

Michael Murphy
Development Applications Unit
Dept. of Housing, Local Government & Heritage
Newtown Road
Wexford
Co. Wexford
Y35 AP90

Date: 18th November 2022

Re: Wind farm development of 14 turbines with 110kV electrical substation and all related site works and ancillary development.

The townlands of Cahernacaha, Gortnabinna, Derryfineen, Gortyrhilly, Rath West, Derree, Fuhiry, Derreenaculling and other townlands, Co. Cork and Derryreag, Cummeenavrick, Glashacormick, Clydaghroe and Cummeennabuddoge, Co. Kerry.

Dear Sir,

An Bord Pleanála has received your submission in relation to the above mentioned proposed development and will take it into consideration in its determination of the matter.

The Board will revert to you in due course in respect of this matter.

Please be advised that copies of all submissions / observations received in relation to the application will be made available for public inspection at the offices of Cork County Council and Kerry County Council and at the offices of An Bord Pleanála when they have been processed by the Board.

More detailed information in relation to strategic infrastructure development can be viewed on the Board's website: www.pleanala.ie.

If you have any queries in the meantime, please contact the undersigned officer of the Board.

Tell
Glao Áitiúil
Facs
Láithreán Gréasáin
Ríomhphost

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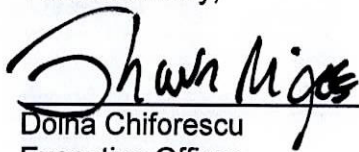
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64 Marlborough Street
Dublin 1
D01 V902

Please quote the above mentioned An Bord Pleanála reference number in any correspondence or telephone contact with the Board.

Yours faithfully,



Dolina Chiforescu
Executive Officer
Direct Line: 01-8737133

PA09

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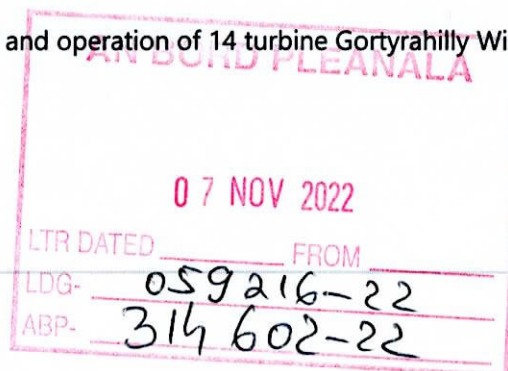
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Doina Chiforescu

314602-22

From: Housing Manager DAU <Manager.DAU@npws.gov.ie>
Sent: Monday 7 November 2022 15:13
To: Doina Chiforescu
Subject: FW: Development (SID): Construction and operation of 14 turbine Gortyrhilly Wind Farm Co Cork/Kerry
Attachments: SID-KY-2022-012 FNL.pdf



From: Housing Manager DAU <Manager.DAU@npws.gov.ie>
Sent: Tuesday 1 November 2022 16:28
To: sids@pleanala.ie
Subject: Development (SID): Construction and operation of 14 turbine Gortyrhilly Wind Farm Co Cork/Kerry

I refer to correspondence received in connection with the above.

Attached are heritage-related observations/recommendations of the Department under the stated headings coordinated by the Development Applications Unit.

Regards,

Michael Murphy
Aonad na nIarratas ar Fhorbairt
Development Applications Unit
Oifigí an Rialtais
Dept. of Housing, Local Government & Heritage
Government Offices
Bóthar an Bhaile Nua, Loch Garman, Contae Loch Garman, Y35 AP90
Newtown Road, Wexford, County Wexford, Y35 AP90

Tel: 053 9117641

**An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreachta**
Department of Housing,
Local Government and Heritage



Our Ref: **SID-KY-2022-012**

(Please quote in all related correspondence)

1 November 2022

The Secretary
An Bord Pleanála
64 Marlborough Street
Dublin 1
D01 V902

Via email to sids@pleanala.ie

Re: Notification under the Planning and Development Act, 2000, as amended.

Proposed Strategic Infrastructure Development (SID): Construction and operation of a 14 turbine Gortyrähilly Wind Farm and associated site development works County Cork and County Kerry.

A chara

I refer to correspondence received in connection with the above.

Outlined below are heritage-related observations/recommendations of the Department under the stated headings.

Archaeology

It is noted that the EIAR submitted as part of the planning application includes a desk-based Archaeological Impact Assessment was carried out in relation to the proposed development by John Cronin & Associates (EIAR Chapter 14; date 22 August 2022). Given the location of the proposed development, it is possible that hitherto previously unknown archaeological features/deposits may be disturbed during the course of groundworks required for the development.

The Department concurs with the Archaeological Mitigation Strategy outlined in Section 14.6 of the EIAR. However, it is noted that more specificity is required in relation to the proposed buffer zones/exclusion zones outlined in the mitigation measures to ensure the preservation in situ of certain archaeological sites. Therefore, the following should be included as a condition of any grant of planning permission. Note these recommended conditions align with Sample Conditions C5 and C6 as set out in *OPR Practice Note PN03: Planning Conditions* (October 2022), with advised site-specific additions/adaptations based on the particular characteristics of this development and informed by the findings of the EIAR.



Archaeological Requirements:

1. All mitigation measures in relation to archaeology and cultural heritage as set out in Chapter 14 of the EIAR (dated 22 August 2022) shall be implemented in full, except as may otherwise be required in order to comply with the conditions of this permission.
2. The Construction Environment Management Plan (CEMP) shall include the location of any and all archaeological or cultural heritage constraints relevant to the proposed development as set out in Chapter 14 of the EIAR and by any subsequent archaeological investigations associated with the project. The CEMP shall clearly describe all identified likely archaeological impacts, both direct and indirect, and all mitigation measures to be employed to protect the archaeological or cultural heritage environment during all phases of site preparation and construction activity.
3. A suitably qualified archaeologist shall be retained to advise on, and establish minimum 25m radius concentric Buffer Zones around the external-most elements of RMP sites CO069-002---- (Enclosure), CO069-003---- (Megalithic tomb - wedge tomb) and CO069-093---- (Megalithic tomb - wedge tomb) and the undesignated standing stone adjacent to Turbine 13.
 - a. Buffer Zones shall be fenced off for the duration of construction works in the vicinity of the monuments.
 - b. No groundworks of any kind (including but not limited to advance geotechnical site investigations) and no machinery, storage of materials or any other activity related to construction will be permitted within Buffer Zones.
4. The planning authority and the National Monuments Service shall be furnished with a final archaeological report describing the results of any archaeological investigative work/excavation required, following the completion of all archaeological work on site and any necessary post-excavation specialist analysis. All resulting and associated archaeological costs shall be borne by the developer.

Reason: To ensure the continued preservation (either *in situ* or by record) of places, caves, sites, features or other objects of archaeological interest.

Nature Conservation

The proposed wind-farm is not within or adjacent to a designated or proposed European or National biodiversity site, but it is within the range of several protected species: (1) Iolar mara (white-tailed sea eagle), a species listed in Annex I of the EU Birds Directive (Council Directive 2009/147/EC); (2) Meirliún (merlin), also listed in Annex I; (3) Feadóg shléibhe (Golden plover), also listed in Annex I; (4) Ialtóg Leisler (Leisler's bat), listed in Annex IV of the EU Habitats Directive (Council Directive (92/43/EEC); (5) Scréachóg reilige (barn owl)



and (6) cearc fhraoigh (red grouse), both listed on the Red List of Birds of Conservation Concern in Ireland¹.

lolar mara (white-tailed sea-eagle)

The proposed wind-farm is within the range of the recently re-introduced white-tailed sea eagle, a species listed in Annex I of the EU Birds Directive (Council Directive 2009/147/EC). This species, which became extinct in Ireland over one hundred years ago, is now establishing itself in the wild after two phases of a reintroduction programme which released birds from Norway. This species is particularly susceptible to collision with wind turbine blades. In Norway, 39 white-tailed eagle deaths were recorded from such collisions at one large wind-farm (Smøla) between 2005-2010². Three deaths due to wind turbine collisions had been recorded in Ireland, representing 10% of total mortality between 2007 and 2014³.

All three fatalities were approx. 6-8 km west of the proposed development (three at Sillahertane and Lettercannon-Coomagearahy area wind-farms). In addition, there has been another very recent eagle fatality (October 2022⁴), very probably due to wind turbine collision, at a wind-farm approx. 9 km north of the proposed development. Eagles, when soaring, may even be slightly attracted to fly within the rotor-swept zone of turbines⁵, "possibly induced by the extra wind energy created by the turbulence"⁶.

The reintroduction programme is now at a very critical phase, where the production of sufficient wild-bred eagles over the next few years will determine the survival of the population, and success of the project. Studies of reintroduced and recolonizing white-tailed

¹ Gilbert, G., Stanbury, A. and Lewis, L. (2021) Birds of Conservation Concern in Ireland 4: 2020-2026. *Irish Birds* 43: 1-22.

² Dahl, E.L., Bevanger, K., Nygørd, T., Røskift, E. and Stokke, E.C. (2011) Reduced breeding success in white-tailed eagles at Smøla windfarm, western Norway, is caused by mortality and displacement. *Biological Conservation* 145: 79-85.

³ Mee, A. (2014) Irish white-tailed sea eagle reintroduction programme report 2014. Golden Eagle Trust / Department of Arts, Heritage & the Gaeltacht / Norwegian Institute for Nature Research. http://www.norway.ie/PageFiles/747152/Irish%20WTSE%20report_2014.pdf ; see also 'Rare sea eagle killed by wind turbine', *Irish Times*, 4 April 2011.

⁴ NPWS unpublished data.

⁵ Dahl, E.L., May, R., Hoel, P.L., Bevanger, K., Pedersen, H.C., Røskift, E. and Stokke, B.G. (2013) White-tailed eagles (*Haliaeetus albicilla*) at the Smøla wind-power plant, Central Norway, lack behavioural flight responses to wind turbines. *Wildlife Society Bulletin* 37: 66-74.

⁶ Nygørd, T., Bevanger, K., Dahl, E.L., Flagstad, Ø., Follestad, A., Hoel, P.H., May, R. and Reitan, O. (2010) A study of white-tailed eagle movements and mortality at a wind farm in Norway. <http://www.bou.org.uk/bouproc-net/ccb/nygard-et-al.pdf>



eagles have emphasised the importance of controlling mortality in this current early stage of the reintroduction programme:

"Differences in demographic rates of wild-bred and released birds suggest that in future re-introduction programmes steps to maximise the success and output of the earliest breeding attempts would help ensure the most rapid shift to a population composed largely of wild-bred birds, which should then have a higher rate of increase."⁷

Two measures appear to be particularly important in avoiding or reducing the risk of collision: (a) the prompt removal of carcasses of dead sheep which attract eagles; and (b) avoiding the siting of turbines on locations on ridges above valleys where eagles are likely to use rising air currents to obtain 'orographic lift' to gain altitude⁸. Turbines T1, T2, T7, T10, T12 appear to be located on the top of steep ridges, but it is not clear if their micro-siting is in an area of higher 'orographic lift'.

Meirliún (merlin)

The proposed wind-farm is also located in an area used by breeding merlin, a bird of prey listed in Annex I of the EU Birds Directive, and with a general hunting range of 5km from the nest site (SNH, 2016⁹).

A probable breeding pair were recorded towards the east of the proposed wind farm site in one out of the three years baseline survey (EIAR, Chapter 7, p. 33, etc.). This species appears to have a low recorded risk of collision mortality (EIAR, Chapter 7, p. 28; Diffendorfer *et al.*, 2021¹⁰), but the EIAR missed the record of four meirliún killed at Smøla wind-farm in Norway (Watson *et al.*, 2018¹¹). Meirliún will fly upwards while in pursuit of prey, but this is rapid, and their presence at levels above 74m¹² into the turbine blade-swept zone is likely to

⁷ Evans, R.J., Wilson, J.D., Amar, A., Douse, A., MacLennan, A., Ratcliffe, N. and Whitfield, D.P. (2009) Growth and demography of a re-introduced population of white-tailed eagles *Haliaeetus albicilla*. *Ibis* **151**: 244-254.

⁸ Hanssen, F., May, R. and Nygård, T. (2020) High-resolution modelling of uplift landscapes can inform micro-siting of wind turbines for soaring raptors. *Environmental Management* **66**: 319-332.

⁹ SNH (2016) *Assessing connectivity with Special Protection Areas (SPAs)*. Scottish Natural Heritage, Inverness.

¹⁰ Diffendorfer, J.E., *et al.* (2021) Demographic and potential biological removal models identify raptor species sensitive to current and future wind energy. *Ecosphere* **12**: 3531.

¹¹ Watson, R.T., *et al.* (2018) Raptor interactions with wind energy: Case studies from around the world. *Journal of Raptor Research* **52**: 1-18.

¹² Lowest turbine blade tip height derived from EIAR Fig. 1.4.



be low, as pointed out in the EIAR (*loc. cit.*). The height of the lowest turbine-tip at the Smøla wind-farm has not been ascertained.

However, more subtle indirect effects also need to be considered: (a) disturbance displacement of breeding meirliúin while foraging or during the sensitive egg-laying period; (b) drying out of hunting habitat due to increased drainage for wind-farm infrastructure; (c) cessation of burning due to wind-farm construction (a potentially positive impact).

The residual habitat loss estimated (EIAR, Chapter 7, p. 37) is net direct loss of habitat (40-9.5 ha = 30.5ha), but does not take into account loss of habitat due to the above potential effects (a) and (b). It is recommended that further information is required on this, if the conclusion of unlikely adverse residual effect, especially from turbines T13 and T14, is to be scientifically robust.

Ialtóg Leisler (Leisler's bat)

There is considerable use of the proposed wind-farm site by Leisler's bat (Table 5.10, EIAR), which, because of its flight height behaviour, is more susceptible to wind turbine collision and/or barotrauma mortality than other bat species¹³. Particular activity was recorded at turbine locations T3, T10, T11 and T13 (pp. 50-51, EIAR). In addition to monitoring bat mortality, some means of verifying the implementation of higher cut-in speeds of these turbines (an important mitigation measure) should also be considered.

Feadóg shléibhe (golden plover)

The EIAR concludes that a moderate residual impact could occur on this species, due to a predicted mortality rate of c.15 birds/year. However, this is not assessed in the in-combination assessment, from the point of view of total mortality in the region from existing, under construction and planning-granted wind-farms (171 turbines are listed within 20km radius in Table 5.13).

Scréachóg reilige (barn owl)

The EIAR (Chapter 7) does not mention barn owl. As there was a 2008-11 breeding record from the 10km grid square in which the proposed wind-farm was located, a clarification as to why barn owl was not been considered is recommended.

¹³ NatureScot (2021) Bats and onshore wind turbines – survey, assessment and mitigation.
<https://www.nature.scot/doc/bats-and-onshore-wind-turbines-survey-assessment-and-mitigation>



Cearc fhraoigh (red grouse)

The EIAR cites data from Scotland indicating positive effects of turbine tracks on red grouse densities. However, it is not clear if there was significant predator control at the sites from which this data was gathered, especially if they were commercial grouse moors. Consideration of the potential for (a) greater fox predation due to access tracks, (b) greater human access for shooting due to access tracks, and (c) greater human access for off-road vehicles due to access tracks, also needs to be addressed in the EIAR.

laltóg Nathusius (Nathusius' bat)

There was considerable, one-year use of the proposed wind-farm site by the migratory Nathusius' bat in 2019 (Table 5.10, EIAR), which is also susceptible to wind turbine collision and/or barotrauma mortality¹⁴. There is a possibility that the records may be frequent repeated passes of just a few individuals, with less significance compared to many individuals. Expert comment on this would be useful.

*Cáithluibh beag (Slender cudweed, *Logfia (=Filago) minima*)*

This species, recorded on the route of the proposed grid connection cable (p. 76 of the EIAR, Terrestrial Ecology chapter), is no longer listed in revised the Flora Protection Order (Flora Protection Order 2022 (S.I. No. 235 of 2022)). A licence application, as envisaged in the EIAR (loc. cit.), will as a consequence, no longer be necessary. However, it remains a species of conservation status (currently of near-threatened status), and mitigation measures to ensure no net loss to its population are still recommended.

Botanical survey

The botanical survey on the grid connection route was, according to the EIAR (p. 9, Terrestrial Ecology chapter), carried out in January 2022. The optimum time for botanical surveys are May to September, especially July¹⁵. A survey carried out in January is likely to miss species of flora, and although most of the habitats impacted by the cable laying works are disturbed ground, some sections are not, and a botanical resurvey, including bryophytes

¹⁴ NatureScot (2021) Bats and onshore wind turbines – survey, assessment and mitigation. <https://www.nature.scot/doc/bats-and-onshore-wind-turbines-survey-assessment-and-mitigation> ; Kruczynski, C., Bailey, L.D., et al. (2022) High vulnerability of juvenile Nathusius' pipistrelle bats (*Pipistrellus nathusiusii*) at wind turbines. *Ecological Applications* 32: 2513.

¹⁵ E.g. see Appendix II, NRA (undated) *Ecological surveying techniques for protected flora and fauna during the planning of National Road Schemes*. National Roads Authority, Dublin.



(mosses & liverworts) during the appropriate season, is recommended before works commence.

Impacts of increased drainage efficiency of downstream wetland erosion

Increased efficiency of drainage of upland areas, due to the combination of many drainage works for farms, forests and roads, can, at least initially, result in accelerated runoff, with greater storm hydrographic peaks where more water flows through the river system in a shorter time period (e.g. Holden *et al.*, 2006¹⁶). This can exacerbate flood levels in rivers due to the increasing magnitude of rain events, likely to be due to climate change, where exceptional falls of rain occur in more intense and more frequent periods (e.g. Fowler *et al.*, 2007¹⁷). Any one unmitigated drainage project can apparently have minor effects, but taken together with several hundred others in a catchment, the in-combination effect can be significant.

The site entrance access road, and turbines T4 and T5, are within the catchment of the Toon River. Turbines T3 and associated access road are within the catchment of the River Lee. Both have downstream wetlands of conservation importance (the Gearagh SAC (108) and Lough Allua pNHA (1065), respectively). This issue was not fully assessed in the EIAR or NIS, although it should be addressed in the appropriate assessment. Based on calculations in the Further Information for the nearby Derragh wind-farm (Planning ref. PL04.245082), the in-combination impacts from this could be extrapolated as being in the order of a 0.1 – 0.2% increase in hydrographic peak.

Recommendations for further information

The following is a summary of the outstanding issues raised above:

- (1) Impact on breeding meirliúin: (a) The lowest height of the wind turbine blades at Smøla wind-farm in Norway, where four meirliúin were killed by collision; (b) an estimate of the disturbance displacement of meirliúin from hunting habitat due to the wind-farm; (c) an estimate of the loss of hunting habitat due to drying out of wetland soils as a result of wind-farm construction and drainage; and (d) data on whether parts of the proposed wind-farm site were burned during the baseline survey years.

¹⁶ Holden, J., Evans, M.G., Burt, T.P. and Horton, M. (2006) Impact of land drainage on peatland hydrology. *Journal of Environmental Quality* 35: 1764-1778.

¹⁷ Fowler, H., Ekström, M., Blenkinsop, S. and Smith, A.P. (2007) Estimating change in extreme European precipitation using a multi-model ensemble. *Journal of Geophysical Research* 112 D18104, doi:10.1029/2007JD008619.



- (2) Impact on wintering feadóg shléibhe: An in-combination estimate and assessment of mortality of this species, due to turbine collision/damage, with other wind-farms in the surrounding region.
- (3) Impact on iolar mara: More detail on the procedure for the removal of sheep carcasses, and whether drones could be used after poor weather events in winter to assist the detection of injured or dead sheep by management. Confirmation that the search *will* be (rather than *would* be) every week, so it is a clear responsibility if conditioned.
- (4) Impact on iolar mara: Turbines T1, T2, T7, T10, T12 appear to be located on the top of steep ridges. Assess whether models, such as that in Hanssen *et al.* (2020)¹⁸, are applicable at this wind-farm in detecting microsite susceptibility to generating 'orographic lift' which may attract eagles into the rotor-swept zones of these turbines.
- (5) Impact on scréachóg reilige: Clarification why barn owl was not mentioned as a receptor in Chapter 7 of the EIAR.
- (6) Impact on cearc fhraoigh: Further consideration is required of the potential for (a) greater fox predation impact due to access tracks, (b) disturbance due to greater human access for shooting due access tracks, and (c) disturbance due to greater human access for off-road vehicles due access tracks.
- (7) Impact on ialtóg Leisler: Clarification as to how the implementation of higher cut-in speeds of these turbines (a mitigation measure) can be verified.
- (8) Schedule of commitments: A summary of the ecological mitigations proposed in a separate *Schedule of Commitments: Ecology*, so they can be clearly referred to during the construction and operational stages of the project. (This is recommended as there have been cases where mitigation has not been carried out properly in the past due to poor communication between the EIA and operational implementation phases of the project). Also, some estimate of the costs of the proposed mitigation (e.g. regular mowing under turbine blade-swept zones to reduce kestrel attraction, cut-in speed adjustments in areas used by bats) would be useful for ensuring mitigation is adequately budgeted for during the operational phase.

¹⁸ Hanssen, F., May, R. and Nygård, T. (2020) High-resolution modelling of uplift landscapes can inform micro-siting of wind turbines for soaring raptors. *Environmental Management* 66: 319-332.



You are requested to send any further communications to this Department's Development Applications Unit (DAU) at manager.dau@npws.gov.ie, or to the address on the coverpage.

Is mise le meas,

Michael Murphy,
Development Applications Unit