

**Fanellan Hub 400 kV Substation and
Converter Station
Environmental Impact Assessment Report
Volume 4 | Technical Appendices**

**Appendix 14.41 – Cumulative Noise Impact
February 2025**



TECHNICAL APPENDIX 14: NOISE IMPACT ASSESSMENT

14.41 Cumulative Noise Impact Assessment

Table 1: Proposed Site Modelled Noise Levels at NSRs (Wet conditions, Coolers On)

Receptors	Modelled Specific Noise (Scenario 1) (dB(A))	Beauly-Peterhead OHL		Spittal-Beauly OHL		Beauly-Denny OHL		Total (dB(A))
		Distance to nearest point (m)	Modelled Noise in Wet Conditions (dB(A))	Distance to nearest point (m)	Modelled Noise in Wet Conditions (dB(A))	Distance to nearest point (m)	Modelled Noise in Wet Conditions (dB(A))	
NSR 1 – Fanellan Croft	16.1	437	14.1	882	5.8	137	38.7	38.8
NSR 2 – Allordale	25	370	16.1	587	10.5	450	26.9	29.4
NSR 3 – Forest Lodge	22.9	825	6.5	662	9.0	134	38.7	38.8
NSR 4 – Teanassie	7.5	1605	1.4	1233	2.9	1125	15.1	16.1
NSR 5 – 3 Fanellan	21.8	537	11.6	487	12.6	147	38.2	38.3
NSR 6 – Fanellan Farm House	22.8	198	22.2	639	9.5	365	29.7	31.1
NSR 7 – Lower Fanellan	20	257	19.9	777	7.2	323	31.0	31.7
NSR 8 – Dun Fionn	-1.4	1288	2.6	114	26.3	987	17.3	26.8

Table 2: Proposed Site Modelled Noise Levels at NSRs (Wet conditions, Coolers Off)

Receptors	Modelled Specific Noise (Scenario 2) (dB(A))	Beauly-Peterhead OHL		Spittal-Beauly OHL		Beauly-Denny OHL		Total (dB(A))
		Distance to nearest point (m)	Modelled Noise in Wet Conditions (dB(A))	Distance to nearest point (m)	Modelled Noise in Wet Conditions (dB(A))	Distance to nearest point (m)	Modelled Noise in Wet Conditions (dB(A))	
NSR 1 – Fanellan Croft	15.4	437	14.1	882	5.8	137	38.7	38.8
NSR 2 – Allordale	23.1	370	16.1	587	10.5	450	26.9	28.7
NSR 3 – Forest Lodge	21.2	825	6.5	662	9.0	134	38.7	38.8
NSR 4 – Teanassie	6.6	1605	1.4	1233	2.9	1125	15.1	16.0
NSR 5 – 3 Fanellan	20.0	537	11.6	487	12.6	147	38.2	38.3
NSR 6 – Fanellan Farm House	22.5	198	22.2	639	9.5	365	29.7	31.1
NSR 7 – Lower Fanellan	19.7	257	19.9	777	7.2	323	31.0	31.6
NSR 8 – Dun Fionn	-2.0	1288	2.6	114	26.3	987	17.3	26.8

Table 3: Predicted Excess Above Wet Background at NSRs from Fanellan HVDC Hub – Coolers On

Receptors	Total Specific Noise from Proposed HVDC Converter Station and OHLs (dBA)	Rating Level (including +6 dB tonal penalty)	Nighttime Background Noise Level, LA90(dB)	Adjusted Nighttime Background Noise Level for Wet Conditions, LA90(dB)	Nighttime Excess above Background Noise
NSR 1 – Fanellan Croft	38.8	45	27	37.2	7.8
NSR 2 – Allordale	29.4	35	27	37.2	-2.2
NSR 3 – Forest Lodge	38.8	45	26	37.1	7.9
NSR 4 – Teanassie	16.1	22	34	38.6	-16.6
NSR 5 – 3 Fanellan	38.3	44	30	37.6	6.4
NSR 6 – Fanellan Farm House	31.1	37	26	37.1	-0.1
NSR 7 – Lower Fanellan	31.7	38	27	37.2	0.8
NSR 8 – Dun Fionn	26.8	33	34	38.6	-5.6

Table 4: Predicted Excess Above Wet Background at NSRs from Fanellan HVDC Hub – Coolers Off

Receptors	Total Specific Noise from Proposed HVDC Converter Station and OHLs (dBA)	Rating Level (including +6 dB tonal penalty)	Nighttime Background Noise Level, LA90(dB)	adjusted Nighttime Background Noise Level for wet conditions, LA90(dB)	Nighttime Excess above Background Noise
NSR 1 – Fanellan Croft	38.8	45	24	37.0	8.0
NSR 2 – Allordale	28.7	35	23	36.9	-1.9
NSR 3 – Forest Lodge	38.8	45	25	37.0	8.0
NSR 4 – Teanassie	16.0	22	32	38.0	-16.0
NSR 5 – 3 Fanellan	38.3	44	25	37.0	7.0
NSR 6 – Fanellan Farm House	31.1	37	23	36.9	0.1
NSR 7 – Lower Fanellan	31.6	38	24	37.0	1.0
NSR 8 – Dun Fionn	26.8	33	32	38.0	-5.0