

**Beauly to Blackhillock to New Deer to
Peterhead 400 kV Project
Environmental Impact Assessment Report
Volume 5 | Appendices**

Appendix 15.3 – Construction Activities



APPENDIX 15.3 – CONSTRUCTION ACTIVITIES

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1 Introduction

- 1.1.1 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 OHL, 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*. Results of calculations to obtain a corrected sound power level based on the expected quantity and on time of the equipment have also been included. If changes occur to the planned equipment an updated CNIA will be prepared.
- 1.1.2 The terms used in the tables are defined in **Appendix 15.1: Acoustic Terminology**.

2 Construction Equipment

Table 2.1: Worst Case Construction Activities and Associated Noise Levels for Vegetation Clearance and Felling for Proposed Development

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)
Vegetation Clearance and Felling	Forwarder	2	90%	84	87	59
	Harvester	2	90%	92	95	67
	Wood chipper	2	50%	119	119	91
	D2.14 petrol driven chain saw	8	60%	114	121	93
	C2.2 Tracked Excavator	2	90%	105	108	80
	D3.22 Timber Lorry	4	50%	110	113	85
	D.3.52 Dump Truck	4	20%	109	108	80
	C4.75 Tractor (Towing Trailer)	2	40%	107	106	78
	D.3.3 Low Loader	2	30%	102	100	72

Table 2.2: Worst Case Construction Activities and Associated Noise Levels for Access and Enabling for Proposed Development

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 and Enabling	C9.5 Tracked Hydraulic Excavator (Mainly Engine Noise)	2	80%	111	113	85
	C2.43 Cable Percussion Drilling Rig	1	20%	102	95	67
	C5.5 Compressor For Hand-Held Pneumatic Breaker	1	50%	94	91	63
	C2.45 Water Pump	2	20%	93	89	61

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)
	C2.38 Roller	2	50%	102	102	74
	C1.15 Tracked Crusher	1	100%	112	112	84
	C2.27 Wheeled Loader	6	80%	108	115	87
	C2.33 Articulated Dump Truck	4	30%	109	109	81
	C4.84 Diesel Generator	2	50%	102	102	74
	D.3.100 Breaker (SI Rig)	1	100%	112	112	84
	D.3.100 Compressor (for SI rig)	1	100%	112	112	84
	Off road vehicle	1	30%	94	89	61
Total					120	92

Table 2.3: Worst Case Construction Activities and Associated Noise Levels for Foundations for Proposed Development

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	C4.27 Concrete Mixer Truck	6	30%	107	110	82
	C3.25 Concrete Pump	1	30%	106	101	73
	C2.15 Tracked Excavator	2	40%	104	103	75
	C4.33 Poker Vibrator	2	50%	106	106	78
	D6.54 Electric percussion drills	2	60%	104	105	77
	C2.45 Water Pump	2	35%	93	92	64
	C2.33 Articulated dump truck	1	50%	109	105	78
	C4.84 Diesel Generator	2	50%	102	102	74
	C4.75 Tractor (towing trailer)	2	50%	107	107	79

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)
	C4.70 Petrol Hand-Held Circular Saw	1	25%	119	113	85
	CFA Piling Rig	1	90%	110	110	82
	Mini Piling Rig	1	90%	110	110	82
	C12.35 Driven Piling Rig	1	90%	103	103	75
	Monopile Excavator	1	90%	105	105	77
	D7.43 Compressor (Sound Deduced)	1	70%	102	100	72
	100kVa Generator	1	90%	91	91	63
	BO036 Bowser Pressure Washer	1	20%	99	92	64
Total					119	91

Table 2.4: Worst Case Construction Activities and Associated Noise Levels for Tower Erection for Proposed Development

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 Assembly and Erection	C2.34 Lorry	3	20%	108	106	78
	C9.8 Wheeled Loader (Hiab Wagon / Beavertail)	1	80%	114	113	85
	C4.84 Diesel Generator (Within the Welfare Unit)	2	70%	102	103	75
	C4.54 Telescopic Handler	2	50%	107	107	79
	C4.41 Mobile Telescopic Crane	1	50%	99	96	68
	C4.70 Petrol Hand-Held Circular Saw	2	10%	119	112	84
	D.6.54 Electric percussion drill	2	10%	104	97	69
Total					117	89

Table 2.5: Worst Case Construction Activities and Associated Noise Levels for Stringing for Proposed Development

Activity	Plant Item	Quantity	Utilisation %	Sound Power, LW (dB(A))	Sound Power corrected for quantity and utilisation, LW (dB(A))	L _{Aeq} at 10 m (dB)
Stringing	C3.7 Power Pack	1	100%	98	98	70
	C4.74 Tractor (Towing Equipment)	1	50%	108	105	77
	Puller Tensioner	1	80%	107	106	78
	C4.75 Tractor (Towing Trailer)	1	50%	107	104	76
	C4.84 Diesel Generator	1	100%	102	102	74
	C2.34 Lorry	2	30%	108	106	78
	Off-Road Vehicle	4	34%	94	95	67
	C4.41 Mobile Telescopic Crane	1	80%	99	98	70
	C4.57 Lifting Platform	1	25%	95	89	61
	C2.35 Telescopic handler	1	50%	99	116	88
	Service Winch 3T	1	50%	90	107	79
	D.4.59 Hydraulic drop Hammer, enclosed acoustically (Trailer Joint Press 10,000psi) (Trailer Joint Press)	1	50%	100	117	89
Total					115	87

Table 2.6: Worst Case Construction Activities and Associated Noise Levels for Dismantling for Proposed Development

Activity	Plant Item	Quantity	Utilisation %	Sound Power, LW (dB(A))	Sound Power corrected for quantity and utilisation, LW (dB(A))	L _{Aeq} at 10 m (dB)
Dismantling	C4.49 Tower Crane	1	10%	105	95	67

Activity	Plant Item	Quantity	Utilisation %	Sound Power, LW (dB(A))	Sound Power corrected for quantity and utilisation, LW (dB(A))	L _{Aeq} at 10 m (dB)
	C4.75 Tractor (Towing Trailer)	1	60%	107	105	77
	C4.84 Diesel Generator	1	100%	102	102	74
	C2.34 Lorry	2	20%	108	104	76
	Off-Road Vehicle	1	30%	94	92	64
	C2.29 Tracked Excavator	1	40%	106	102	75
Total					110	82

Table 2.7: Worst Case Construction Activities and Associated Noise Levels for Reinstatement on Proposed Development

Activity	Plant Item	Quantity	Utilisation %	Sound Power, LW (dB(A))	Sound Power corrected for quantity and utilisation, LW (dB(A))	L _{Aeq} at 10 m (dB)
Reinstatement	C4.49 Tower Crane	1	10%	105	95	67
	C4.75 Tractor (Towing Trailer)	1	60%	107	105	77
	C4.84 Diesel Generator	1	100%	102	102	74
	C2.34 Lorry	2	20%	108	104	76
	Off-Road Vehicle	4	30%	94	95	67
	C2.38 Roller	1	50%	102	99	71
Total					109	81