

Appendix 9B: Operational Noise Information

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Noise Model Settings

9B.1 Data Sources – Proposed Power Plant Site:

- Surrounding area ground heights – downloaded from Open Survey Data (www.data.gov.uk).
- Proposed Power Plant Site layouts provided by Fichtner Engineering Consultants (as per Figure 4.1a and 4.1b in PEI Report Volume II).
- With Proposed Development ground heights assumed at 9.9 mAOD (maximum).

9B.2 Data Sources – AGI Compound:

- Surrounding area ground heights – downloaded from Open Survey Data (www.data.gov.uk).
- Gas Connection corridor provided by AECOM (as per Figure 3.2 in PEI Report Volume II).
- With scheme ground heights assumed to be same as existing.

9B.3 Modelling Assumptions:

- Building dimensions provided by Fichtner Engineering Consultants as per Figure 4.1a and 4.1b in PEI Report Volume II
- Receptor buildings heights – all 2 storey houses (6 m), all 1 storey houses (4.5 m).
- Receptor heights 1.5 m ground floor, 4 m first floor.
- Ground absorption – wider area 0.7, industrial areas and hardstanding 0.0, vegetation 0.7, road surfaces 0.0, water bodies 0.0.
- With Proposed Development ground height assumed at 9.9 mAOD (maximum) at Proposed Power Plant Site.
- Noise levels provided by Fichtner Engineering Consultants for all noise emitting buildings/elements are assumed to be externally radiated Sound Power Levels.
- The noise emitted by each building façade has been calculated based on the total sound power level for the building, distributed according to the surface area of the façade.
- Cooling towers have been modelled as individual point sources, located 0.1 m above the top of each cooling tower.
- Stacks have been modelled as individual point sources, located 0.1 m above the top of each stack.

Table 9B.1: Source data inputs – externally radiated total Sound Power Levels

Details	Linear internal reverberant noise level in each frequency band dB									L _{WA} dB
	31	63	125	250	500	1k	2k	4k	8k	
Turbine and steam turbine halls	120	112	105	88	83	86	79	80	78	94
Air inlet filters	120	112	105	88	83	86	79	80	78	94
HRSB buildings	125	116	104	95	91	90	87	85	92	97
Peaking plant	120	112	105	88	83	86	79	80	78	94
Electrical building	99	96	96	86	72	56	59	61	60	83
Feedwater pump building	91	95	94	83	72	65	63	61	58	80
Generator transformers	74	86	99	97	83	84	76	64	63	92
Cooling water pumps including cooling water dosing	91	95	94	83	72	65	63	61	58	80
Workshop and stores	102	97	95	79	55	41	39	51	56	80
Demineralised water treatment plant, fire pumps and lab	91	95	94	83	72	65	63	61	58	80
Waste water treatment plant	96	90	92	82	74	68	68	60	53	80
Closed circuit cooling water coolers	91	95	94	83	72	65	63	61	58	80
Gas compressors	91	95	94	83	72	65	63	61	58	80
Electrical, control room and admin building	99	94	83	78	61	43	46	57	61	78
GIS electrical sub station building	93	99	91	78	62	43	49	58	60	77

Table 9D-2: Source data inputs – point source levels

Details	Linear noise level in each frequency band dB									L _{WA} dB
	31	63	125	250	500	1k	2k	4k	8k	
CCGT stacks (each)	94	85	84	87	84	75	70	58	61	84
Cooling towers (each)	99	94	97	92	79	71	76	76	72	87