Volume 4: Appendix 10.2 – Construction Activities

Scottish & Southern Electricity Networks
TRANSMISSION

Emmock and Tealing 400 kV Overhead Line Tie-Ins Environmental Impact Assessment (EIA) Volume 4 | Appendix 10.2

Construction Activities

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1. CONSTRUCTION ACTIVITIES

1.1 Introduction

The purpose of this appendix is to provide the conservative assumptions of equipment utilisation used for the Construction Noise Impact Assessment (CNIA). Each table provides the expected equipment for a construction phase for a section of the Proposed Development, as well as the percentage of time each piece of equipment is expected to be used in a standard working day. Information was collated from estimations provided by contractors due to work on the project and sound power levels from *Annex C of BS5228-1 Code of practice for noise and vibration control on construction and open sites*. Sound power levels of the equipment have been corrected based on the expected quantity and duration of active operation. An updated CNIA will be prepared once a Principal Contractor is appointed, and more information is known about construction phases and equipment.

2. CONSTRUCTION EQUIPMENT

Table 10.2.1: Worst Case Construction Activities And Associated Noise Levels For Felling

Activity	Plant Item	Quantity	Utilisation %	Sound Power, LW (dB(A))	Sound Power corrected for quantity and utilisation, LW (dB(A))	LAeq at 10 m (dB)
Felling	C4.74 Tractor (towing equipment)	2	50%	108	108	80
	Harvester	2	50%	92	92	64
	C4.84 Diesel generator	2	50%	102	102	74
	Wood Chipper	2	50%	119	119	91
	D2.14. Petrol driven chain saw	4	50%	114	117	89
	Stump Grinder	2	50%	114	114	86
	Brush Cutter	4	50%	114	117	89
	Flail Mower	2	50%	90	90	62
Total					123	95

Table 10.2.2: Worst Case Construction Activities And Associated Noise Levels For Access Works

Activity	Plant Item	Quantity	Utilisation %	Sound Power, LW (dB(A))	Sound Power corrected for quantity and utilisation, LW (dB(A))	LAeq at 10 m (dB)
Access Works	C2.37 Roller (rolling fill)	1	57%	108	105	77
	C2.45 Water pump	2	38%	93	92	64
	C4.54 Telescopic handler	1	19%	107	99	71
	C4.3 Dumper	1	67%	104	103	75
	C2.3 Tracked excavator	2	76%	106	108	80
	C4.70 Petrol hand-held circular saw	2	10%	119	112	84
	C4.84 Diesel generator	2	38%	102	101	73
	C6.22 Road lorry (empty)	1	19%	111	104	76
Total					115	87

Table 10.2.2: Worst Case Construction Activities And Associated Noise Levels For Foundations

Activity	Plant Item	Quantity	Utilisation %	Sound Power, LW (dB(A))	Sound Power corrected for quantity and utilisation, LW (dB(A))	LAeq at 10 m (dB)
Foundations	C4.20 Concrete Mixer Truck	4	29%	108	109	81
	C1.12 Tracked Excavator	1	67%	110	109	81
	C4.33 Poker Vibrator	2	29%	106	104	76
	C2.45 Water Pump	2	48%	93	93	65
	C6.22 Road Lorry (Empty)	1	19%	111	104	76
	C2.37 Roller (Rolling Fill)	1	19%	108	100	72
	C4.3 Dumper	1	48%	104	101	73
	C4.84 Diesel Generator	2	29%	102	99	71
	C6.22 Road Lorry (Empty) (Low Loader)	1	10%	111	101	73
	C2.43 Cable Percussion Drilling Rig	1	29%	102	97	69
	C1.7 Hand-Held Hydraulic Breaker	1	29%	121	116	88
	C4.69 Core Drill (Electric) Impact Wrench	1	10%	113	103	75
Total					120	90

Table 10.2.3: Worst Case Construction Activities And Associated Noise Levels For Piling Works

Activity	Plant Item	Quantity	Utilisation %	Sound Power, LW (dB(A))	Sound Power corrected for quantity and utilisation, LW (dB(A))	LAeq at 10 m (dB)
Piling Works	C4.20 Concrete Mixer Truck	3	29%	108	107	79
	C3.25 Concrete Pump	1	67%	106	104	76
	C1.9 Breaker Mounted On Excavator	1	62%	118	116	88
	C3.19 Compressor For Mini Piling (towable)	3	48%	103	105	77
	C2.45 Water Pump	2	38%	93	92	64
	C4.54 Telescopic Handler	1	38%	107	102	74
	C4.84 Diesel Generator	2	29%	102	99	71
	C3.3 Hydraulic Hammer Rig (piling)	1	67%	117	115	87
Total					120	89

Table 10.2.4: Worst Case Construction Activities And Associated Noise Levels For Tower Erection

Activity	Plant Item	Quantity	Utilisation %	Sound Power, LW (dB(A))	Sound Power corrected for quantity and utilisation, LW (dB(A))	LAeq at 10 m (dB)
Tower Erection	C4.54 Telescopic Handler (360)	1	67%	107	105	77
	C4.54 Telescopic Handler (10 tonne)	2	57%	107	107	79
	C3.28 Tracked Mobile Crane	1	10%	95	85	57
	C2.34 Lorry Beaver Tail HIAB	1	10%	108	98	70
Total					109	81

Table 10.2.5: Worst Case Construction Activities And Associated Noise Levels For Stringing

Activity	Plant Item	Quantity	Utilisation %	Sound Power, LW (dB(A))	Sound Power corrected for quantity and utilisation, LW (dB(A))	LAeq at 10 m (dB)
Stringing	C6.22 Road Lorry (Empty)	1	19%	111	104	76
	C4.54 Telescopic Handler	1	38%	107	102	74
	Puller/Tensioner	2	33%	96	94	66
	C4.74 Winch Tractor (Towing Equipment)	1	38%	108	104	76
	C2.34 Lorry	1	14%	108	100	72
	Service Winch	1	33%	90	85	57
	Trailer Press	1	10%	90	80	52
	C4.74 Tractor (Towing Equipment)	2	38%	108	107	79
Total					111	83

Table 10.2.6: Worst Case Construction Activities And Associated Noise Levels For Dismantling

Activity	Plant Item	Quantity	Utilisation %	Sound Power, LW (dB(A))	Sound Power corrected for quantity and utilisation, LW (dB(A))	LAeq at 10 m (dB)
Dismantling	C4.74 Tractor (Towing Equipment)	1	33%	108	103	75
	C3.28 Tracked Mobile Crane	1	10%	95	85	57
	C4.54 Telescopic Handler	1	10%	107	97	69
	C1.9 Breaker Mounted On Excavator	1	48%	118	115	87
	Reelwinder	1	19%	90	83	55
	C4.70 Petrol Hand-Held Circular Saw	1	19%	119	111	83
	C2.34 Lorry Skip	1	19%	108	101	73
	C2.34 Lorry Hiab	1	10%	108	98	70
Total					117	89