

From: Environmental Health
Sent: 26 March 2025 16:20
To: Development Control
Cc: Heather Morrison
Subject: PLANNING APP 4/24/2334/0F1 - HIGHFIELD FARM, BIGRIGG

Removal of existing wind turbine and erection of replacement wind turbine, up to 76m blade tip height, with associated development

Thank you for the above planning consultation and the submission of additional information to clarify previous queries.

Notwithstanding the visual aspect of the proposed development, Environmental Health must confine comments to matters relevant to its remit.

The predicted noise emissions from the replacement wind turbine are within the guidelines set in 'ETSU-R-97 The Assessment and rating of noise from wind farms' and a noise condition based on this is suggested below.

Possible infrasound noise disturbance from the wind turbine has been raised.

Research on low frequency infrasound from wind turbines appears to be uncertain in its conclusions at present, and any reported adverse health effects could be subjective and / or psychosomatic.

Low to mid-frequency noise disturbance from blade swish (termed Amplitude Modulation) is more fully understood and can happen in certain weather conditions though it is not a common occurrence.

In the majority of installations the modulation depth may be up to 2-3 dBA, which was regarded as acceptable by the ETSU working group.

Louder modulation can occur, particularly in older wind turbine designs and / or where mechanical faults on the wind turbine or damage on blade wing tips is seen.

It should be noted that there has been no noise complaints associated with wind turbines in the Copeland district reported to Environmental Health in the last 10 years.

Infrasound and AM noise from wind turbines are a low probability risk, and have not been seen as reasons to refuse planning permission or to condition approvals, though Environmental Health are aware of one planning condition on AM noise that was successfully applied.

It should also be noted that the statutory nuisance provisions of the Environmental Protection Act 1990 can apply in the event of noise disturbance from a wind turbine.

The supplementary information on the shadow flicker assessment is welcomed.

Predicted levels of shadow flicker on residential receptors are within the guideline annual threshold of 30 hours per year of flicker nuisance effects upon dwellings.

The shadow flicker modelling represents a theoretical worst case 'bare earth' scenario.

In reality, local topography and screening from vegetation can significantly reduce or eliminate the incidence and duration of flicker effect.

If required, mitigation measures can be employed such as localised screening / planting or turbine shut down schemes.

The applicants have suggested a shadow flicker protocol, and this could be requested prior to or part of any planning approval that may be granted.

The applicants have also suggested the provision of Construction Environmental Management Plan (CEMP) that would detail the construction methodology and ensure that there are no negative impacts on the local environment.

Environmental Health had previously suggested the imposition of standard construction working hours also in the event that the development is approved.

In conclusion, in terms of potential nuisance on residential amenity from noise, shadow flicker and construction activities, Environmental Health would not object to this development.

The following conditions are suggested, and would replace those made in the response made by Environmental Health dated 11.11.24:

- Operational noise limits for the wind turbine
 - (i) The noise emissions from the wind turbine shall not exceed a level of 35 dB LA90 (10 minutes) during the daytime (07.00 – 23.00 hours) and 43 dB LA90 (10 minutes) during the night time (23.00 – 07.00 hours) or ETSU derived limits of background noise level plus 5 dB (whichever is greater) at the curtilage of any dwelling lawfully existing at the time of this consent for all wind speeds up to 10 m/s at 10 m height; and
 - (ii) For properties with a valid financial interest, the noise limit shall not exceed a level of 45 dB LA90 (10 minutes) or ETSU derived limit of background noise level plus 5 dB (whichever is greater) for all wind speeds up to 10 m/s at 10 m height shall apply.

Reason: In order to safeguard the amenities of nearby residential occupiers.

- Site Specific Construction Environmental Management Plan

No development shall take place until a site specific Construction Environmental Management Plan has been submitted to and approved in writing by the Local Planning Authority. The plan must demonstrate the adoption and use of the best practicable means to reduce the effects of noise, vibration, dust and effects on the local ecological environment during the demolition and construction phase of the works.

Reason: In the interests of the amenities of surrounding occupiers and to safeguard the local environment during the demolition and construction of the development.

- Shadow Flicker Protocol

No building or use hereby permitted shall be occupied or use commenced until a protocol for the management of shadow flicker on sensitive receptors has been submitted to and approved in writing by the Local Planning Authority.

Reason: To safeguard the amenity of nearby occupiers.

- Decommissioning / Construction Working Hours

Following approval of the development, decommissioning and construction activities that are audible at the site boundary shall be carried out only between the following hours: Monday to Friday 08.00 – 18.00 and Saturday 08.00 – 13.00 and at no time on Sunday or Bank Holidays. Deliveries to and removal of plant, equipment, machinery and waste from the site must only take place within the permitted hours detailed above unless otherwise agreed with the Local Planning Authority.

Reason: In the interests of the amenities of surrounding occupiers during the decommissioning and construction of the development.

Regards

Environmental Health

Public Health & Protection | Cumberland Council
Whitehaven Commercial Park, Moresby Parks, Whitehaven, Cumbria, CA28 8YD

T. 0300 373 3730

cumberland.gov.uk

