Farm was lodged with the Board on August 20th 2024, postdating the issuing of an RFI from the Board for the Proposed Development. As a result of this, and due to the proximity of the Knockshanvo Wind Farm to the Oatfield Wind Farm and the Proposed Development, its inclusion in the NIS is deemed relevant.

The NIS concludes that:

Following an examination, analysis and evaluation of the relevant information and best scientific knowledge, including in particular the nature of the predicted impacts from the proposed development, and with the implementation of the mitigation measures proposed, it has been determined the proposed construction, operation and eventual decommissioning of a 12-turbine wind farm at Ballycar in County Clare will not adversely affect (either directly or indirectly) the integrity of either the Lower River Shannon SAC or the River Shannon and River Fergus SPA, either alone or in combination with other plans or projects, in light of the specific conservation objectives of each site.

4.0 Consideration of Cumulative Effects

RFI item 2 requests a revised/updated NIS addressing in-combination considerations that may arise from the Proposed Development and the Oatfield wind farm proposal. In the initial planning application for the Proposed Development, the Oatfield wind farm was not cumulatively assessed by the Applicant, due to the timeline associated with the submission of this development. A planning application for the Knockshanvo Wind Farm was lodged with the Board on August 20th 2024, therefore this was not cumulatively assessed by the Applicant. Where relevant, the Oatfield and Knockshanvo planning applications cumulatively assess the Proposed Development and other relevant plans or projects and conclude that there are no significant cumulative impacts with the Proposed Development.

5.0 Conclusion

This report and the associated appendices address the Request for Further Information issued by the Board on 26th July 2024. Notwithstanding that the Applicant did not receive the RFI until 15th August 2024 and therefore had a reduced timeline for response to the RFI, this report and associated appendices comprehensively addresses the RFI.

In relation to RFI item 1, the Aviation Response Statement provided in Appendix 1 confirms that the Proposed Development will not result in a reduction in the level of safety in the Shannon En-route and Dublin Air Traffic Control centres and that aviation concerns identified by AirNav Ireland and Shannon Airport Authority DAC have been addressed satisfactorily by the Applicant.

Should AirNav Ireland not withdraw its objections, despite the extensive expert justification for doing so, we would respectfully suggest that An Bord Pleanála give consideration to exercising its right to convene a “limited agenda” hearing with both parties.

Alternatively, the Applicant would be amenable to the Board inserting a planning condition that the Applicant agrees with AirNav Ireland in relation to the optimisation of Woodcock Hill radar equipment to be undertaken and its financing prior to commencement. For example:

“Prior to the commencement of development, and following consultations with AirNav Ireland, a detailed aviation mitigation plan which incorporates the commitments set out in the aviation technical report submitted as further information, including details of any required minor optimisations of the Woodcock Hill Radar and the developer’s financial contribution for same, shall be submitted to, and agreed in writing with, the relevant planning authority.”

Regarding RFI item 2, the Natura Impact Statement provided in Appendix 2 confirms that the Proposed Development will not adversely affect the integrity of either the Lower River Shannon SAC or the River Shannon and River Fergus SPA, either alone or in combination with other plans or projects, including the Oatfield and Knockshanvo Wind Farms.

Examination of the EIAR submitted as part of the application for the Proposed Development, and the respective EIAR’s submitted for the Oatfield and Knockshanvo Wind Farms, identifies that there will be no in-combination significant cumulative adverse effects.

The Proposed Development, which is located in an area designated as “Strategic” for wind energy developments in the Clare County Development Plan, would make a significant positive contribution to local, regional and national green energy targets.

Appendix 1: Aviation Response Statement

Appendix 2: Natura Impact Statement