

Roddy Dowell
Principal Planner
THC

Stephanie Wade
Town Planning Specialist
Scottish Hydro Electric Transmission plc
10 Henderson Road
Inverness
IV1 1SN

e-mail – stephanie.wade@sse.com

03 October 2025

Ref. Planning Application: 25/00826/FUL

Fanellan Substation- Construction and operation of a 400 kV Substation and Converter Station and Associated Infrastructure, Site Access, Landscaping and Demolition Works | Land 300M NW of Fanellan Farmhouse, Kiltarlity.

Dear Roddy

We write in relation to the consultation response uploaded to the planning portal (2nd Sept) on the aforementioned application from THC Environmental Health Team (dated 2nd Aug).

We would like to follow up on our original holding response (dated 19th Sept) now that we have had clarification from your Environmental Health Team.

It is noted that at EIA stage, NSR 4 and NSR 8 were predicted to have negligible effects from the Proposed Development, shown in Table 1 below, and as there was no rating limits imposed at Teanassie nor at Dun Fionn in the correspondence from THC EHO, these NSRs have not been taken forward in the remainder of this letter.

Table 1. Excerpt from EIA, of tables 14.23 and 14.24

Table 14. 23: Predicted Excess Above Dry Background at NSRs from Fanellan Proposed Development

| Receptors | Daytime (Coolers on) Modelled Specific Noise (dB(A)) | Rating Level (including +4 dB tonal penalty) | Daytime Preliminary Background Noise Level, La90(dB) | Daytime Excess above Background Noise |
|-----------------------------|--|--|--|---------------------------------------|
| NSR 1 – Fanellan Croft | 16.1 | 20 | 27 | -7 |
| NSR 2 – Allordale | 25 | 29 | 27 | 2 |
| NSR 3 – Forest Lodge | 22.9 | 27 | 26 | 1 |
| NSR 4 – Teanassie | 7.5 | 12 | 34 | -22 |
| NSR 5 – 3 Fanellan | 21.8 | 26 | 30 | -4 |
| NSR 6 – Fanellan Farm House | 22.8 | 27 | 26 | 1 |
| NSR 7 – Lower Fanellan | 20 | 24 | 27 | -3 |
| NSR 8 – Dun Fionn | -1.4 | 3 | 34 | -31 |

Table 14. 24: Predicted Excess Above Dry Background at NSRs from Fanellan Proposed Development

| Receptors | Modelled Specific Noise (Scenario 2) (dB(A)) | Rating Level (including +4 dB tonal penalty) | Night time Preliminary Background Noise Level, La90(dB) | Nighttime Excess above Background Noise |
|-----------------------------|--|--|---|---|
| NSR 1 – Fanellan Croft | 15.4 | 19 | 24 | -5 |
| NSR 2 – Allordale | 23.1 | 27 | 23 | 4 |
| NSR 3 – Forest Lodge | 21.2 | 25 | 25 | 0 |
| NSR 4 – Teanassie | 6.6 | 11 | 32 | -21 |
| NSR 5 – 3 Fanellan | 20 | 24 | 25 | -1 |
| NSR 6 – Fanellan Farm House | 22.5 | 27 | 23 | 4 |
| NSR 7 – Lower Fanellan | 19.7 | 24 | 24 | 0 |
| NSR 8 – Dun Fionn | -2 | 2 | 32 | -30 |

Our noise consultants Wood Group has presented to THC Environmental Health Team, the most recent updates of the noise propagation model and assessments. These were compared to the modelled noise levels from the assessment at the EIA stage. Both scenarios considered cooling to be at 100% operational load during the night-time period (23.00-07.00). Table 2 below shows that model updates have significantly reduced noise at the sensitive receptors.

Table 2. Comparison of EIA Noise levels and Most Recent Modelled Levels

| NSR | Modelled Noise Level at EIA (dB(A)) | Latest Oct 2025 Model (dB(A)) | Overall Change (dB(A)) |
|------------------------|-------------------------------------|-------------------------------|------------------------|
| NSR 1 – Fanellan Croft | 16.1 | 13.9 | -2.2 |
| NSR 2 – Allordale | 25.0 | 23.2 | -1.8 |
| NSR 3 – Forest Lodge | 22.9 | 17.5 | -5.4 |
| NSR 5 – 3 Fanellan | 21.8 | 18.8 | -3.0 |
| NSR 6 – Fanellan Farm | 22.8 | 19.9 | -2.9 |
| NSR 7 – Lower Fanellan | 20.0 | 18.1 | -1.9 |

THC previously requested a supplementary BS 4142 assessment focussed on specific residential amenity hours. Since then, THC have indicated new recommended noise limits for daytime and night-time. The most recent model shows that these limits can be met, which includes a conservative 4 dB tonal penalty (Table 3). THC has indicated the supplementary amenity assessment is no longer required.

Table 3. BS 4142 Night-time and Assessment to New Rating Level Limits

| NSR | Modelled Levels at EIA Stage, Cooler on 100% (dB(A)) | | | 2025 Oct Model Updates (dB(A)) | | |
|------------------------|--|---------------------|--------|----------------------------------|------------------------------------|---------------------------|
| | Rating (inc. 4 dB tonal penalty) | Night time BGN LA90 | EXCESS | Rating (inc. 4 dB tonal penalty) | Rating Level Limit proposed by THC | EXCESS above Rating Limit |
| NSR 1 – Fanellan Croft | 20 | 24 | -4 | 18 | 19 | -1 |
| NSR 2 – Allordale | 29 | 23 | 6 | 27 | 27 | 0 |
| NSR 3 – Forest Lodge | 27 | 25 | 2 | 22 | 25 | -3 |

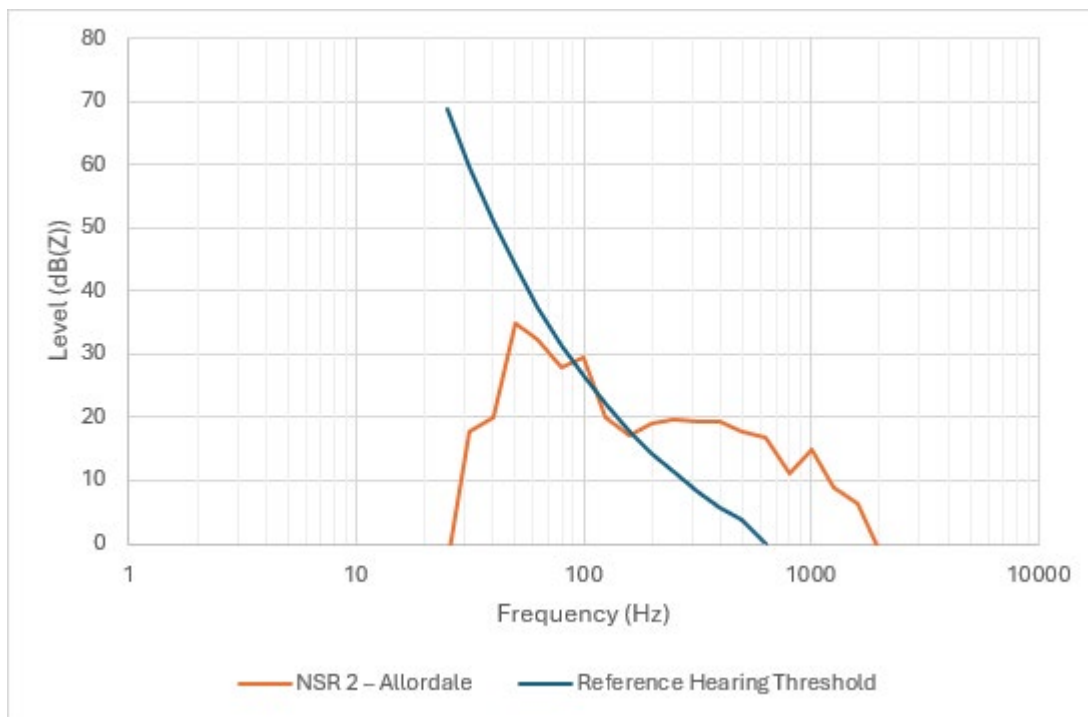
| | | | | | | |
|----------------------------------|----|----|---|----|----|----|
| NSR 5 – 3 Fanellan | 26 | 25 | 1 | 23 | 24 | -1 |
| NSR 6 – Fanellan Farmhouse | 27 | 23 | 4 | 24 | 27 | -3 |
| NSR 7 – Lower Fanellan | 24 | 24 | 0 | 22 | 24 | -2 |

As shown above, assessing the predicted noise at night with cooling at 100% against the night-time background noise leads to excesses. Predicted noise from the latest model does not exceed the latest rating limits proposed by THC.

A limitation of the BS 4142 assessment method is the assessment of tonal penalty which is a major contributor in causing the noise excess issues.

For additional context, the NSR at which noise is predicted to be the highest (Allordale), the more prominent third-octave band levels (50 Hz) are below the reference hearing threshold (Figure 1) and would not result in a tonal penalty when considered against the objective 1/3 octave band assessment described in BS 4142.

Figure 1. Allordale Received Spectra and Hearing Threshold



The comparison of Allordale spectra to the hearing threshold shows the 4 dB tonal penalty is conservative.

It should also be noted the 100 Hz third-octave level is below 30 dB at the curtilage of all NSRs as requested.

Cooling systems will not need justification from manufacturers about operating in night time, as it has been shown that the rating levels are met with cooling at 100% load.

In response to the Officer's request, please see the link below for the Volume 4 Appendices 14.13 to 14.41 as previously submitted:

https://wam.highland.gov.uk/wam/files/7305EE5A2902F0190BB78D69B63C0FF6/pdf/25_00826_FUL-EIAR_VOLUME_4_APPENDIX_14.12_TO_APPENDIX_14.41-3539627.pdf

This concludes Wood's response that mitigation is not therefore required at the Proposed Development. We trust that this update gives THC Environmental Health Team sufficient comfort to update the original consultation response.

Kind regards,

S.WADE

Stephanie Wade
Town Planning Specialist – North & Central