

RE: Noise assessment of proposed wind turbines at Luggies Knowe, Gremista - scope and approach



ian.taylor@shetland.gov.uk

To Gregor Massie

Cc lyall.halcrow@shetland.gov.uk

You replied to this message on 10/11/2021 14:28.



Thu 14/10/2021 12

Good Afternoon Gregor

Thank you for your patience in waiting for a response to your earlier enquiry. I have had a discussion with my colleague and can confirm that we are happy with the proposed methodology, noting that it is the same as used in the original application 2011/224/PPF.

Focusing specifically on the methodology for the construction noise we noted that a similar assessment would be acceptable again, however should the noise levels predicted in the simplified assessment be close to the threshold limit, then a more complex assessment should be considered.

With regards to the supposition "predicted levels of wind turbine noise would not exceed 35 dB LA90 (up to wind speed 10 m/s) at a property, then no background noise survey is required." We of the opinion that this position offers more protection compared to background + 5 limited to 40dB daytime, 43dB night-time.

Finally when considering the cumulative noise effects we are minded to seek either, a cumulative assessment of all turbines in the development area to ensure there is no cumulative breach of the 35 dB limit, or the undertaking of a current background noise survey to evaluate any changes in baseline measurements that could impact supposed cumulative noise effects.

As always the above comments are should not be considered a formal response to a consultation, we retain the right to make formal comment on the planning application when submitted for consideration with the local planning department.

If you would like to discuss any of the detail above please feel free to contact myself or my colleague Lyall Halcrow.

My kind regards

Ian

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From: Gregor Massie <Gregor.Massie@itpennergised.com>

Sent: 27 September 2021 17:42

To: Taylor Ian@Environmental Health & Trading Standards <ian.taylor@shetland.gov.uk>

Subject: RE: Noise assessment of proposed wind turbines at Luggies Knowe, Gremista - scope and approach

Good evening Ian,

No problem at all, hope you are feeling better! I look forward to your response.

Kind regards,

Gregor

From: ian.taylor@shetland.gov.uk <ian.taylor@shetland.gov.uk>

Sent: 27 September 2021 12:29

To: Gregor Massie <Gregor.Massie@itpennergised.com>

Subject: RE: Noise assessment of proposed wind turbines at Luggies Knowe, Gremista - scope and approach

Good morning Gregor

My thanks for getting back to me on this matter. I must apologise for the lack of response, I've been away for the office over the last few weeks due to a disk problem in my back and am still catching up with some outstanding work. I'll have a look over the information below and get a response back to you as soon as possible.

My thanks and kind regards

Ian

Ian Taylor

Assistant Environmental Health Officer

Shetland Islands Council
Environmental Health & Trading Standards Dept
Old Anderson High School
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Lerwick
Shetland
ZE1 0BA

From: Gregor Massie

Sent: 06 August 2021 10:09

To: ian.taylor@shetland.gov.uk

Cc: Simon Waddell <Simon.Waddell@itpenegised.com>; Sarah Tullie <Sarah.Tullie@itpenegised.com>

Subject: Noise assessment of proposed wind turbines at Luggies Knowe, Gremista - scope and approach

Good morning Ian,

ITPenegised are undertaking the noise assessment of the proposed installation and operation of two wind turbines at Luggies Knowe, Gremista, Shetland (Scoping planning reference 2021/029/SCO), and as such I would seek to agree with you our proposed approach to the assessment. I would therefore be most grateful if you could review the below and either confirm by response that you agree, or provide comment where you would seek an alternative approach.

It should be noted that consent was granted in 2012 (planning ref 2011-224/PPF) for three wind turbines at the site. Since 2015, one of these turbines has been operational. The remaining two turbines have not been constructed, with previous proposed locations now not viable for engineering reasons. This has necessitated consideration of a revised site layout.

Guidance

- The operational noise assessment will be undertaken in accordance with ETSU-R-97 and the Institute of Acoustics' Good Practice Guide to ETSU (IoA GPG)
- If required, construction noise will be evaluated using threshold criteria provided in BS5228.

Prediction and evaluation of construction noise and vibration

- We assume, given the distances between the proposed wind farm and the closest noise sensitive receptors (NSRs), that construction noise will not be significant, and can be managed by the implementation of good practice measures, as set out in BS5228.
- We will undertake a simplified construction noise calculation scenario to confirm this, which will assume that all likely construction plant and activities will be undertaken simultaneously and at the point of closest approach to NSRs, to determine whether the threshold levels will be exceeded.
- Should predicted construction noise thresholds be exceeded then more detailed models of more realistic scenarios will be undertaken, and mitigation will be specified if required.
- We consider that vibration effects at NSRs associated with wind farm construction will be negligible, therefore further assessment of vibration will be scoped out.

Baseline characterisation and derivation of operational noise limits

- The Applicant does not propose to undertake a baseline noise survey.
- ETSU-R-97 states that where it can be demonstrated that the predicted levels of wind turbine noise would not exceed 35 dB L_{A90} at a property, then no background noise survey is required. A simplified operational noise condition will be sufficient to protect those properties where turbine noise is predicted not to exceed 35 dB L_{A90} . Where the simplified operational noise limit cannot be met, the ETSU-R-97 detailed assessment methodology allows the determination of appropriate noise limits relative to measured background noise levels.
- Figure 1 presents the 35 dB noise contour for the Proposed Development. There are no properties within the noise contour, therefore a background noise survey is not required.
- For EIA purposes the baseline noise environment will therefore be characterised by desk study, and described as a rural environment in which anthropogenic noise will not be significant, and noise from natural sources, such as bird call, the wind, wind-blown vegetation and waves from the North Sea will be the primary control on baseline noise levels.
- With reference to the IoA Good Practice Guide, we note that the overall fixed minimum daytime noise limit should be 40 dB $L_{A90,10min}$ and the overall fixed minimum night-time noise limit should be 43 dB $L_{A90,10min}$.
- The operational noise limits in the assessment will therefore not vary with wind speed / background noise levels and will be 'flat'.

Cumulative noise

- We note that there are a few wind farms and single turbines within 5km of the Proposed Development.
- Figure 1 shows the cumulative noise contour of operational wind farms that are within 5 km of the Proposed Development. The areas where cumulative effects occur are uninhabited and therefore no significant cumulative effects are anticipated.
- The shaded area on Figure 1 indicates where the noise level due to the new wind turbines is within 10 dB of the existing (and consented) wind farms, and hence where cumulative noise effects may occur.
- We therefore propose to scope out detailed evaluation of cumulative effects.

Prediction and evaluation of operational noise levels

- Operational noise levels will be predicted in accordance with ETSU and the IoA GPG.
- Noise propagation over water will consider ground absorption of G=0.
- We have determined that corrections for concave topography apply at NSRs 1, 2, 3, 8, 9 & 10.
- With reference to a corrected 35 dB contour provided in Figure 1 (+3 dB corrected contour is the yellow line shown), we note that predicted noise levels will be below the proposed flat 40 dB daytime noise limit at these NSRs at higher wind speeds.

Should you have any questions or wish to discuss the above, please do not hesitate to call me on my mobile. Alternatively, if you are satisfied with our proposed approach, I would be grateful if you could respond to this email with confirmation of your approval.

Kind regards

Gregor

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Please note our change of Edinburgh address as of 1st July 2020

NOTE: DUE TO **COVID 19 ADVICE** ITPENERGISED ARE WORKING FROM HOME. PLEASE CALL MOBILE NUMBERS

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