

Appendix 8B: Operational Information

Noise Model Settings

The data used within the noise model was based upon data provided by potential suppliers of the generating equipment for the project. The noise source selection has been conducted using the indicative layout presented in Figures 4.1a and 4.1b (PEI Report Volume II).

Parameters:

- Noise levels are assumed to be externally radiated sound power levels;
- Noise sources have been modelled as point, area and vertical area sources at the locations in the indicative layouts;
- The model is based upon continuous full load operation. This is a conservative assumption for the purposes of the noise assessment and would not occur in practice. Start-up is unlikely to introduce significant additional sound sources;
- No barriers or screening have been factored into the unmitigated operational noise predictions;
- Prediction methodologies have been based on ISO 9613:2.

Table 8B-1: Source Data Inputs – Externally Radiated Source Levels

Details	Externally radiated Octave Band Sound Power Levels (unweighted dB)							
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz
Standard Design								
GT Air Inlet System								
Inlet Filter Face	108	111	104	100	95	93	90	84
Inlet Duct	101	101	94	93	82	74	82	54
GT/GEN								
Gas Turbine Package								
Accessory Module	104	107	101	98	97	97	99	93
GT Enclosure	118	120	114	103	97	96	98	96
Inlet Plenum	91	93	90	92	91	92	101	92
GT Exhaust Diffuser Compartment	116	114	108	102	97	90	88	84
GT Generator Package								
Generator Enclosure	113	117	114	101	96	92	90	82
Vent Fans								
Turbine Compartment vent fans	102	102	110	101	98	95	94	98

Details	Externally radiated Octave Band Sound Power Levels (unweighted dB)							
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz
Exhaust Compartment vent fans	103	104	110	102	99	96	92	91
Cooling Systems								
Fin Fan Coolers	112	112	111	111	110	107	103	99
<u>GT Exhaust System</u>								
Exhaust Elbow	119	115	111	107	100	91	89	79
Stack Top	122	122	121	113	104	98	91	72
<u>BOP</u>								
Step-Up Transformer	111	112	114	109	109	103	98	93
Gas Station	0	0	0	86	89	91	84	88
Low Noise Design								
Turbine Compartment vent fans	96	96	104	95	92	89	88	92
Exhaust Compartment vent fans	99	100	106	98	95	92	88	87
Fin Fan Coolers	106	106	104	99	98	92	89	85

Details	Externally radiated Octave Band Sound Power Levels (unweighted dB)							
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz
GT Exhaust Stack Top	119	118	114	103	93	85	77	61
Step-Up Transformer	101	101	103	98	98	92	87	82