

Appendix 4.22B Calculation of Operational Noise Impact (Mitigated Scenario)

NAP	ASR	Project (TME)						Non-Project		Project + Non Project		Noise Criteria, dB(A) (ANL)		Compliance (Yes/ No)	
		Max. Mitigated Rail Noise Levels, Leq, 30min, dB(A) [1]		Max. Fixed Plant Noise Levels, Leq, 30min, dB(A) (f) [2]		Operational Noise Impact from TME, Leq, 30min, dB(A) [1]+[2]		LRT Operational Noise, Leq, 30min, dB(A) [3]		Operational Noise Impact, Leq, 30min, dB(A) [1]+[2]+[3]		Daytime/ Evening	Night-time	Daytime/ Evening	Night-time
		Daytime/ Evening	Night-time	Daytime/ Evening	Night-time	Daytime/ Evening	Night-time	Daytime/ Evening	Night-time	Daytime/ Evening	Night-time				
CG1	C	46	45	(a)		Insignificant Operational Noise Impact ^(b)		<=ANL ^(d)		<=ANL ^(d)		70	60	Yes	Yes
THT	C	41	40	(a)		Insignificant Operational Noise Impact ^(b)		<=ANL ^(d)		<=ANL ^(d)		70	60	Yes	Yes
OM1	B	53	51	(a)		53	51	52	52	55	55	65	55	Yes	Yes
OM2	B	50	49	(a)		50	49	52	51	54	53	65	55	Yes	Yes
IPS	B	55	_(e)	(a)		55	-	(c)		<=ANL		65	_(e)	Yes	-
OT0	B	42	_(e)	(a)		Insignificant Operational Noise Impact ^(b)		<=ANL ^(d)		<=ANL ^(d)		65	_(e)	Yes	-
OT1	B	47	46	(a)		47	46	(c)		<=ANL	<=ANL	65	55	Yes	Yes
OT2	B	46	44	(a)		Insignificant Operational Noise Impact ^(b)		<=ANL ^(d)		<=ANL ^(d)		65	55	Yes	Yes
OT3	B	49	48	(a)		49	48	52	51	54	52	65	55	Yes	Yes
OL0	B	41	_(e)	(a)		Insignificant Operational Noise Impact ^(b)		<=ANL ^(d)		<=ANL ^(d)		65	55	Yes	Yes
OL1	B	53	51	(a)		53	51	(c)		<=ANL	<=ANL	65	55	Yes	Yes
OL2	C	53	51	(a)		53	51	52	51	55	54	70	60	Yes	Yes
THRPH1b	B	55	53	(a)		55	53	(c)		<=ANL	<=ANL	65	55	Yes	Yes
THRPH2a	C	47	45	(a)		Insignificant Operational Noise Impact ^(b)		<=ANL ^(d)		<=ANL ^(d)		70	60	Yes	Yes
THRPH2b	B	56	54	(a)		56	54	(c)		<=ANL	<=ANL	65	55	Yes	Yes
THRPH3b	C	55	53	(a)		55	53	(c)		<=ANL	<=ANL	70	60	Yes	Yes
TE1	B	50	48	57	50	58	52	(c)		<=ANL	<=ANL	65	55	Yes	Yes
A16PH1	B	51	50	57	50	58	53	40	40	58	53	65	55	Yes	Yes
A16PH1a	B	49	48	57	50	58	52	50	50	58	54	65	55	Yes	Yes
A16PH2	B	52	50	57	50	58	53	40	40	58	53	65	55	Yes	Yes
A16PH3	B	43	43	57	50	57	51	(c)		<=ANL	<=ANL	65	55	Yes	Yes
A16PH4	B	43	43	57	50	57	51	(c)		<=ANL	<=ANL	65	55	Yes	Yes
A16PH4a	B	43	43	57	50	57	51	(c)		<=ANL	<=ANL	65	55	Yes	Yes
A16PH5	C	53	52	57	53	59	55	(c)		<=ANL	<=ANL	70	60	Yes	Yes
A16PH5a	B	52	50	57	50	58	53	(c)		<=ANL	<=ANL	65	55	Yes	Yes
A16PH5b	C	54	52	57	53	59	56	(c)		<=ANL	<=ANL	70	60	Yes	Yes
A16PH5c	B	53	52	57	50	59	54	(c)		<=ANL	<=ANL	65	55	Yes	Yes
A16PH5d	C	53	52	57	53	59	55	(c)		<=ANL	<=ANL	70	60	Yes	Yes
A16PH6	B	50	48	57	50	58	52	40	40	58	52	65	55	Yes	Yes
A16PH10	B	50	49	57	50	58	52	40	40	58	53	65	55	Yes	Yes
A16PH11	B	52	51	57	50	58	53	40	40	58	54	65	55	Yes	Yes
A16PH12	B	43	42	57	50	57	51	(c)		<=ANL	<=ANL	65	55	Yes	Yes
A16PH13	C	44	43	57	53	57	53	(c)		<=ANL	<=ANL	70	60	Yes	Yes
HSNPS	C	36	_(e)	(a)		Insignificant Operational Noise Impact ^(b)		<=ANL ^(d)		<=ANL ^(d)		70	_(e)	Yes	-
OH1	B	33	32	(a)		Insignificant Operational Noise Impact ^(b)		<=ANL ^(d)		<=ANL ^(d)		65	55	Yes	Yes
LMO1	B	38	36	(a)		Insignificant Operational Noise Impact ^(b)		<=ANL ^(d)		<=ANL ^(d)		65	55	Yes	Yes
LMO2	B	43	41	(a)		Insignificant Operational Noise Impact ^(b)		<=ANL ^(d)		<=ANL ^(d)		65	55	Yes	Yes
LMO3	B	46	44	(a)		Insignificant Operational Noise Impact ^(b)		<=ANL ^(d)		<=ANL ^(d)		65	55	Yes	Yes
GG1	B	48	47	(a)		48	47	44	44	49	48	65	55	Yes	Yes
GG2	B	47	45	(a)		47	45	44	44	49	48	65	55	Yes	Yes
STM1	B	48	47	(a)		48	47	44	44	49	48	65	55	Yes	Yes
STM2	B	46	44	(a)		Insignificant Operational Noise Impact ^(b)		<=ANL ^(d)		<=ANL ^(d)		65	55	Yes	Yes
RB	B	30	29	(a)		Insignificant Operational Noise Impact ^(b)		<=ANL ^(d)		<=ANL ^(d)		65	55	Yes	Yes
WF1	B	45	44	52	49	53	50	50	50	55	53	65	55	Yes	Yes
WF2	B	44	42	52	49	53	50	50	50	54	53	65	55	Yes	Yes
WT0b	B	48	_(e)	52	_(e)	54	_(e)	50	_(e)	55	_(e)	65	_(e)	Yes	-
WT1	B	47	46	52	49	53	51	50	50	55	53	65	55	Yes	Yes
WT2	B	53	53	52	49	56	54	50	50	57	55	65	55	Yes	Yes
WHPQ1	B	53	53	52	49	56	54	50	50	57	55	65	55	Yes	Yes
WHPQ2	B	51	50	52	49	55	53	50	50	56	54	65	55	Yes	Yes
LCCS1	B	56	_(e)	52	_(e)	58	_(e)	50	_(e)	58	_(e)	65	_(e)	Yes	-
LCCS2	B	56	_(e)	52	_(e)	58	_(e)	50	_(e)	58	_(e)	65	_(e)	Yes	-
NH1	B	53	53	52	49	55	54	50	50	57	55	65	55	Yes	Yes
SHDC1	B	57	_(e)	52	_(e)	58	_(e)	50	_(e)	59	_(e)	65	_(e)	Yes	-
TCC	B	59	_(e)	52	_(e)	60	_(e)	50	_(e)	60	_(e)	65	_(e)	Yes	-
WK1	B	53	53	52	49	56	54	50	50	57	55	65	55	Yes	Yes
WK2	B	53	52	52	49	55	54	50	50	56	55	65	55	Yes	Yes
WB0	B	48	_(e)	52	_(e)	53	_(e)	50	_(e)	55	_(e)	65	_(e)	Yes	-
WB1	B	51	51	52	49	55	53	50	50	56	55	65	55	Yes	Yes
WB2	B	51	51	52	49	54	53	50	50	56	55	65	55	Yes	Yes
RG1	B	43	43	52	49	52	50	50	50	54	53	65	55	Yes	Yes
PG1	B	46	46	52	49	53	51	50	50	55	53	65	55	Yes	Yes

Remarks:

- (a) Fixed plant noise impact is expected to be minimal in view of no direct line of sight / consideration separation distances.
- (b) Cumulative rail noise impact and fixed plant noise impact is expected to be less than or equal to ANL-10 dB.
- (c) Operational Noise from LRT is expected to be insignificant due to limited view angle / consideration separation distances to LRT operation.
- (d) Given that the operational noise from the Project is expected to be insignificant (i.e. <=ANL-10 dB), no adverse cumulative operational noise is anticipated.
- (e) No noise sensitive use is anticipated during night-time period.
- (f) If the NAP is identified to be affected by fixed plant noise from the Project, for conservative assessment approach, the respective fixed plant noise criterion is adopted for the cumulative operational noise assessment.