

College road,
Carrignavar,
Co. Cork.

Date: 19 June 2026

An Coimisiún Pleanála,

64 Marlborough St, Rotunda, Dublin 1

Re: ABP case reference : 324258

Applicant : Constant Energy Limited_Tirawley wind farm

Located within the townlands of Ballymurphy, Ballynaleck, Barnhill Lower, Barnhill Upper, Barroe, Billoos, Carn, Carrickanass, Carrowmore, Castlelackan Demesne, Castletown and others Co. Mayo.

Mayo County Council

Dear Inspector,

I highly recommend this application be looked at in detail with respect to the turbine to turbine separation distances within this application site boundary. On inspection it shows that the turbine positions are located relative to their minimum distance from households, erring then on the minimum distances suggested in the WEDG 2006 guidelines for turbine to turbine spacing. This highly insufficient spacing has a lot of un-intended consequences.

I am a Chartered Land Surveyor, in private practice since 1994, becoming a Fellow member of the Society of Chartered Surveyors of Ireland & the RICS in 2006.

Since 2017 I have been working in a professional capacity mapping distances and dimensions of various Windfarms in Cork, Kerry, Waterford, Limerick and Wexford counties on behalf of certain residents who have complaints of noise nuisance created by the operation of wind turbines. I was the surveyor involved in mapping the dimensions of the Ballyduff wind farm on behalf of the Plaintiffs who were impacted by amplitude modulation and turbine noise to such an extent that one of the Plaintiffs had to abandon his home and was found to have suffered psychological injury. The findings in this case were made by the High Court in a Judgment of Ms. Justice Egan delivered on the 8th March 2024 (Webster & Anor -v- Meenacloughspar (Wind) Limited and Shorten & Anor -v- Meenacloughspar (Wind) Limited. In that Judgment regard is had to the proximity of the turbines to the homes of the Plaintiffs and to the many factors which may be contributing to turbine noise, including possible wake effects of one turbine on the other turbine (the particular windfarm in that case has just two turbines).

I was also the surveyor involved in mapping the dimensions of the Gibbett wind farm on behalf of the Plaintiffs who were impacted by wind turbine noise and where the developers admitted liability after many years of noise nuisance. Liability was only admitted after the plaintiff's acoustician's evidence to the court, that being after 11 days of High court sitting.

I have recently carried out a study of all of the Windfarms I have worked on (10 no. on behalf of injured parties) and one factor that I happened upon, is present in all. This is the spacing of certain turbines relative to each other. It is a factor in wake turbulence at particular turbines, creating noise nuisance for nearby residents.

On reading the WEDG 2006 guidelines, referring to “wind take” on page 34, the recommended siting of turbines relative to each other are given. (different to siting relative to dwellings and adjacent windfarms / properties outside of the windfarm control).

It reads “In general, to ensure optimal performance and to account for turbulence and wake effects, the minimum distances between wind turbines will generally be three times the rotor diameter (=3d) in the crosswind direction and seven times the rotor diameter (=7d) in the prevailing downwind direction.”

In ABP case reference **324258** to which this observation refers, the applicant has, as one can see in Map 1, next page, ignored the turbine separation distances from adjacent turbines, that are recommended in the WEDG2006 guidelines.

It should be noted that the prevailing winds, those requiring 7 rotor diameter separation distance between turbines, are not only from the southwest direction. Exhibit 1 shows that in reality there are strong and frequent winds from 170 deg. South South east to 300 deg. West northwest in a clockwise direction.

Exhibit 1 shows the Meteo blue wind rose, Exhibit 2 shows the Met Eireann wind rose for Belmullet, which are very similar.

Exhibit 1 shows the amount of days per year the wind blows from all directions

Where I am going here is that the prevailing winds are significant from 170 deg SSE clockwise to 300 deg WNW.

This has great significance in the deciding if a pairing of wind turbines are in the prevailing wind or not, resulting in the pairing requiring 7 rotor diameters separation or 3 rotors diameter separation.

I would ask that the applicant generate a wind rose from their Mast data in order that it can be compared to the Belmullet Wind rose. The Claremorris wind rose differs little to the Belmullet wind rose so I do not expect a site specific wind rose to differ greatly.

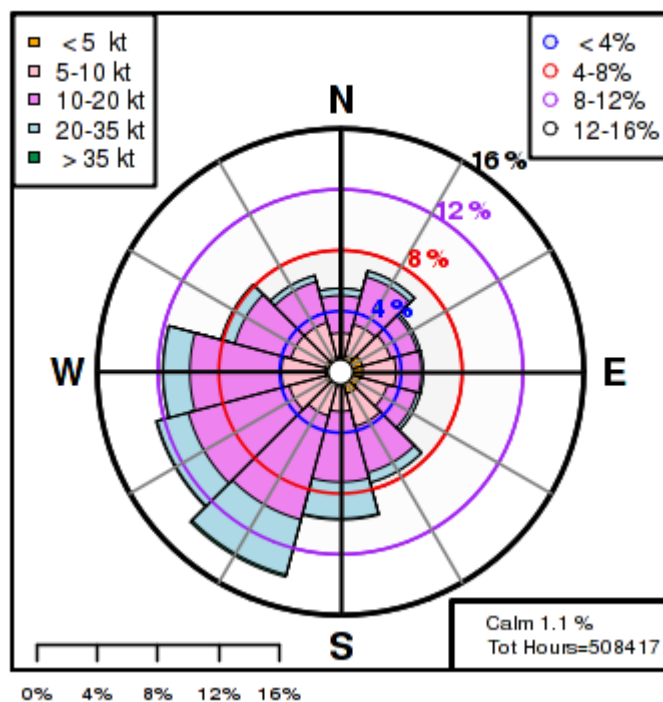
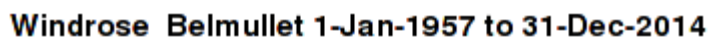
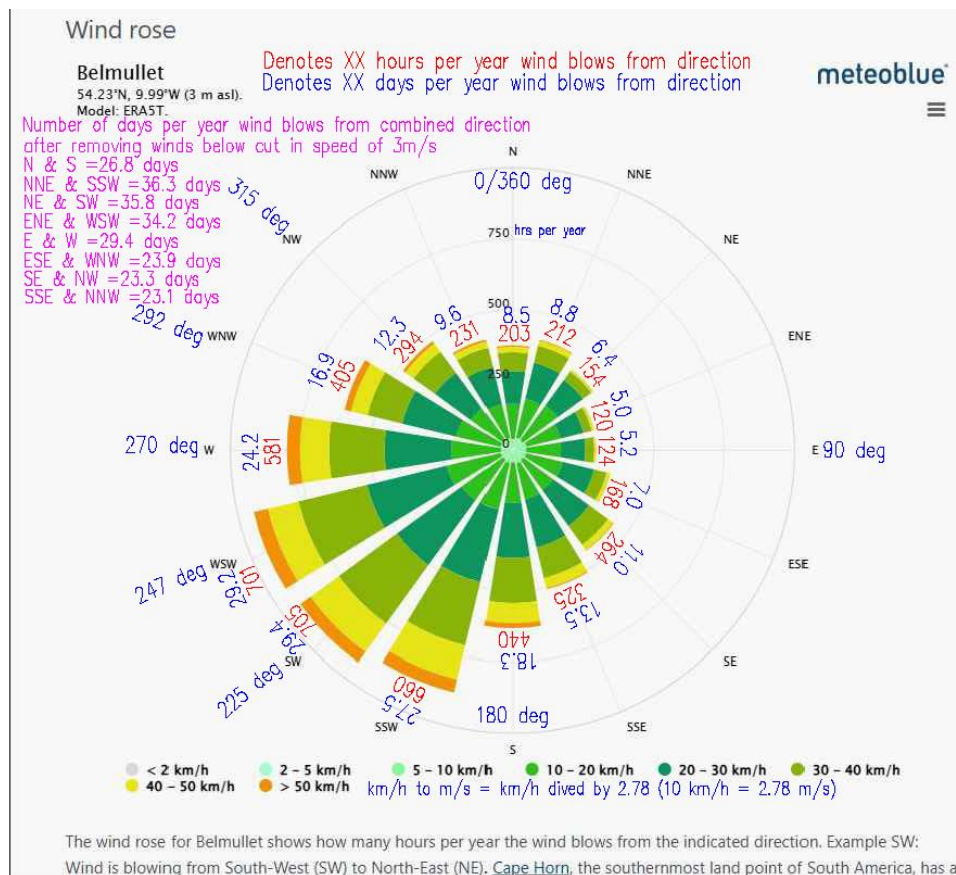
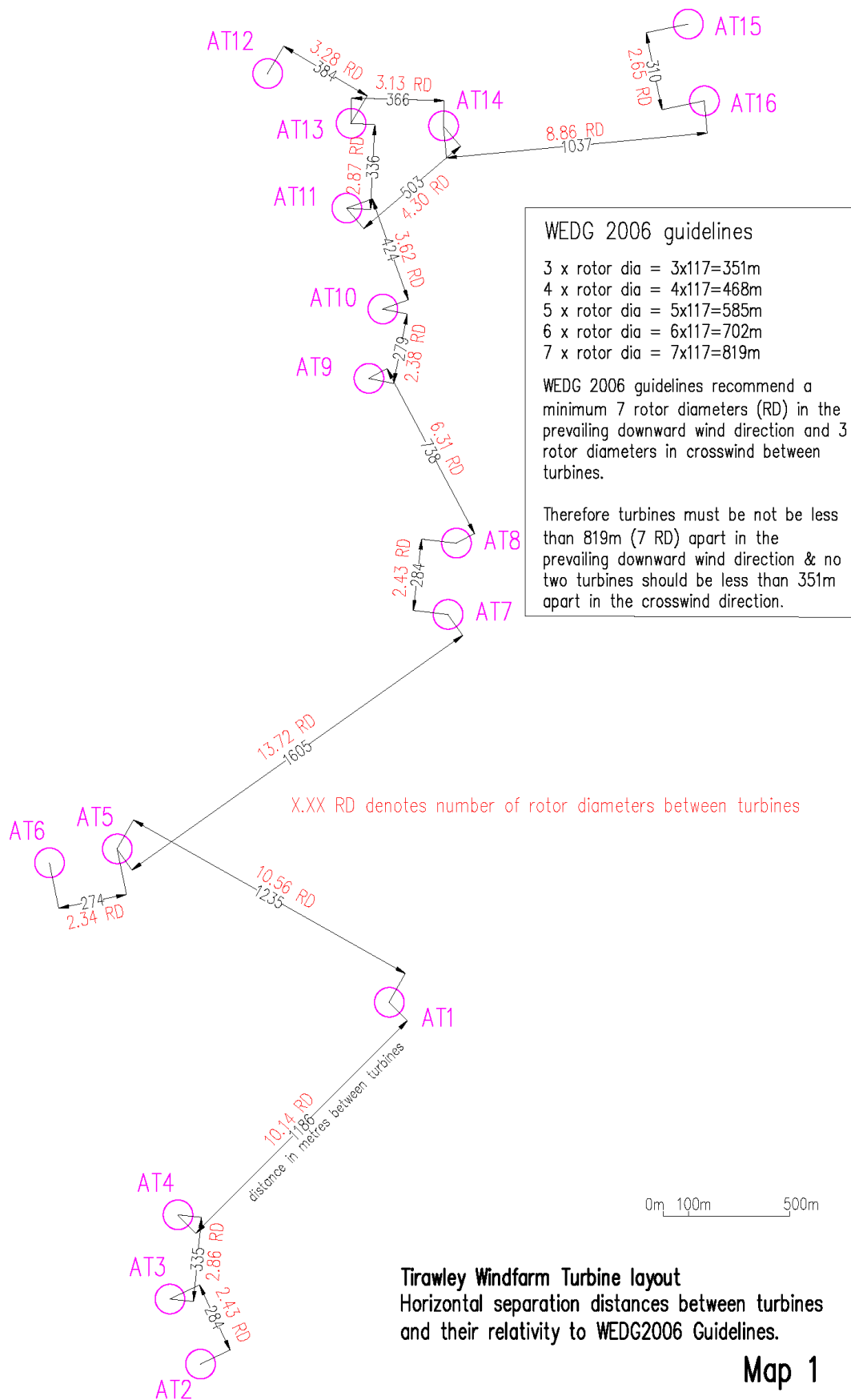


Exhibit 2_Met Eireann_Belmullet wind rose

Map 1 shows the turbine distances apart and what those distances represent in rotor diameters



Outline next, turbine pairings that should have the 7 rotor diameter separation based on the wind rose and its prevailing winds per WEDG2006 requirement:

AT3 to AT4 has only 2.86 rotor diameters instead of 7 rotor diameters. 41% of required separation
AT6 to AT5 has only 2.34 rotor diameters instead of 7 rotor diameters. 33% of required separation
AT7 to AT8 has only 2.43 rotor diameters instead of 7 rotor diameters. 35% of required separation
AT9 to AT10 has only 2.38 rotor diameters instead of 7 rotor diameters. 34% of required separation
AT11 to AT13 has only 2.87 rotor diameters instead of 7 rotor diameters. 41% of required separation
AT13 to AT14 has only 3.13 rotor diameters instead of 7 rotor diameters. 45% of required separation
AT11 to AT14 has only 4.30 rotor diameters instead of 7 rotor diameters. 61 % of required separation

I would also include AT2 to AT3, AT10 to AT11, AT15 to AT16 & AT12 to AT13 in those 7 rotor diameter separation requirement as they have not a much lesser prevailing winds from the South Southeast and the West northwest directions.

What makes matters worse are combinations of these separation distances in the main prevailing wind direction.

Of note is that in the (Webster & Anor -v- Meenacloughspar (Wind) Limited and Shorten & Anor-v- Meenacloughspar (Wind) Limited wind farm there were only two turbines, so pairings without any additional turbine influence will cause noise nuisance.

The software used by designers of windfarms ignore the WEDG2006 guidelines for turbine to turbine spacing within a windfarm. Therefore excessive wind shear, turbulence, noise and a lack of output capacity (efficiency) will occur.

This is proven by a 25% efficiency rate in 2024 and 2025.

Another concern of course is what warranty type and duration will the turbine manufacturer provide when the design is not suitable for the turbine to operate efficiently with the lack of spacing and resulting wind shear.

SEAI have published in 2024 a series of documents on how to design and plan a windfarm layout, see the following link: <https://www.seai.ie/sites/default/files/publications/Community-Toolkit-Planning->

Noise Levels

Noise generation is perceived to be an adverse impact of wind turbine operations, although noise levels of modern wind energy are generally very low. Improvements in technologies have reduced mechanical noise impacts significantly. However, it is important that turbines are located an appropriate distance from noise sensitive developments to minimise any adverse impacts upon local amenity.

Wind turbines also create noise, which can impact on the amenity of the occupants of any nearby dwellings. As such, it is recommended that a separation distance of at least 500 metres or four times tip height is incorporated between the turbine and any other dwelling.

Appropriate Distance

You will need to consider appropriate distance between all wind turbines and power lines when planning for grid connections. The minimum clearance for all turbines and overhead transmission lines must be falling distance (measured from the edge of the foundation) plus an additional flashover distance for the relevant voltage. EirGrid advises that the distance between an overhead transmission line (110kV, 22kV or 400kV) and a commercial wind turbine should not be less than three and a half rotor diameters unless EirGrid has agreed a reduction based on a risk assessment. ESB Networks should be consulted on applications, and evidence of any pre-application discussions should be submitted as part of the planning application.

It is advisable to achieve a safety setback from national and regional roads and railways of a distance equal to the height of the turbine to the tip of the blade plus 10%.

In general, to ensure optimal performance and to account for turbulence and wake effects, the minimum distances between wind turbines will generally be three times the rotor diameter in the crosswind direction and seven times the rotor diameter in the prevailing downwind direction. Bearing in mind the requirements for optimal performance, a distance of not less than two rotor blades from adjoining property boundaries will generally be acceptable, unless by written agreement of adjoining landowners to a lesser distance.

→ Decommissioning and Site Restoration

Solar farms and wind turbines have a finite life and, should planning permission be granted, it is likely to be subject to a condition requiring the turbine to be decommissioned and removed when no longer in use. A condition may also be added requiring certain colours and finishes of the mast, blades and hub, but this will be specific to the turbine's location.

3.2 Identify Site Constraints

- Refer to the Wind Energy Maps or Renewable Energy Strategy in the County Development Plan to check wind energy designations. Refer to the Council's Landscape Assessment (if any) to see where the site lies in relation to landscape sensitivity.



The above SEAI recommendation is in line with the WEDG guidelines

This windfarm designer must be referring to the 2012 Irish Wind Energy Association “Best practice guidelines for the Irish Wind Energy Industry” (link below) instead of the WEDG2006 guidelines when preparing their applications. These IWEA 2012 guidelines are in conflict with the WEDG 2006 and SEAI guidelines in many areas and should not be used in Windfarm design.

<https://windenergyireland.com/images/files/9660bdfb5a4f1d276f41ae9ab54e991bb600b7.pdf>

Recommendation

On the basis of what I have outlined and experienced, I highly recommend the aforementioned issues be carefully considered, and the design be altered significantly.

I have noted from another windfarm application (different design team) that they put a lot of trust in their windfarm design programs. I would not, as there are now more recently constructed windfarms having “unknown” noise issues, designed by this or other similar software.

Regarding the Gibbett Hill windfarm, the turbines were all over 1049 m from the dwelling where the nuisance is confirmed and mitigation was not possible to halt this nuisance.

The 3 turbines that were ordered to be taken down, were, as in this application, less than the recommended WEDG 2006 guidelines apart.

While there are noise modes placed on some turbines, this will not suffice.

I trust you will take this observation on this application on board and I am available for oral hearing or other forum if required.

I am available for consultation or other forum if needed.

I am paying the 50 Euro submission fee online now.

Yours sincerely,



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