

ANNEX 4E

Operational Noise Assessment of TSTP

NSR	Equipment	No. of Items	Sound Power Level [*] , dB(A)	Total Sound Power Level, dB(A)	Barrier / Enclosure Reduction ^{**} , dB(A)	Distance, m	Distance Attenuation [#] , dB(A)	Façade Correction, dB(A)	Sound Pressure Level at NSR, dB(A)	Predicted Operational Noise Level, dB(A)	Noise Criteria, dB(A) ^{***}	Exceed Noise Criteria?
NSR 1	Mechanical raked screen	2	89	92	10	175	53	3	32	35	45	No
	Mechanical pump	6	92	100	20	175	53	3	30			
	Submersible pump	5	85	92	20	175	53	3	22			
	Air blower	4	85	91	20	175	53	3	21			
	Deodorization fan	1	85	85	10	175	53	3	25			
NSR 2	Mechanical raked screen	2	89	92	10	185	53	3	32	35	45	No
	Mechanical pump	6	92	100	20	185	53	3	29			
	Submersible pump	5	85	92	20	185	53	3	22			
	Air blower	4	85	91	20	185	53	3	21			
	Deodorization fan	1	85	85	10	185	53	3	25			
NSR 3	Mechanical raked screen	2	89	92	10	409	60	3	25	28	35	No
	Mechanical pump	6	92	100	20	409	60	3	23			
	Submersible pump	5	85	92	20	409	60	3	15			
	Air blower	4	85	91	20	409	60	3	14			
	Deodorization fan	1	85	85	10	409	60	3	18			
NSR 4	Mechanical raked screen	2	89	92	10	186	53	3	32	35	45	No
	Mechanical pump	6	92	100	20	186	53	3	29			
	Submersible pump	5	85	92	20	186	53	3	22			
	Air blower	4	85	91	20	186	53	3	21			
	Deodorization fan	1	85	85	10	186	53	3	25			
NSR 5	Mechanical raked screen	2	89	92	10	200	54	3	31	34	45	No
	Mechanical pump	6	92	100	20	200	54	3	29			
	Submersible pump	5	85	92	20	200	54	3	21			
	Air blower	4	85	91	20	200	54	3	20			
	Deodorization fan	1	85	85	10	200	54	3	24			
NSR 6	Mechanical raked screen	2	89	92	10	175	53	3	32	35	42	No
	Mechanical pump	6	92	100	20	175	53	3	30			
	Submersible pump	5	85	92	20	175	53	3	22			
	Air blower	4	85	91	20	175	53	3	21			
	Deodorization fan	1	85	85	10	175	53	3	25			
NSR 7	Mechanical raked screen	2	89	92	10	304	58	3	27	30	45	No
	Mechanical pump	6	92	100	20	304	58	3	25			
	Submersible pump	5	85	92	20	304	58	3	17			
	Air blower	4	85	91	20	304	58	3	16			
	Deodorization fan	1	85	85	10	304	58	3	20			
NSR 8	Mechanical raked screen	2	89	92	10	384	60	3	25	28	41	No
	Mechanical pump	6	92	100	20	384	60	3	23			
	Submersible pump	5	85	92	20	384	60	3	15			
	Air blower	4	85	91	20	384	60	3	14			
	Deodorization fan	1	85	85	10	384	60	3	18			
NSR 9	Mechanical raked screen	2	89	92	10	70	45	3	40	43	49	No
	Mechanical pump	6	92	100	20	70	45	3	38			
	Submersible pump	5	85	92	20	70	45	3	30			
	Air blower	4	85	91	20	70	45	3	29			
	Deodorization fan	1	85	85	10	70	45	3	33			

Notes:

* Sound Power Level of equipment derived from Outlying Island Sewerage Stage 2 EIA (EIAO Register No. AEIAR-181/2013).

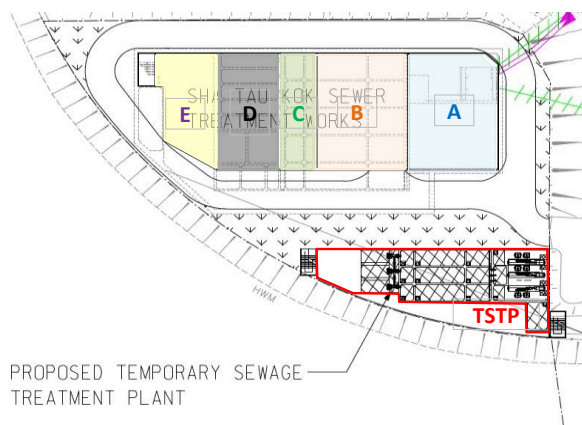
** The pump and air blower will be enclosed within a tank and enclosure respectively, 20 dB(A) reduction has been included.

** The screen may be located outdoor, but will be protected by weatherproof steel casing. The deodorization unit may also be located outdoor but the fan will be enclosed inside the unit, with the exhaust facing away from NSRs (i.e. towards the sea). A 10 dB(A) reduction has been included.

*** 5 dB(A) below the appropriate night time noise level for the Area Sensitivity Rating (ASR) under the TM for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites or prevailing background noise level.

For NSR 9 (Tin Hau Temple), night time (23:00 - 07:00) use is not expected. Noise criteria for day time / evening (07:00 - 23:00) is adopted.

The distance is assumed to be located at the boundary of the TSTP closest to the NSR.



Main Operating Areas within the Expanded STKSTW:
 A = primary treatment unit
 B = sludge dewatering and thickening
 C = air blower
 D = MBR
 E = outfall pump