

Appendix 5.4 Noise Measurement Results for Existing Plants of the North Works at Sha Tin WTW

Summary

ID	Description	Measurement Date	Measurement Equipment	Measurement Setback(m)	L _{Amax}	L _{Aeq}
E1-E4	Sluge Tank Motor	28/9/2011	B&K 2270	1	65.5	64.9
E5	Sludge Treatment House Ventilation Exhaust	28/9/2011	B&K 2250L	1	67.6	67.0
E-7	Sludge Treatment House at Entrance Opening	28/9/2011	B&K 2250L	1	64.4	63.9
E-8	North Pump Hall at Entrance Opening	28/9/2011	B&K 2270	3	79.3	78.8
E-9	Acceleration Tank Control Room at Entrance Opening	28/9/2011	B&K 2270	3	64.6	63.4
E 10- E15	Acceleration Tank Center Motor	28/9/2011	B&K 2250L	1	76.2	72.4
	Acceleration Tank Side Motor	28/9/2011	B&K 2270	1	75.9	69.9
E16	Chlorine House Ventilation Exhaust	28/9/2011	B&K 2250L	4	67.1	66.2
E17	Chlorine House Battery House at Entrance Opening	28/9/2011	B&K 2270	4	70.6	66.4

Appendix 5.4 Noise Measurement Results for Existing Plants of the North Works at Sha Tin WTW

ID	Plant	Measured SPL (Leq, dB(A))	Measurement Setback (m)	Distance Attenuation, dB(A)	SWL, dB(A)	Tonality Correction, dB(A) ^[1]	Corrected SWL, dB(A) ^[3]
E1-E4 ^[2]	Sludge tank Mid Motor	64.9	1	8.0	72.9	3	75.9
	Acceleration Tank center motor	72.4	1	8.0	80.4	6	86.4
E 10- E15 ^[2]	Acceleration Tank side motor	69.9	1	8.0	77.9	6	83.9
Acceleration Tank Total							88.3

Remark:

[1] Correction for Tonality are applied according to the measured one-third octave band and the conditions listed under section 3.3.2 of the Technical Memorandum For The Assessment of Noise From Places Other Than Domestic Premises, Public Place Or Construction Sites (IND-TM)

[2] SWL of the item is calculated by applying the general acoustic principles on single point source. The distance attenuation was calculated with the formular below:

$$SWL = SPL + 20\log(V)+8,$$

where,

V = Distance form the noise source

[3] SWL is corrected for each of identified plant.

ID	Plant	Measured SPL (Leq, dB(A))	Measurement Setback (m)	Opening Width, m	Opening Height, m	Opening Surface Area, m ²	SWL, dB(A)	Tonality Correction, dB(A) ^[1]	Corrected SWL, dB(A)
E-5 ^[2]	Sludge Treatment House Ventilation	67.0	1	40	1.2	48	83.8	3	86.8
E-7 ^[2]	Sludge Treatment House Entrance	63.9	1	4	8	32	79.0	3	82.0
E-8 ^[3]	North Pump Hall	78.8	3	4	5.5	22	96.4	0	96.4
E-9 ^[3]	Acceleration Tank Control Room	63.4	2	1	3	3	77.4	0	77.4
E16 ^[3]	Chlorine House Ventilation	66.2	4	4	5	20	86.2	3	89.2
E17 ^[3]	Chlorine House Battery House	66.4	4	3	3	9	86.5	3	89.5

Remark:

[1] Correction for Tonality are applied according to the measured one-third octave band and the conditions listed under section 3.3.2 of the Technical Memorandum For The Assessment of Noise From Places Other Than Domestic Premises, Public Place Or Construction Sites (IND-TM)

[2] SWL of the item is calculated by applying the acosutic principles on a near field area source. The SWL is calculated by adopting the formular below:

$$SWL = SPL + 10\log(S)$$

where,

S = Surface area of the Opening

[3] SWL of the item is calculated by applying the general acoustic principles on single point source. The distance attenuation was calculated with the formular below:

$$SWL = SPL + 20\log(V)+8,$$

where,

V = Distance form the noise source