

Environmental Impact Assessment (EIA)

Report

LT383 Alyth to Tealing Overhead Line (OHL)

400kV Upgrade

November 2024



VOLUME 4: APPENDIX 13.5 – CONSTRUCTION NOISE IMPACT ASSESSMENT

1.	CONSTRUCTION NOISE ASSESSMENT OF PROPOSED DEVELOPMENT	1
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1. CONSTRUCTION NOISE ASSESSMENT OF PROPOSED DEVELOPMENT

Calculation Assumptions

- Ground absorption factor 0.5 for mixed soft and hard ground
- Free-field
- No change in elevation or screening between source and receiver

Table 13.5-1 BS 5228-1 Assessment – Felling – Evenings and Weekends

NSR	Shortest distance to felling buffer boundary (m)	Daytime Construction Noise Limit (dB(A))	Total Equivalent Noise Level at 10 m from felling buffer boundary (dB(A))	Sound Pressure Level at Receptor (dB(A))	Construction Noise Limit Exceedance
1	593	55	91	52	-3
2	507	55	91	54	-1
3	328	55	91	58	3
4	104	55	91	69	14
5	127	55	91	67	12
6	154	55	91	65	11
7	292	55	91	59	4
8	287	55	91	59	5
9	239	55	91	61	6
10	124	55	91	68	13
11	109	55	91	69	14
12	144	55	91	66	11
13	127	55	91	67	12
14	364	55	91	57	3
15	377	55	91	57	2
16	369	55	91	57	2
17	402	55	91	56	1
18	406	55	91	56	1
19	173	55	91	64	9
20	230	55	91	62	7
21	260	55	91	60	6
22	214	55	91	62	8
23	229	55	91	62	7
24	201	55	91	63	8

NSR	Shortest distance to felling buffer boundary (m)	Daytime Construction Noise Limit (dB(A))	Total Equivalent Noise Level at 10 m from felling buffer boundary (dB(A))	Sound Pressure Level at Receptor (dB(A))	Construction Noise Limit Exceedance
25	201	55	91	63	8
26	239	55	91	61	6
27	237	55	91	61	6
28	206	55	91	63	8
29	214	55	91	62	8
30	208	55	91	63	8
31	211	55	91	62	8
32	176	55	91	64	10
33	169	55	91	65	10
34	232	55	91	61	7
35	158	55	91	65	10
36	135	55	91	67	12
37	192	55	91	63	8
38	134	55	91	67	12
39	153	55	91	66	11
40	154	55	91	65	11
41	153	55	91	66	11
42	136	55	91	67	12
43	132	55	91	67	12
44	135	55	91	67	12
45	88	55	91	71	16
46	61	55	91	75	20
47	115	55	91	68	13
48	265	55	91	60	5
49	328	55	91	58	3
50	292	55	91	59	4
51	155	55	91	65	11
52	230	55	91	62	7

Table 13.5-2 BS 5228-1 Assessment – Foundations – Evenings and Weekends

NSR	Shortest distance to nearest tower (m)	Daytime Construction Noise Limit (dB(A))	Total Equivalent Noise Level at 10 m from nearest tower (dB(A))	Sound Pressure Level at Receptor (dB(A))	Construction Noise Limit Exceedance
1	186	55	85	57	2
2	87	55	85	65	10
3	200	55	85	57	2
4	86	55	85	65	10
5	106	55	85	63	8
6	123	55	85	61	6
7	177	55	85	58	3
8	142	55	85	60	5
9	214	55	85	56	1
10	152	55	85	60	5
11	151	55	85	60	5
12	154	55	85	59	4
13	139	55	85	60	5
14	124	55	85	61	6
15	128	55	85	61	6
16	246	55	85	55	0
17	268	55	85	54	-1
18	261	55	85	54	-1
19	220	55	85	56	1
20	267	55	85	55	0
21	294	55	85	54	-1
22	248	55	85	56	1
23	260	55	85	56	1
24	232	55	85	57	2
25	231	55	85	57	2
26	300	55	85	54	-1
27	297	55	85	54	-1
28	234	55	85	58	3
29	277	55	85	55	0
30	272	55	85	55	0
31	273	55	85	55	0
32	242	55	85	57	2
33	233	55	85	57	2

NSR	Shortest distance to nearest tower (m)	Daytime Construction Noise Limit (dB(A))	Total Equivalent Noise Level at 10 m from nearest tower (dB(A))	Sound Pressure Level at Receptor (dB(A))	Construction Noise Limit Exceedance
34	278	55	85	54	-1
35	214	55	85	57	2
36	191	55	85	57	2
37	238	55	85	55	0
38	186	55	85	58	3
39	200	55	85	57	2
40	201	55	85	57	2
41	200	55	85	57	2
42	185	55	85	58	3
43	181	55	85	58	3
44	181	55	85	58	3
45	135	55	85	61	6
46	110	55	85	63	8
47	187	55	85	57	2
48	77	55	85	66	11
49	120	55	85	62	7
50	296	55	85	53	-2
51	172	55	85	60	5
52	290	55	85	53	-2

Table 13.5-3 BS 5228-1 Assessment – Stringing and Access – Evenings and Weekends

NSR	Shortest distance to nearest tower (m)	Daytime Construction Noise Limit (dB(A))	Total Equivalent Noise Level at 10 m from nearest tower (dB(A))	Sound Pressure Level at Receptor (dB(A))	Construction Noise Limit Exceedance
1	186	55	74	46	-9
2	87	55	74	54	-1
3	200	55	74	46	-9
4	86	55	74	54	-1
5	106	55	74	52	-3
6	123	55	74	51	-4
7	177	55	74	49	-6
8	142	55	74	51	-4

NSR	Shortest distance to nearest tower (m)	Daytime Construction Noise Limit (dB(A))	Total Equivalent Noise Level at 10 m from nearest tower (dB(A))	Sound Pressure Level at Receptor (dB(A))	Construction Noise Limit Exceedance
9	214	55	74	48	-7
10	152	55	74	53	-2
11	151	55	74	51	-4
12	154	55	74	50	-5
13	139	55	74	51	-4
14	124	55	74	52	-3
15	128	55	74	52	-3
16	246	55	74	46	-9
17	268	55	74	45	-10
18	261	55	74	46	-9
19	220	55	74	50	-5
20	267	55	74	50	-5
21	294	55	74	49	-6
22	248	55	74	51	-4
23	260	55	74	51	-4
24	232	55	74	53	-2
25	231	55	74	54	-1
26	300	55	74	49	-6
27	297	55	74	49	-6
28	234	55	74	55	0
29	277	55	74	50	-5
30	272	55	74	51	-4
31	273	55	74	50	-5
32	242	55	74	54	-1
33	233	55	74	52	-3
34	278	55	74	46	-9
35	214	55	74	49	-6
36	191	55	74	50	-5
37	238	55	74	47	-8
38	186	55	74	50	-5
39	200	55	74	49	-6
40	201	55	74	49	-6
41	200	55	74	49	-6
42	185	55	74	49	-6

NSR	Shortest distance to nearest tower (m)	Daytime Construction Noise Limit (dB(A))	Total Equivalent Noise Level at 10 m from nearest tower (dB(A))	Sound Pressure Level at Receptor (dB(A))	Construction Noise Limit Exceedance
43	181	55	74	49	-6
44	181	55	74	49	-6
45	135	55	74	51	-4
46	110	55	74	53	-2
47	187	55	74	48	-7
48	77	55	74	55	0
49	120	55	74	52	-3
50	296	55	74	45	-10
51	172	55	74	55	0
52	290	55	74	46	-9

Table 13.5-4 BS 5228-1 Assessment – Dismantling and Removal – Evenings and Weekends

NSR	Shortest distance to nearest tower (m)	Daytime Construction Noise Limit (dB)	Total Equivalent Noise Level at 10 m from nearest tower (dB(A))	Sound Pressure Level at Receptor (dB(A))	Construction Noise Limit Exceedance
1	186	55	81	53	-2
2	87	55	81	61	6
3	200	55	81	53	-2
4	86	55	81	61	6
5	106	55	81	59	4
6	123	55	81	57	2
7	177	55	81	54	-1
8	142	55	81	56	1
9	214	55	81	52	-3
10	152	55	81	55	0
11	151	55	81	55	0
12	154	55	81	55	0
13	139	55	81	56	1
14	124	55	81	57	2
15	128	55	81	57	2
16	246	55	81	50	-5
17	268	55	81	50	-5

NSR	Shortest distance to nearest tower (m)	Daytime Construction Noise Limit (dB)	Total Equivalent Noise Level at 10 m from nearest tower (dB(A))	Sound Pressure Level at Receptor (dB(A))	Construction Noise Limit Exceedance
18	261	55	81	50	-5
19	220	55	81	52	-3
20	267	55	81	50	-5
21	294	55	81	49	-6
22	248	55	81	50	-5
23	260	55	81	50	-5
24	232	55	81	51	-4
25	231	55	81	51	-4
26	300	55	81	49	-6
27	297	55	81	49	-6
28	234	55	81	51	-4
29	277	55	81	49	-6
30	272	55	81	49	-6
31	273	55	81	49	-6
32	242	55	81	51	-4
33	233	55	81	51	-4
34	278	55	81	49	-6
35	214	55	81	52	-3
36	191	55	81	53	-2
37	238	55	81	51	-4
38	186	55	81	53	-2
39	200	55	81	52	-3
40	201	55	81	52	-3
41	200	55	81	53	-2
42	185	55	81	53	-2
43	181	55	81	53	-2
44	181	55	81	54	-1
45	135	55	81	56	1
46	110	55	81	58	3
47	187	55	81	53	-2
48	77	55	81	62	7
49	120	55	81	57	2
50	296	55	81	49	-6
51	172	55	81	54	-1

NSR	Shortest distance to nearest tower (m)	Daytime Construction Noise Limit (dB)	Total Equivalent Noise Level at 10 m from nearest tower (dB(A))	Sound Pressure Level at Receptor (dB(A))	Construction Noise Limit Exceedance
52	290	55	81	49	-6

Table 1-5: BS 5228-1 Assessment – Felling – Daytime and Saturdays

NSR	Shortest distance to felling buffer boundary (m)	Daytime Construction Noise Limit (dB(A))	Total Equivalent Noise Level at 10 m from felling buffer boundary (dB(A))	Sound Pressure Level at Receptor (dB(A))	Construction Noise Limit Exceedance
1	593	65	91	52	-13
2	507	65	91	54	-11
3	328	65	91	58	-7
4	104	65	91	69	4
5	127	65	91	67	2
6	154	65	91	65	1
7	292	65	91	59	-6
8	287	65	91	59	-5
9	239	65	91	61	-4
10	124	65	91	68	3
11	109	65	91	69	4
12	144	65	91	66	1
13	127	65	91	67	2
14	364	65	91	57	-7
15	377	65	91	57	-8
16	369	65	91	57	-8
17	402	65	91	56	-9
18	406	65	91	56	-9
19	173	65	91	64	-1
20	230	65	91	62	-3
21	260	65	91	60	-4
22	214	65	91	62	-2
23	229	65	91	62	-3
24	201	65	91	63	-2
25	201	65	91	63	-2
26	239	65	91	61	-4

NSR	Shortest distance to felling buffer boundary (m)	Daytime Construction Noise Limit (dB(A))	Total Equivalent Noise Level at 10 m from felling buffer boundary (dB(A))	Sound Pressure Level at Receptor (dB(A))	Construction Noise Limit Exceedance
27	237	65	91	61	-4
28	206	65	91	63	-2
29	214	65	91	62	-2
30	208	65	91	63	-2
31	211	65	91	62	-2
32	176	65	91	64	0
33	169	65	91	65	0
34	232	65	91	61	-3
35	158	65	91	65	0
36	135	65	91	67	2
37	192	65	91	63	-2
38	134	65	91	67	2
39	153	65	91	66	1
40	154	65	91	65	1
41	153	65	91	66	1
42	136	65	91	67	2
43	132	65	91	67	2
44	135	65	91	67	2
45	88	65	91	71	6
46	61	65	91	75	10
47	115	65	91	68	3
48	265	65	91	60	-5
49	328	65	91	58	-7
50	292	65	91	59	-6
51	155	65	91	65	1
52	230	65	91	62	-3

Table 13.5-6 BS 5228-1 Assessment – Foundations – Daytime and Saturdays

NSR	Shortest distance to nearest tower (m)	Daytime Construction Noise Limit (dB(A))	Total Equivalent Noise Level at 10 m from nearest tower (dB(A))	Sound Pressure Level at Receptor (dB(A))	Construction Noise Limit Exceedance
1	186	65	85	57	-8

NSR	Shortest distance to nearest tower (m)	Daytime Construction Noise Limit (dB(A))	Total Equivalent Noise Level at 10 m from nearest tower (dB(A))	Sound Pressure Level at Receptor (dB(A))	Construction Noise Limit Exceedance
2	87	65	85	65	0
3	200	65	85	57	-8
4	86	65	85	65	0
5	106	65	85	63	-2
6	123	65	85	61	-4
7	177	65	85	58	-7
8	142	65	85	60	-5
9	214	65	85	56	-9
10	152	65	85	60	-5
11	151	65	85	60	-5
12	154	65	85	59	-6
13	139	65	85	60	-5
14	124	65	85	61	-4
15	128	65	85	61	-4
16	246	65	85	55	-10
17	268	65	85	54	-11
18	261	65	85	54	-11
19	220	65	85	56	-9
20	267	65	85	55	-10
21	294	65	85	54	-11
22	248	65	85	56	-9
23	260	65	85	56	-9
24	232	65	85	57	-8
25	231	65	85	57	-8
26	300	65	85	54	-11
27	297	65	85	54	-11
28	234	65	85	58	-7
29	277	65	85	55	-10
30	272	65	85	55	-10
31	273	65	85	55	-10
32	242	65	85	57	-8
33	233	65	85	57	-8
34	278	65	85	54	-11
35	214	65	85	57	-8

NSR	Shortest distance to nearest tower (m)	Daytime Construction Noise Limit (dB(A))	Total Equivalent Noise Level at 10 m from nearest tower (dB(A))	Sound Pressure Level at Receptor (dB(A))	Construction Noise Limit Exceedance
36	191	65	85	57	-8
37	238	65	85	55	-10
38	186	65	85	58	-7
39	200	65	85	57	-8
40	201	65	85	57	-8
41	200	65	85	57	-8
42	185	65	85	58	-7
43	181	65	85	58	-7
44	181	65	85	58	-7
45	135	65	85	61	-4
46	110	65	85	63	-2
47	187	65	85	57	-8
48	77	65	85	66	1
49	120	65	85	62	-3
50	296	65	85	53	-12
51	172	65	85	60	-5
52	290	65	85	53	-12

Table 13.5-7 BS 5228-1 Assessment – Stringing and Access – Daytime and Saturdays

NSR	Shortest distance to nearest tower (m)	Daytime Construction Noise Limit (dB(A))	Total Equivalent Noise Level at 10 m from nearest tower (dB(A))	Sound Pressure Level at Receptor (dB(A))	Construction Noise Limit Exceedance
1	186	65	74	46	-19
2	87	65	74	54	-11
3	200	65	74	46	-19
4	86	65	74	54	-11
5	106	65	74	52	-13
6	123	65	74	51	-14
7	177	65	74	49	-16
8	142	65	74	51	-14
9	214	65	74	48	-17
10	152	65	74	53	-12

NSR	Shortest distance to nearest tower (m)	Daytime Construction Noise Limit (dB(A))	Total Equivalent Noise Level at 10 m from nearest tower (dB(A))	Sound Pressure Level at Receptor (dB(A))	Construction Noise Limit Exceedance
11	151	65	74	51	-14
12	154	65	74	50	-15
13	139	65	74	51	-14
14	124	65	74	52	-13
15	128	65	74	52	-13
16	246	65	74	46	-19
17	268	65	74	45	-20
18	261	65	74	46	-19
19	220	65	74	50	-15
20	267	65	74	50	-15
21	294	65	74	49	-16
22	248	65	74	51	-14
23	260	65	74	51	-14
24	232	65	74	53	-12
25	231	65	74	54	-11
26	300	65	74	49	-16
27	297	65	74	49	-16
28	234	65	74	55	-10
29	277	65	74	50	-15
30	272	65	74	51	-14
31	273	65	74	50	-15
32	242	65	74	54	-11
33	233	65	74	52	-13
34	278	65	74	46	-19
35	214	65	74	49	-16
36	191	65	74	50	-15
37	238	65	74	47	-18
38	186	65	74	50	-15
39	200	65	74	49	-16
40	201	65	74	49	-16
41	200	65	74	49	-16
42	185	65	74	49	-16
43	181	65	74	49	-16
44	181	65	74	49	-16

NSR	Shortest distance to nearest tower (m)	Daytime Construction Noise Limit (dB(A))	Total Equivalent Noise Level at 10 m from nearest tower (dB(A))	Sound Pressure Level at Receptor (dB(A))	Construction Noise Limit Exceedance
45	135	65	74	51	-14
46	110	65	74	53	-12
47	187	65	74	48	-17
48	77	65	74	55	-10
49	120	65	74	52	-13
50	296	65	74	45	-20
51	172	65	74	55	-10
52	290	65	74	46	-19

Table 13.5-8 BS 5228-1 Assessment – Dismantling and Removal – Daytime and Saturdays

NSR	Shortest distance to nearest tower (m)	Daytime Construction Noise Limit (dB(A))	Total Equivalent Noise Level at 10 m from nearest tower (dB(A))	Sound Pressure Level at Receptor (dB(A))	Construction Noise Limit Exceedance
1	186	65	81	53	-12
2	87	65	81	61	-4
3	200	65	81	53	-12
4	86	65	81	61	-4
5	106	65	81	59	-6
6	123	65	81	57	-8
7	177	65	81	54	-11
8	142	65	81	56	-9
9	214	65	81	53	-12
10	152	65	81	57	-8
11	151	65	81	56	-9
12	154	65	81	56	-9
13	139	65	81	57	-8
14	124	65	81	58	-7
15	128	65	81	57	-8
16	246	65	81	51	-14
17	268	65	81	50	-15
18	261	65	81	51	-14
19	220	65	81	53	-12

NSR	Shortest distance to nearest tower (m)	Daytime Construction Noise Limit (dB(A))	Total Equivalent Noise Level at 10 m from nearest tower (dB(A))	Sound Pressure Level at Receptor (dB(A))	Construction Noise Limit Exceedance
20	267	65	81	52	-13
21	294	65	81	51	-14
22	248	65	81	53	-12
23	260	65	81	53	-12
24	232	65	81	55	-10
25	231	65	81	55	-10
26	300	65	81	51	-14
27	297	65	81	51	-14
28	234	65	81	56	-9
29	277	65	81	53	-12
30	272	65	81	53	-12
31	273	65	81	52	-13
32	242	65	81	55	-10
33	233	65	81	54	-11
34	278	65	81	51	-14
35	214	65	81	53	-12
36	191	65	81	54	-11
37	238	65	81	52	-13
38	186	65	81	54	-11
39	200	65	81	53	-12
40	201	65	81	53	-12
41	200	65	81	53	-12
42	185	65	81	54	-11
43	181	65	81	54	-11
44	181	65	81	54	-11
45	135	65	81	57	-8
46	110	65	81	59	-6
47	187	65	81	54	-11
48	77	65	81	62	-3
49	120	65	81	58	-7
50	296	65	81	49	-16
51	172	65	81	57	-8
52	290	65	81	50	-15