PLANNING OBJECTION REGARDING NOISE & PUBLIC HEALTH

Submitted to: An Coimisiún Pleanála
Application Reference: 323761
Applicant: Neoen Renewables Ireland Limited
Location of Proposed Development: within Cloondahamper, Cloonascragh, Elmhill, Cooloo, Lecarrow, Dangan Eighter, Lissavally and Slievegorm, Co.Galway
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Date: 21st November, 2025

PART 1: WIND TURBINE NOISE IS INADEQUATELY ASSESSED

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Introduction to Wind Turbine Noise

Guidance Note for Noise Assessment of Wind Turbine Operations at EPA Licensed Sites (NG3), June 2011 [pg. 12]

*"Traditionally, wind turbines tend to be installed in areas of **low background noise** and, particularly at night, it is often the case that there may be no other significant sources of noise other than the noise of the wind as it blows through trees and other foliage. Additionally, people often chose to live in rural areas specifically because they value the lack of noise from man-made sources, so any such noise which is audible may be a source of disturbance/ annoyance and possibly complaint.*

Although tonal noise is no longer a significant issue from turbines, excessive amplitude modulation can attract additional attention, particularly if this can be heard whilst trying to get to sleep either at the start of the night or when a person has been woken up by other causes. Although the level of noise generated internally, even with windows open, is usually insufficient to cause sleep disturbance, the stress it may generate, even if only just audible, may be sufficient to extend the time required to fall asleep. This is likely to be exacerbated by

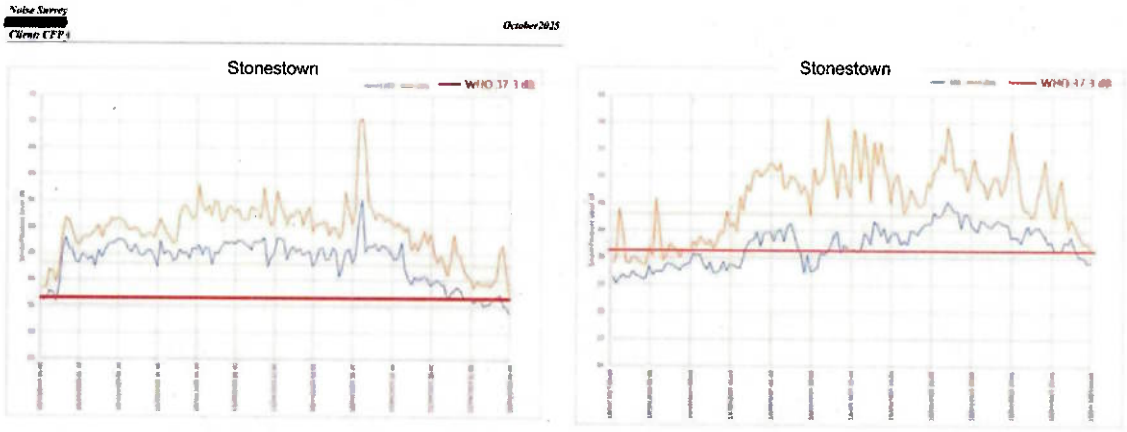
***excessive audible amplitude modulation**, the level of which itself may vary with time, where it draws additional attention to the noise."*

Planning authorities are increasingly moving away from the 2006 Wind Energy Development Guidelines, recognising its shortcomings and inadequacies.

- An Coimisiún Pleanála now applies conditions to eliminate shadow flicker, **(draft 2019 guidelines)**, as seen in the Lackareagh Wind Farm decision.
- Setback distances have increased to four times turbine height to tip **(draft 2019)**.
- Carlow County Council recently refused Seskin Wind Farm due to potential adverse noise impacts on public health, while Cork County Council granted permission to Tullacondra Green Energy only after assessing noise characteristics not covered by the 2006 guidance, placing a planning condition on amplitude modulation.
- While the 2006 Guidelines remain in force, Balz & Heubach IESC 2019 confirmed the planning authority must have regard to the most up to date information when presented. It is a short and clear judgement, given the speed of technological changes – there is need to put weight on more up to date scientific information.
- The 2006 WEDGs are not-compliant with EU environmental directives. Therefore, an EIA assessed using such guidelines are also non-compliant with EU environmental directives C -24/19.
- In 2017, government agreed the Preferred Draft Approach requiring stricter noise limits, consistent with the WHO standards. In 2019, draft guidelines published the SEA confirming the EPA advised that for the protection of health, wind turbine noise must be consistent with the 2018 World Health Organisation (WHO) Environmental Noise Guidelines for the European Region suggests a provisional outdoor target noise limit for wind farm noise of <45 Lden which roughly equates to 37.3 dB, LAeq[1].
- Wind farm noise predictions using ISO9613-2 are approximations and generally use optimistic noise model inputs, creating results most helpful to developers.
- Therefore, empirical data, real-world wind turbine noise survey results offer a more realistic comparison.
- **Recent noise monitoring carried out by Les Huson, L Huson & Associates Pty Ltd at a property 750m from Cloghan Wind Farm confirms the planning condition – noise limit of 43 dB LA90, could not be met.**
- **Cloghan Wind Farm: 9 turbines, 169m high, rotor diameter of 136m.**

[1] Davy, J.L., Burgemeister, K., Hillman, D. et al. A Review of the Potential Impacts of Wind Turbine Noise in the Australian Context. Acoust Aust 48, 181–197 (2020). https://doi.org/10.1007/s40857-020-00192-4

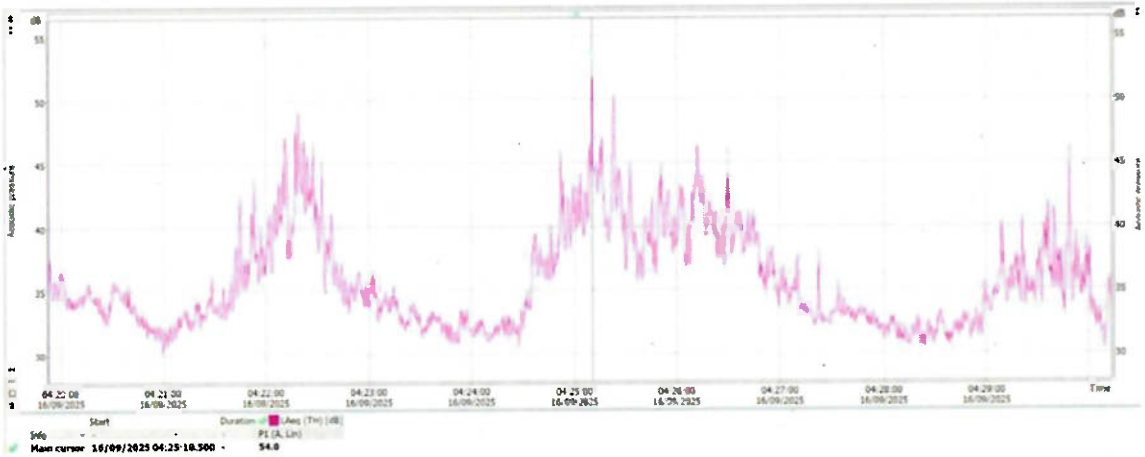
- The Cloghan Wind Farm noise report[2] confirms:
  - 43 LA90 – the faint line, is too high a noise threshold when compared to the LAeq (actual noise levels), both are averaged over 10mins, and our ears don't hear or experience noise in averages.
  - 2018 WHO guidance; any noise above 37.3 dB LA90 is associated with adverse health effects including sleep disturbance, annoyance, and cardiovascular effects. The **red line** (37.3 dB) was added to the chart for your review.
  - **Noise levels were above the WHO guidance limit on a regular basis and for sustained periods for the duration of the noise monitoring assessment.**



  - LA90 ignores significant **variations** in noise as seen above.
  - LA90 noise levels does not capture characteristics of WT noise, such as; amplitude modulation, low frequency noise, **tonal** and **impulsive noise**. All of which draws additional attention to the noise and exacerbates annoyance.

[2] Appendix One

- An Bord Pleanala case precedence shows a consistent planning condition for noise that confirms - "There shall be no tonal or impulsive noise and measurements shall be made in accordance with ISO recommendations R1996-1."
- Tonal noise refers to a distinct, continuous pitch or 'whine' that can occur when turbine components generate sound at specific frequencies. This type of noise is more intrusive and irritating than broad-band or random noise, even at relatively low decibel levels.
- Impulsive noise is where its level changes by more than 10 dB/second.



- At Cloghan Wind Farm - Figure 22 shows the dB(A) level changing during a 10-minute period from 4.20am 16 September 2025 that regularly demonstrate impulsiveness.Figure 22

Figure 23

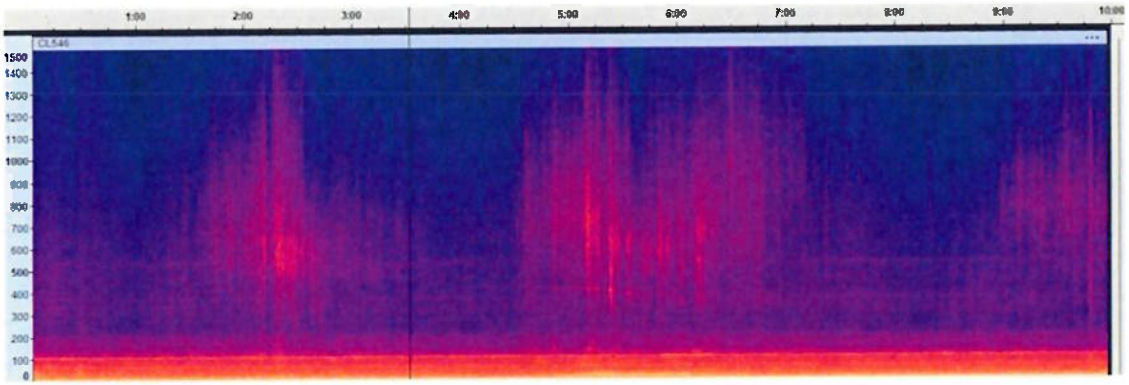


Figure 23 Spectrogram up to 1,500Hz of the data shown in Figure 22

PART 2: THE REGULATORY VACUUM - COMMUNITIES ABANDONED

2.1 No Statutory Noise (health) Protection Framework Exists

Currently, Ireland has no statutory noise regulation (only noise in the workplace).

Communities depend on:

- planning conditions, which local authorities may enforce **at their discretion.**
- The EPA has confirmed that it does not investigate wind-farm noise complaints, as such cases fall outside its statutory remit. However, the **EPA Act 1992**, provides the EPA with a discretionary power.
- The HSE likewise has no enforcement powers under the Public Health Acts for wind-farm noise, though it may act in an advisory capacity.

As a result, affected communities rely solely on local planning conditions with no independent regulatory or health authority oversight.

Environmental Protection Agency Position: The EPA informed complainants that wind farm noise is "a statutory planning matter" and they "could not interfere."

Health Service Executive Position: The HSE's May 2025 letter (responding to Cloghan Wind Farm complaints) states: *"the National Environmental Health Service (NEHS) does not have a role in the investigation of noise or shadow-flicker related complaints. This would be a matter for the local authority."*[3]

Local Authority Enforcement Reality: Wind farm noise and shadow flicker complaint procedures do not exist at most/all Irish local authorities. NEICE (2016) noise guidelines for local authorities are the most recent complaint procedures, yet they are not being followed for wind turbine complaints. Local authorities do not have expertise in health or noise to appropriately assess wind turbine noise compliance and potential health impacts.

Documented Enforcement Failure Pattern:

- **Meenwaun Wind Farm:** Breaches remained unresolved for 5+ years despite an enforcement warning issued in February 2022.
- **Cloghan Wind Farm:** local authority ignores neighbours' complaints for years until CEPA intervened an undertook an independent noise survey, confirming planning condition of noise is breached.

[3] Appendix Two

- **Multiple Limerick Wind Farms:** FOI evidence shows complaints "Closed Unresolved" with zero enforcement.
    - Comparison of Limerick City and County Council noise investigations shows a clear inconsistency in approach: a road-traffic noise investigation was conducted as a health-based assessment, evaluating potential impacts on residents' wellbeing, whereas the wind turbine noise investigation for a dwelling located just 320 metres from a wind turbine failed to include an assessment of health impacts.
- **Physical Evidence:** Abandoned houses near Wind Farms, where owners are unable to live due to the adverse impact from wind turbines.

2.2 The HSE's Systematic Hypocrisy

The HSE issues contradictory guidance that systematically abandons wind farm neighbours:

During Planning (Developer Scoping): HSE directs developers to apply WHO 2018 Environmental Noise Guidelines; which recommends reducing wind turbine noise below 45 dB Lden, as noise above this level is associated with adverse health effects including sleep disturbance, annoyance, and cardiovascular effects.

After Construction (Resident Complaints): The HSE May 2025 letter falsely reassures complainants: *"Noise limits are set in accordance with evidence-based health protection standards"* referring to the **43 dB LA90 limit** (2006 Guidelines).

This is demonstrably false as the 45 dB Lden (WHO 2018 standard) is approximately 37 dB LA90.[4]

The HSE simultaneously:

1. Directs developers to WHO 2018 during planning
2. Tells complainants weaker standards protect health
3. Refuses to investigate health impacts
4. Directs residents to local authorities who take no enforcement action

Result: Wind farm neighbours are systematically abandoned with no remedy except unaffordable civil litigation (as demonstrated in Webster v Meenacloghspar [2024] IEHC.

[4] To drop 6 dBs from the 43 dB noise limit to the evidence based 37 dB health standard, one must double the distance, a dwelling located at 700m would require a setback of 1,400m

PART 3: INADEQUATE EIA COMPONENTS

EPA 2022 EIAR Guidelines require comprehensive human health impact assessment, yet only two Irish wind farm EIAR planning applications include a HIA: Ballynalacken & Sceirdre Rocks.

Baseline (community) health data is required;

- Sleep quality and disturbance prevalence
- Cardiovascular disease rates
- Mental health indicators
- Noise sensitivity prevalence
- Vulnerable populations (elderly, children, health conditions requiring quiet environment) and post-construction monitoring is vital when observing health effects resulting from wind farm operations.

Wind Farm EIARs systematically fail across all four required components:

3.1 Baseline Survey - Fundamentally Deficient

NOISE BASELINE FAILURES:

- **No Low Frequency Noise (LFN) Baseline:** No Irish wind farm EIAR includes baseline LFN surveys (20-200 Hz), contrary to expert community advice. [AACI Environmental Noise Guidance for Local Authority Planning & Enforcement Departments, page 83.]

3.2 Prediction Models - Outdated and Unvalidated NOISE PREDICTION FAILURES:

- **Missing AM Prediction:** No allowance for amplitude modulation characteristics despite Webster establishing this nuisance as a factor requiring separate assessment.
- **Inadequate Cumulative Assessment:** Failure to assess combined acoustic impacts.

HEALTH IMPACT ASSESSMENT - NON-EXISTENT:

- No sleep disturbance prevalence predictions using WHO exposure-response relationships
- No annoyance prediction using validated relationships
- No cardiovascular risk assessment
- No quality of life impact predictions

3.3 Mitigation Measures - Impossible Commitments

NOISE MITIGATION - SYSTEMATICALLY INADEQUATE:

- **LFN Mitigation Overlooked:** Without baseline LFN surveys, impossible to design effective mitigation
- **Tonal/Impulsive Mitigation Absent:** No specific mitigation measures for tonal or

impulsive noise characteristics

- **Amplitude Modulation:** Vague commitments with no binding parameters (wind speeds, temperature thresholds, curtailment triggers)
- **Impossible to Enforce:** Webster precedent confirms planning compliance does not prevent nuisance - residents must pursue expensive civil litigation

GIBBET HILL PRECEDENT: Gibbet Hill [2025] IEHC 330 establishes that developers must design projects with regard to nuisance law principles (reasonableness, foreseeability). Promising impossible mitigation demonstrates **lack of reasonable design**.

3.4 Implementation and Monitoring - Systematic Failure

NO INDEPENDENT MONITORING:

- All monitoring conducted by **developer's consultants** – fundamental conflict of interest
- No independent Environmental Clerk of Works reporting to planning authority
- No real-time public data access
- No binding compliance reporting requirements

NO POST-CONSTRUCTION VERIFICATION:

- Noise: Typically 1 month monitoring only, not continuous over 25–35-year operational life
- Shadow Flicker: Reactive complaint-based only, no proactive verification

ENFORCEMENT IMPOSSIBILITY: The complaint-based model creates systematic failures:

1. HSE refuses health investigation role
2. Local authority takes no enforcement action when breaches proven (Cloghan, Meenwaun patterns)
3. Only remedy is unaffordable civil litigation
4. Vulnerable populations (elderly, children, health conditions) cannot afford legal action
5. No proactive monitoring - breaches only detected if residents commission expensive independent surveys
6. Developer-controlled monitoring creates inherent conflict of interest

The planning authority cannot rely on enforcement to protect residents when empirical evidence demonstrates the enforcement model does not work.

PART 4: LEGAL BASIS FOR HEALTH IMPACT ASSESSMENT

4.1 Current Legal Requirements Demand HIA

EU EIA Directive 2014/52/EU: Article 3(1) requires assessment of effects on "population and

human health." EPA 2022 EIAR Guidelines mandate human health impact assessment through environmental pathways (air, water, noise).

Planning and Development Act 2024: incorporates EIA Directive requirements. Proper planning and sustainable development includes protecting public health.

Aarhus Convention: Article 6 requires meaningful public participation in environmental decision-making.

Communities cannot participate meaningfully when:

- Health baseline data absent
- Prediction models use outdated standards
- Mitigation is unenforceable
- No post-construction health monitoring

4.2 Duty of Care and Foreseeability

Webster v Meenacloghspar [2024] IEHC 165: Planning permission does not prevent nuisance. Noise characteristics (amplitude modulation) must be separately assessed.

Gibbet Hill [2025] IEHC 330: Developers must design with regard to nuisance law principles including **reasonableness** and **foreseeability**. Granting permission knowing enforcement mechanisms are inadequate constitutes foreseeable harm.

Proper Planning Duties: The planning authority has a **duty of care** and cannot grant permission knowing:

1. Health baseline absent (cannot verify future impacts)
2. Outdated prediction standards applied (WHO 2018 ignored)
3. Enforcement system demonstrably fails (Cloghan, Meenwaun patterns)
4. Vulnerable populations will be harmed with no effective remedy

4.3 Clearly A Requirement: Health Impact Assessment

To comply with legal obligations, the planning authority must require:

PRE-CONSENT BASELINE HEALTH STUDY:

- Community health survey (minimum 2km radius) establishing baseline:
  - Sleep quality (validated instruments: Pittsburgh Sleep Quality Index)
  - Cardiovascular health indicators
  - Mental health and wellbeing metrics
  - Noise sensitivity assessment
  - Vulnerable population identification
- Conducted by **independent health professionals** (not developer's consultants)
- Results published for community and expert review

COMPREHENSIVE NOISE ASSESSMENT:

- WHO 2018 Lden metric (45 dB Lden limit)
- Low frequency noise baseline and prediction

- Amplitude modulation assessment

BINDING HEALTH PROTECTION CONDITIONS:

- Continuous noise monitoring (first 5 years then annual) by **independent assessors**
- Public data portal
- Automatic investigation if WHO 2018 limits exceeded
- Mandatory 5-year post-construction health surveys using identical baseline methodology
- Community right to demand temporary shutdown if health impacts verified

INDEPENDENT HEALTH MONITORING:

- Annual health surveys for 5 years post-construction
- Independent medical professional analysis
- Comparison to baseline data
- Public reporting of results
- Adaptive management triggers if health deterioration detected

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PART 5: COMPLAINT-BASED ENFORCEMENT MODEL - SYSTEMATIC FAILURE TO PROTECT PUBLIC HEALTH

The planning authority cannot rely on enforcement to protect residents when empirical evidence from Cloghan and Meenwaun demonstrates the enforcement model does not work. Granting permission while relying on the assurance that "planning conditions will be enforced" is demonstrably false based on the systematic enforcement failure across local authorities. Under proper planning and sustainable development principles, the planning authority has a duty of care and cannot grant permission, knowing the enforcement mechanism is inadequate to prevent foreseeable harm.

PART 6: HSE MISCHARACTERIZATION OF NOISE LIMITS - NOT EVIDENCE-BASED HEALTH STANDARD

The HSE letter dated 12.05.2025 responding to a wind farm neighbour's noise complaint (submitted as evidence) states: "Noise limits are set in accordance with evidence-based health protection standards" referring to the 43 dB LA90 limit. This is demonstrably false and exposes systematic hypocrisy.

The HSE issues scoping guidance directing wind farm developers to use WHO 2018 Environmental Noise Guidelines recommending wind turbine noise below 45 dB Lden (approximately 38.6 dB LAeq) to prevent sleep disturbance, annoyance, and cardiovascular effects.

Yet when residents complain about operational wind farms, the same HSE falsely reassures them that the weaker 43 dB LA90 limit protects health. The Irish limit derives from outdated 2006 Guidelines based on 1996 methodology and is substantially weaker than WHO 2018 standards.

The HSE simultaneously states "NEHS does not carry out health impact assessments" and "does not have a role in the investigation of noise complaints." The HSE directs developers to WHO 2018 during planning, tells complainants weaker standards protect health, refuses to investigate health impacts, then directs residents to local authorities who take no enforcement action.

Wind farm neighbours have been systematically abandoned with no remedy except unaffordable civil litigation.

EPA 2022 EIAR Guidelines Section 8.4 requires assessment of human health impacts. The planning authority must apply current health evidence - WHO 2018 45 dB Lden as the HSE itself recommends to developers in scoping guidance - not permit developers to use outdated standards while falsely reassuring future complainants those standards protect health. The HSE's contradictory positions expose that Irish wind farm noise regulation prioritises development consent over health protection.

PART 7: Reliance on WITHDRAWN 2017 HSE Position Paper

The proposed development relies on a fundamental misapplication of current health guidance, which compromises the validity of the application's assessment of public health impacts.

The planning application references and places reliance upon the HSE (Health Service Executive) Position Paper on Wind Turbine Developments published in 2017 as a basis for assessing the potential health impacts of the proposed development.

This reliance is misplaced as the 2017 paper has been formally withdrawn and is considered obsolete by the HSE itself.

The current interim position of the HSE, as confirmed in recent correspondence (PQ54923)[5], is that the 2017 paper is no longer fit for purpose. The HSE explicitly states that:

> "The size, nature and location of wind turbine developments have substantially changed since the publication of the 2017 HSE Public Health position paper and the evidence base around any potential health impacts from these developments continues to evolve."

[5] Appendix Three

Furthermore, the HSE advises that recent legal precedents, specifically the High Court Judgement in Webster and Rollo v Meenacloghspar (Wind) Limited [2024] IEHC 136, must be considered in any future wind turbine development assessments. The application fails to account for this crucial legal and scientific update.

The application's assessment of "Population and Human Health" effects is therefore based on outdated standards and guidance, failing to incorporate the most up-to-date evidence or the health protection standards warranted by the changed nature and scale of modern wind turbines.

Conclusion
The reliance on a withdrawn and obsolete document renders the health impact assessment within the planning application fundamentally flawed and inadequate.

PART 8 : Failure to Address Statutory Prescribed Body's Guidance

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Substantively Deficient
The National Environmental Health Service (NEHS) issued statutory scoping guidance to the developer pursuant to the NEHS's role as a prescribed body under Irish planning legislation and EU EIA Directive requirements.

The EIAR systematically failed to address the requirements set out in the NEHS scoping guidance. This is not a case of oversight or ambiguity. The NEHS guidance was clear, specific, and provided sufficient time for compliance. The developer's failure to address health guidance from a statutory prescribed body constitutes a fundamental procedural breach that vitiates the entire EIAR and planning application.

NEHS Guidance Requirements
The NEHS statutory scoping guidance details several critical requirements:

First, NEHS stated "it is the experience of the NEHS that impacts on human health are often inadequately assess in EIAs in Ireland". This is a concern as the EPA 2022 EIAR Guidelines require comprehensive human health impact assessment, and two Irish wind farm EIAR planning applications include a HIA: Ballynalacken ACP 322069 (2025) & Sceirde Rocks ACP 321697 (2025). This demonstrates a trend to include a HIA.

Second, the WHO 2018 Environmental Noise Guidelines for the European Region must be applied to the assessment. The NEHS guidance states: "WHO Environmental Noise Guidelines for the European Region 2018 should be applied." This is not a suggestion but a direction from the statutory health authority. The WHO recommends reducing noise levels produced by wind turbines to below 45 dB Lden, as wind turbine noise above this level is

associated with adverse health effects.

Third, the Webster v Meenacloghspar [2024] IEHC 136 precedent must be addressed. The NEHS guidance explicitly references this recent Irish High Court judgment which established that amplitude modulation characteristics of wind turbine noise must be separately assessed and that compliance with decibel limits alone does not prevent actionable nuisance. The NEHS directed the developer to apply the principles established in Webster, including assessment using DEFRA 2011 methodology for amplitude modulation.

Fourth, "considerations should be given to the most up to date knowledge and Guidance". This explicit direction requires use of current, health-protective standards rather than obsolete frameworks. The NEHS was directing the developer away from reliance on outdated guidance and toward contemporary scientific understanding and legal precedent.

Legal Consequences of Non-Compliance

The developer's failure to address NEHS statutory guidance constitutes multiple legal breaches:

Article 5(3) of the EIA Directive 2014/52/EU requires that Environmental Impact Assessments identify, describe, and assess the direct and indirect significant effects of a project on human health. The NEHS, as the statutory health authority, provided explicit guidance on how to assess health effects using WHO 2018 standards. Ignoring this guidance means the EIAR fails to properly assess health effects as required by EU law.

Section 34(3)(b) of the Planning and Development Act 2024: The planning authority is prohibited from granting permission for development that would be contrary to proper planning and sustainable development. An EIAR that systematically fails to implement statutory health guidance from the prescribed health authority and thereby understated health impacts cannot form the basis for proper planning. The planning authority would be acting on fundamentally flawed health impact information if it relies on this EIAR.