

Appendix 4-7

Calculation of Industrial Noise Levels

Appendix 4-7-1 Field Observation and Noise Measurement Data

Noise Source	Description	Observed Activities/ Equipment	Measured SPL, dB(A)	Measurement Distance, m	Distance correction, dB(A)	SWL, dB(A)
S1-1	Fan Keung Kee (sheltered warehouse)	Operating noise of the warehouse	66	10	28	94
S2-1	Fan Keung Kee (for open storage of precast units)	Movement of Lorry	73	8	26	99
S2-2	Fan Keung Kee (for open storage of precast units)	Lifting of container by a mobile crane	69	10	28	97
S2-3	Fan Keung Kee (open storage).	Loading and unloading using forklift	69	5	22	91
S10-1	Totally enclosed godown (Tai Sang Hong)	Loading and unloading using forklift	63	10	28	91
S10-2	Totally enclosed godown (Tai Sang Hong)	Movement of lorry	74	7	25	99

Appendix 4-7 - Fixed Noise Sources Calculation Results

Floor	NSR	Noise Source ID	Industrial Activities	Sound Power Level (SWL), dB(A) #	No. of Equipment	Total SWL, dB(A)	Horizontal Distance from Source to Receiver (m)	Slant Dist. from Source to Receiver, m	Dist. Corr., dB(A)	Façade Corr. dB(A)	Un-mitigated Noise level, dB(A)	Noise Criteria	Comply with Noise Criteria or not
1/F	N-ind1	S1-1	Operating noise	94	1	94	252	252	-56	3	41	55	Yes
	N-ind1	S2-3	Loading and unloading using forklift	91	1	91	252	252	-56	3	38	55	Yes
	N-ind1	S2-1	Movement of Lorry	99	1	99	252	252	-56	3	46	55	Yes
	N-ind1	S2-2	Lifting of container by a mobile crane	97	1	97	252	252	-56	3	44	55	Yes
	N-ind1	S10-1	Loading and unloading using forklift	91	1	91	321	321	-58	3	36	55	Yes
	N-ind1	S10-2	Movement of lorry	99	1	99	321	321	-58	3	44	55	Yes
	Total								Cumulative Total @:		51	55	Yes

Note:

Only NSR locations that are within 300m radius from the identified industrial noise sources are included in the noise assessment as per Project Study Brief requirements.

Sound Power Level is based on site measurement during the operation of the concerned industrial plant.

@ The cumulative noise level at the receiver point. Calculation is based on general acoustic principle using the equation = $10 \times \log((L1/10)+(L2/10)+(L3/10)...+(Ln/10))$; where, L1, L2, L3, Ln are the respective noise level at the receiver due to individual noise source.

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1/F	N-ind2	S1-1	Operating noise	94	1	94	261	261	-56	3	41	55	Yes	
	N-ind2	S2-3	Loading and unloading using forklift	91	1	91	261	261	-56	3	38	55	Yes	
	N-ind2	S2-1	Movement of Lorry	99	1	99	261	261	-56	3	46	55	Yes	
	N-ind2	S2-2	Lifting of container by a mobile crane	97	1	97	261	261	-56	3	44	55	Yes	
	N-ind2	S10-1	Loading and unloading using forklift	91	1	91	316	316	-58	3	36	55	Yes	
	N-ind2	S10-2	Movement of lorry	99	1	99	316	316	-58	3	44	55	Yes	
	Total											Cumulative Total[@]:	51	55

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1/F	N-ind2A	S1-1	Operating noise	94	1	94	285	-57	3	40	55	Yes
	N-ind2A	S2-3	Loading and unloading using forklift	91	1	91	285	-57	3	37	55	Yes
	N-ind2A	S2-1	Movement of Lorry	99	1	99	285	-57	3	45	55	Yes
	N-ind2A	S2-2	Lifting of container by a mobile crane	97	1	97	285	-57	3	43	55	Yes
	N-ind2A	S10-1	Loading and unloading using forklift	91	1	91	343	-59	3	35	55	Yes
	N-ind2A	S10-2	Movement of lorry	99	1	99	343	-59	3	43	55	Yes
	Total								Cumulative Total @:	50	55	Yes

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1/F	N-ind2B	S1-1	Operating noise	94	1	94	251	-56	3	41	55	Yes
	N-ind2B	S2-3	Loading and unloading using forklift	91	1	91	251	-56	3	38	55	Yes
	N-ind2B	S2-1	Movement of Lorry	99	1	99	251	-56	3	46	55	Yes
	N-ind2B	S2-2	Lifting of container by a mobile crane	97	1	97	251	-56	3	44	55	Yes
	N-ind2B	S10-1	Loading and unloading using forklift	91	1	91	302	-58	3	36	55	Yes
	N-ind2B	S10-2	Movement of lorry	99	1	99	302	-58	3	44	55	Yes
	Total								Cumulative Total @:	51	55	Yes

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1/F	N-ind3	S1-1	Operating noise	94	1	94	273	273	-57	3	40	55	Yes
	N-ind3	S2-3	Loading and unloading using forklift	91	1	91	273	273	-57	3	37	55	Yes
	N-ind3	S2-1	Movement of Lorry	99	1	99	273	273	-57	3	45	55	Yes
	N-ind3	S2-2	Lifting of container by a mobile crane	97	1	97	273	273	-57	3	43	55	Yes
	N-ind3	S10-1	Loading and unloading using forklift	91	1	91	308	308	-58	3	36	55	Yes
	N-ind3	S10-2	Movement of lorry	99	1	99	308	308	-58	3	44	55	Yes
	Total								Cumulative Total @:		50	55	Yes

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1/F	N-ind3A	S1-1	Operating noise	94	1	94	331	331	-58	3	39	55	Yes
	N-ind3A	S2-3	Loading and unloading using forklift	91	1	91	331	331	-58	3	36	55	Yes
	N-ind3A	S2-1	Movement of Lorry	99	1	99	331	331	-58	3	44	55	Yes
	N-ind3A	S2-2	Lifting of container by a mobile crane	97	1	97	331	331	-58	3	42	55	Yes
	N-ind3A	S10-1	Loading and unloading using forklift	91	1	91	349	349	-59	3	35	55	Yes
	N-ind3A	S10-2	Movement of lorry	99	1	99	349	349	-59	3	43	55	Yes
	Total									Cumulative Total[@]:		49	55

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1/F	N-ind9	S1-1	Operating noise	94	1	94	268	268	-57	3	40	55	Yes
	N-ind9	S2-3	Loading and unloading using forklift	91	1	91	268	268	-57	3	37	55	Yes
	N-ind9	S2-1	Movement of Lorry	99	1	99	268	268	-57	3	45	55	Yes
	N-ind9	S2-2	Lifting of container by a mobile crane	97	1	97	268	268	-57	3	43	55	Yes
	N-ind9	S10-1	Loading and unloading using forklift	91	1	91	341	341	-59	3	35	55	Yes
	N-ind9	S10-2	Movement of lorry	99	1	99	341	341	-59	3	43	55	Yes
	Total								Cumulative Total @:			50	55

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