APPENDIX 4D OPERATIONAL NOISE IMPACT ASSESSMENT

Appendix 4D - Operational Noise Assessment

Calculation of Noise Levels at N2

Plant Item	Max. SWL, dB(A)	Distance between Source and NSR [2]	Correction, dB(A)				CNL of individual PME, dB(A)	Overall CNL , dB(A) [1]	Daytime Criteria, dB(A)	Compliance	Night-time Criteria, dB(A)	Compliance
			Cdist	Barrier [3]	Atm [4]	Façade						
OCGT Unit 8 at LPS	104	1567	-72	0	-4.4	3	31	37	53	**Yes**	45	**Yes**
OCGT Unit 9 at LPS	104	1561	-72	0	-4.4	3	31					
OCGT Unit 10 at LPS	104	1554	-72	0	-4.4	3	31					
OCGT Unit 11 at LPS	104	1621	-72	0	-4.5	3	30					

Remarks:

1) Corrected Noise Level (CNL) = Max. SWL + distance correction + barrier correction + atmospheric absorption + façade correction

2) Distance adopted is the horizontal distance between the source and NSR as a worst case assessment.

3) If noise totally screened by any structure such that none of the fixed plant noise sources will be visible from the NSR, a negative correction factor of 10 dB(A) would be applied in the assessment. As the fixed plant noise sources from OCGTs are only partially screened for NSR N2, 0dB(A) was assumed in the assessment as a worst case.

4) Correction for sound absorption by the atmosphere (assumed at 500 Hz, 20°C, RH 70%) has been accounted for in accordance with ISO 9613-1 Acoustics – Attenuation of Sound During Propagation Outdoors – Part 1: Calculation of the Absorption of Sound by the Atmosphere.

Atmopsheric absorption (Atm) = -2.8dB(A) x D/1000m, where D = Distance between Source and NSR