APPENDIX 3C

DETAILS OF FIXED NOISE SOURCES IMPACT ASSESSMENT

Fixed Noise Source Calculation

Noise from Helicopter Pad at Site 6A6

Noise Data

Helicopter type	Sikorsky S76 / Black Hawk S70
Lmax	100 dB(A) at 25m during take-off

Distance to nearest NSR	544 m to Site 5C1
Basic Noise Level	100.0
Correction due to distance	-26.8
Correction for façade effect	3.0
Predicted Noise Level (Lmax)	**76.2 dB(A)**

Fixed Noise Source Calculation

Noise from Helicopter Pad at Site 6A6 (Cruise Terminal with Heliport and MVTS over)

Noise Data

Helicopter type	Sikorsky S76 / Black Hawk S70
Lmax	100 dB(A) at 25m during take-off

Distance to nearest NSR	646 m to Site 5C1
Basic Noise Level	100.0
Correction due to distance	-28.2
Correction for façade effect	3.0
Predicted Noise Level (Lmax)	**74.8 dB(A)**

Fixed Noise Source Calculation

Noise from Helicopter Pad at Site 6A7

Noise Data

Helicopter type	Sikorsky S76 / Black Hawk S70
Lmax	100 dB(A) at 25m during take-off

Distance to nearest NSR	300 m to Site 5C1
Basic Noise Level	100.0
Correction due to distance	-21.6
Correction for façade effect	3.0
Predicted Noise Level (Lmax)	**81.4 dB(A)**

Operation Noise from PFBP at Site 6C1

Assumed Sound Power Levels (SWL) for PFBP Operations

Equipment	Assumed No. of Equipment	Assumed SWL (db(A)) and source	
Dump trucks (active)	5	117	CNP 117
Dump trucks (idling)	30	99	BS 5228
Tipping into barge	-	114	Other
Bulldozer4	1	115	CNP 030
	TOTAL	**120.3**	

distance from PFBP to Laguna City (m) = 464

SPL = SWL -20 log D -8+3

SPL= 62 dB(A)

Operation Noise from RTS at Site 6C2

Assumed Equipment Requirements for RTS

Equipment	Assumed equipment requirements and sound power levels (SWL)		
	Unit SWL (dB(A))	Number Active	Assumed Total SWL dB(A)
Tugboats	110	2	113.0
Portal cranes2	107	2	110.0
Fans	90	6	97.8
Compactors	101	9	110.5
Pushpits	99	4	105.0
Container forklift3	110	1	110.0
Street sweeper	109	1	109.0
RCVs/Lorries	107	2	110.0
		TOTAL	**118.6**

distance from RTS to Laguna City (m) = 333

SPL = SWL -20 log D -8+3

SPL= 63 dB(A)

Tai Wan Salt Water Pumping Station
Noise Assessment

NSR		
Cotton Tree Mansions		23 m away
Sound power level of each pump		102 dB(A) each
Total 6 pumps	SWL=	109.8 dB(A)
	Distance correction=	-35.2 dB(A)
	Façade effect=	3.0 dB(A)

Noise Reduction due to building enclosure = -29.0 dB(A)
(Conservative value based on "Sound Analysis and Noise Control, John Foreman, 1990, Van Nostrand Reinhold, Table 5.5, pp154")
100mm thick concrete, transmission loss between 125hz and 800Hz

Corrected Noise Level at NSR =	**48.5 dB(A)**
Maximum sound power level at SWPS =	**111.2 dB(A)**