Annex 4A

Detailed Operation Phase Air Emission Rate Estimation

Annex 4A-1 Adjustment of NO2 Concentrations contributed from BPPS & CPPS

Maximum Hourly NO2 Concentration

BPPS Contribution

2004-2008 Average Ozone Concentration: 88μgm^{-3} (i.e. about 45ppb)
From Janssen Table 4, **A=0.81** for wind speeds from 5 to 15m/s
For α estimation, Ozone level is increased by 15 ppb, i.e. from 45 to 60 ppb.
From Janssen Table 4 and interpolation, α=0.165 km^{-1} for windspeed 5m/s, α=0.38 km^{-1} for windspeed 15m/s
By linear interpolation for wind speeds, **α=0.32** km^{-1} for wind speed= 12m/s and α=**0.23** km^{-1} for wind speed= 8m/s

The values of A and α were sumarised in the table below:

	A	α	α
Wind Speed (m/s)	5-15	8	12
Ozone Level (ppb)	35	50	
BPPS EIA Study	0.74	0.21	0.29
Ozone Level (ppb)	45	60	
2004-2008 period	0.81	0.23	0.32

Adjustment of NO2 Concentrations

Janssen's Formula:

$C_2 = C_1 [A_2 (1-\exp(-\alpha_2 x))]/[A_1 (1-\exp(-\alpha_1 x))]$

C_1 is NO2 concentration obtained in the BPPS EIA Study and C_2 is the NO2 concentration in this Study.

Adjustment of Maximum **Hourly** NO2 concentrations are:
The current capacity of BPPS is about 2500 MW, which is about 52% of the BPPS EIA Study.

For, BPPS, ASRs near Ha Pak Nai:

C_2=10[0.81*(1-exp(-0.23*3.2))]/[0.74*(1-exp(-0.21*3.2))]*0.52 = 6.1 % of AQO
= 18.2 ug/m3

Where x=3.2, C_1=10% of AQO, wind speed =8 m/s

For, BPPS, ASRs near Lung Kwu Tan:

C_2=30[0.81*(1-exp(-0.32*2))]/[0.74*(1-exp(-0.29*2))]*0.52 = 18.3 % of AQO
= 55.0 ug/m3

Where x=2, C_1=30% of AQO, wind speed =12 m/s

CPA & CPB Contribution

In BPPS EIA Study Annex B, NOx concentrationa t the source for CPA in the wind tunnel testing was 1,577 mg/m3. Referring to the latest SP Licence, the licence limit of NOx for CPA is 1,500 mg/m3. Therefore, a factor of 0.95 is applied to adjust the NO2 concentration from CPA contribution.
With reference to Annex H, Table H.1b, the NO2 predicted at Ha Pak Nai (5.5km, at 8 m/s) was 59.9 ug/m3 for CPA and 46.6 ug/m3 for CPB.

The NOx concentration at CPB in the wind tunnel testing was 1,578 mg/m3. CAPCO considers further reducing the NOx emission at CPB to meet emission cap in 2010. Therefore, an EIA for Emission Control Project to CPPS "B" Units was conducted and approved in November 2006. In the approved EIA for Emission Control Project to CPPS "B" Units, new NOx reduction technology is proposed to further reduce 80% of current NOx emission. Based on the findings in the approved EIA for Emission Control Project to CPPS "B" Units, CAPCO is negotiating with the EPD to obtain a new licence NOx limit in future and hence the future NOx limit is not yet confirmed at this stage. However, it is expected that is likely to be tightened to meet the NOx limit specified in the Best Practicable Means for Electricity Works (Coal-fired Plant, Gas-fired Gas Turbine and Oil-fired Gas Turbine (Peak Lopping Plant) (BPM 7/1) which is 670 mgm-3. Therefore, a factor of 0.43 is applied to adjust the NO2 concentration from CPB contribution.

For CPA, ASRs near Ha Pak Nai:

C_2=59.9[0.81(1-exp(-0.23*5.5))]/[0.74(1-exp(-0.21*5.5))]*(1-0.05) = 65.3 μg/m3

Where x=5.5, C_1=59.9 μg/m3, wind speed =8 m/s

For CPB, ASRs near Ha Pak Nai:

C_2=46.6[0.81(1-exp(-0.23*5.5))]/[0.74(1-exp(-0.21*5.5))]*(1-0.57) = 23.0 μg/m3

Where x=5.5, C_1=46.6 μg/m3, wind speed =8 m/s

Adjusted maximum hourly NO2 concentration contributed by BPPS, CPA & CPB

ASR	BPPS	CPA	CPB	Total
Ha Pak Nai	18.2	65.3	23.0	106.4
Lung Kwu Tan	55.0	-	-	55.0

Daily & Annual NO2 Concentration

BPPS Contribution

2004-2008 Average Ozone Concentration: 88μgm^{-3} (i.e. about 45ppb)
From Janssen Table 4, **A=0.81** for wind speeds from 5 to 15m/s
For α estimation, Ozone level is increased by 15 ppb, i.e. from 45 to 60 ppb.
From Janssen Table 4 and interpolation, α=0.165 km^{-1} for windspeed 5m/s, α=0.38 km^{-1} for windspeed
By linear interpolation for wind speeds, **α=0.32** km^{-1} for wind speed= 12m/s and α=**0.23** km^{-1} for wind

The values of A and α were sumarised in the table below:

	A	α	α
Wind Speed (m/s)	5-15	8	12
Ozone Level (ppb)	35	50	
BPPS EIA Study	0.74	0.21	0.29
Ozone Level (ppb)	45	60	
2004-2008 period	0.81	0.23	0.32

Adjustment of NO2 Concentrations

Janssen's Formula:

$C_2 = C_1 [A_2 (1-exp(-\alpha_2 x))]/[A_1 (1-exp(-\alpha_1 x))]$

C_1 is NO2 concentration obtained in the BPPS EIA Study and C_2 is the NO2 concentration in this Study.

Adjustment of 2nd Highest **Daily** NO2 concentrations are:

For ASRs near Ha Pak Nai:

C_2=11.3[0.81*(1-exp(-0.23*3.2))]/[0.74*(1-exp(-0.21*3.2))] = 13.2 % of AQO
= 19.8 ug/m3

Where x=3.2, C_1=11.3% of AQO, wind speed =8 m/s

For ASRs near Lung Kwu Tan:

C_2=12.1[0.81*(1-exp(-0.32*2))]/[0.74*(1-exp(-0.29*2))] = 14.2 % of AQO
= 21.3 ug/m3

Where x=2, C_1=12.1% of AQO, wind speed =12 m/s

Adjustment of **Annual** NO2 concentrations are:

For ASRs near Ha Pak Nai:

C_2=0.5[0.81*(1-exp(-0.23*3.2))]/[0.74*(1-exp(-0.21*3.2))] = 0.6 % of AQO
= 0.5 ug/m3

Where x=3.2, C_1=0.5% of AQO, wind speed =8 m/s

For ASRs near Lung Kwu Tan:

C_2=0.6[0.81*(1-exp(-0.32*2))]/[0.74*(1-exp(-0.29*2))] = 0.7 % of AQO
= 0.6 ug/m3

Where x=2, C_1=0.6% of AQO, wind speed =12 m/s

Adjusted daily and annual average NO2 concentration contributed by BPPS, CPA & CPB

ASR	Daily	Annual
Ha Pak Nai	19.8	0.5
Lung Kwu Tan	21.3	0.6

Annex 4A-2 GRS Engineering Specification

BPPS GRS Heater Emissions

GRS Complex Exhaust Flowrate - Calculation		**Unit**	
Total Gaseous Consumption for GRS Complex	66,218,750	SCFD	(provided by CLP's engineer)
GRS COMPLEX Total Exhaust Flowrate @ 280℃	122,882,445	CFD	
	5,120,102	CFH	
GRS Complex Total Exhaust Flowrate	137,268	m3/hour	
	73,971	Nm3/hour	
	73,900	**Nm3/hour**	

GRS Heater Emission - Calculation		**Unit**	**Ref**
Fuel Gas Consumption for GRS Complex	4.075	M SCFD	
Typical Caloric Value per SCF of Natural Gas (LHV)	1000	Btu/ SCF	
No. of Hours in 1 Day	24	hours	
To include 20% design margin	120	%	

Heater Duty for GRS Complex = (Fuel Gas Consumption for GRS Complex [per day] * Typical Caloric Value per SCF of Natural Gas / No. of Hours in 1 Day) * 120% [to include 20% Design Margin]

Heater Duty for GRS Complex	**204**	**M Btu/ hour**	

GRS Complex NOx Emission		**Unit**	
NOx Emission per 1 M Btu/ hour Heater Duty	0.089	lb/ M Btu	(provided by GRS heater vendor)
NOx Emission for GRS Complex	18.1	lb/ hour	
	8.2	kg NOx/ hour	
Total Annual NOx Emission for GRS Complex	72205	kg NOx	
	72	**tonnes NOx**	

GRS Complex CO Emission		**Unit**	
CO Emission per 1 M Btu/ hour Heater Duty	0.055	lb/ M Btu	(provided by GRS heater vendor)
CO Emission for GRS Complex	11.2	lb/ hour	
	5.1	kg CO/ hour	
Total Annual CO Emission for GRS Complex	44621	kg CO	
	45	**tonnes CO**	

Annex 4A-3 Detailed Operational Phase Air Emission Rate Estimation

	Unit	Scen.1	Scen.2	Scen.3	Scen.4	Remark
		2 stacks	**6 stacks**	**2 stacks**	**6 stacks**	
Location	-	Co-located Area	Co-located Area	Reclaimed Area	Existing GRS	
No. of emission points	-	2	6	2	6	-
Stack height	m above ground	15	15	15	9.4	Future stack : provided by engineer Existing stack : from existing SP Licence
Stack diameter	m	1.63	0.94	1.63	0.90	Future stack : varied by no. of stack and flowrate of each stack Existing stack : reference to existing SP Lincence
Exit temperature	oC	280	280	280	300	Future stack : provided by engineer Existing stack : from existing SP Licence
Total Flowrate @ 0oC & 101.3 kPa	Nm3/hr	73900	73900	73900	73900	
Total Flowrate @ exit temp	m3/hr	149695	149695	149695	155109	
Flowrate @ exit temp per heater	m3/s	20.8	6.9	20.8	7.2	provided by engineer
Exit Velocity	m/s	10	10	10	11.3	reference to the existing SP Licence. Existing stack : estimated from stack diameter and exit gas flowrate
Total NOx emission	kg/hr	8.22	8.22	8.22	8.22	
	tonnes/yr	72	72	72	72	
Total CO emission	kg/hr	5.14	5.14	5.14	5.14	
	tonnes/yr	45	45	45	45	
NOx emission per emission point	g/s	1.14	0.38	1.14	0.38	
	kg/hr	4.11	1.37	4.11	1.37	
CO emission per emission point	g/s	0.71	0.24	0.71	0.24	
	kg/hr	2.57	0.86	2.57	0.86	

Note:
In each GRS, 7 gas heaters will be installed including 6 heaters in operation (max.) and 1 heater for standby

Emission Input to Model

GRS Emissions

Scenario	Scenario Description	Source	X	Y	Elevation	NOx Emission	CO Emission	Stack height	Temp	Exit Vel.	Diameter
					m	g/s	g/s	m	K	m/s	m
1	2 heaters	GRS2-1	809100	830925	5	1.14	0.71	15	553	10	1.63
	at co-located area	GRS2-2	809102	830929	5	1.14	0.71	15	553	10	1.63
2	6 heaters	GRS2-1	809100	830925	5	0.38	0.24	15	553	10	0.94
	at co-located area	GRS2-2	809102	830929	5	0.38	0.24	15	553	10	0.94
		GRS2-3	809109	830934	5	0.38	0.24	15	553	10	0.94
		GRS2-4	809113	830938	5	0.38	0.24	15	553	10	0.94
		GRS2-5	809118	830943	5	0.38	0.24	15	553	10	0.94
		GRS2-6	809124	830947	5	0.38	0.24	15	553	10	0.94
3	2 heaters	GRS1-1	808956	830839	5	1.14	0.71	15	553	10	1.63
	at reclamation area	GRS1-2	808950	830843	5	1.14	0.71	15	553	10	1.63
4	6 heaters	GRS3-1	808991	830812	5	0.38	0.24	9.4	573	11.3	0.9
	at existing GRS	GRS3-2	808997	830817	5	0.38	0.24	9.4	573	11.3	0.9
		GRS3-3	809002	830822	5	0.38	0.24	9.4	573	11.3	0.9
		GRS3-4	809007	830827	5	0.38	0.24	9.4	573	11.3	0.9
		GRS3-5	809013	830833	5	0.38	0.24	9.4	573	11.3	0.9
		GRS3-6	809018	830838	5	0.38	0.24	9.4	573	11.3	0.9

Other Emission Sources

Scenario Description	Source	X	Y	Elevation	NOx Emission	Stack height	Temp	Exit Vel.	Diameter
				m	g/s	m	K	m/s	m
WENT Landfill Extension	XTD1	810505	831360.4	6.6	0.6786	19	740	7.06	2.33
	XTD2	810505	831350.4	6.6	0.6786	19	740	7.06	2.33
	XFS1	810565.9	831329.3	6.6	0.3712	20	1473	6.49	3.25
	XFS2	810573.9	831329.3	6.6	0.3712	20	1473	6.49	3.25
	XFS3	810581.9	831329.3	6.6	0.3712	20	1473	6.49	3.25
	XPG1	810550.2	831329	6.6	0.04266	6	853	37.1	0.5
	XPG2	810555.2	831329	6.6	0.04266	6	853	37.1	0.5
Existing WENT Landfill	ETD1	810626	831358	6.6	0.377	19	740	3.92	2.33
	ETD2	810626	831348	6.6	0.377	19	740	3.92	2.33
	EFS1	810672.9	831465.9	6.6	0.004856	8.2	1473	3.62	0.5
	EFS2	810680.9	831465.9	6.6	0.004856	8.2	1473	3.62	0.5
	EFS3	810688.9	831465.9	6.6	0.004856	8.2	1473	3.62	0.5
	EPG1	810657.6	831463.8	6.6	0.04266	6	853	37.1	0.5
	EPG2	810662.6	831463.8	6.6	0.04266	6	853	37.1	0.5
STF	STF1	810430.5	831460.1	6.5	2.843	65	463	15	1.3
	STF2	810432.7	831460.1	6.5	2.843	65	463	15	1.3
	STF3	810430.5	831457.9	6.5	2.843	65	463	15	1.3
	STF4	810432.7	831457.9	6.5	2.843	65	463	15	1.3
	STF5	810430.5	831455.7	6.5	2.843	65	463	15	1.3
	STF6	810432.7	831455.7	6.5	2.843	65	463	15	1.3
Green Island Cement	G58	810255	825770	7	111.70	113	383	20.9	3.1
Ecopark	E2	810997.7	825415.2	7	6	30	353	9	1
Shiu Wing	Sw1	810243.3	825593.1	7	5.59	35	340	20	3.75
	Sw2	810309.5	825446.3	7	4.89	35	393	15	2.09
Marine Emission (IETS Vessel during maneuvering)	MARa1	809097.8	831413.5	0	0.01057	8	530.5	8	0.3
	MARa2	809145.3	831429.1	0	0.01057	8	530.5	8	0.3
	MARa3	809192.8	831444.8	0	0.01057	8	530.5	8	0.3
	MARa4	809240.3	831460.4	0	0.01057	8	530.5	8	0.3
	MARa5	809287.8	831476.1	0	0.01057	8	530.5	8	0.3
	MARa6	809335.8	831489.9	0	0.01057	8	530.5	8	0.3
	MARa7	809383.8	831503.8	0	0.01057	8	530.5	8	0.3
	MARa8	809431.9	831517.7	0	0.01057	8	530.5	8	0.3
	MARa9	809479.9	831531.5	0	0.01057	8	530.5	8	0.3
	MARa10	809527.4	831547.2	0	0.01057	8	530.5	8	0.3
	MARa11	809574.9	831562.9	0	0.01057	8	530.5	8	0.3
	MARa12	809622.3	831578.6	0	0.01057	8	530.5	8	0.3
	MARa13	809669.8	831594.3	0	0.01057	8	530.5	8	0.3
	MARa14	809717.6	831608.9	0	0.01057	8	530.5	8	0.3
	MARa15	809765.5	831623.4	0	0.01057	8	530.5	8	0.3

	MARa16	809813.3	831638	0	0.01057	8	530.5	8	0.3
	MARa17	809861.1	831652.5	0	0.01057	8	530.5	8	0.3
	MARa18	809908.9	831667.2	0	0.01057	8	530.5	8	0.3
	MARa19	809956.7	831681.9	0	0.01057	8	530.5	8	0.3
	MARa20	810004.5	831696.5	0	0.01057	8	530.5	8	0.3
	MARa21	810052.3	831711.2	0	0.01057	8	530.5	8	0.3
	MARa22	810100.1	831725.9	0	0.01057	8	530.5	8	0.3
	MARa23	810149.9	831731.1	0	0.01057	8	530.5	8	0.3
	MARa24	810199.6	831736.3	0	0.01057	8	530.5	8	0.3
	MARa25	810249.3	831741.5	0	0.01057	8	530.5	8	0.3
	MARa26	810299.1	831746.7	0	0.01057	8	530.5	8	0.3
	MARa27	810348.8	831751.9	0	0.01057	8	530.5	8	0.3
	MARa28	810398.5	831757	0	0.01057	8	530.5	8	0.3
	MARa29	810448.3	831762.2	0	0.01057	8	530.5	8	0.3
	MARa30	810498	831767.4	0	0.01057	8	530.5	8	0.3
	MARa31	810548	831765.7	0	0.01057	8	530.5	8	0.3
	MARa32	810597.9	831764.1	0	0.01057	8	530.5	8	0.3
	MARa33	810647.9	831762.4	0	0.01057	8	530.5	8	0.3
	MARa34	810697.9	831761.7	0	0.01057	8	530.5	8	0.3
	MARa35	810747.9	831761	0	0.01057	8	530.5	8	0.3
	MARa36	810797.9	831760.3	0	0.01057	8	530.5	8	0.3
	MARa37	810847.9	831759.7	0	0.01057	8	530.5	8	0.3
	MARa38	810897.7	831763.4	0	0.01057	8	530.5	8	0.3
	MARa39	810947.6	831767.1	0	0.01057	8	530.5	8	0.3
	MARa40	810997.5	831770.8	0	0.01057	8	530.5	8	0.3
	MARa41	811047.3	831774.5	0	0.01057	8	530.5	8	0.3
Marine Emission (IWTS Vessel during maneuvering)	MARb1	809097.8	831413.5	0	0.01057	8	493	8	0.3
	MARb2	809145.3	831429.1	0	0.01057	8	493	8	0.3
	MARb3	809192.8	831444.8	0	0.01057	8	493	8	0.3
	MARb4	809240.3	831460.4	0	0.01057	8	493	8	0.3
	MARb5	809287.8	831476.1	0	0.01057	8	493	8	0.3
	MARb6	809335.8	831489.9	0	0.01057	8	493	8	0.3
	MARb7	809383.8	831503.8	0	0.01057	8	493	8	0.3
	MARb8	809431.9	831517.7	0	0.01057	8	493	8	0.3
	MARb9	809479.9	831531.5	0	0.01057	8	493	8	0.3
	MARb10	809527.4	831547.2	0	0.01057	8	493	8	0.3
	MARb11	809574.9	831562.9	0	0.01057	8	493	8	0.3
	MARb12	809622.3	831578.6	0	0.01057	8	493	8	0.3
	MARb13	809669.8	831594.3	0	0.01057	8	493	8	0.3
	MARb14	809717.6	831608.9	0	0.01057	8	493	8	0.3
	MARb15	809765.5	831623.4	0	0.01057	8	493	8	0.3
	MARb16	809813.3	831638	0	0.01057	8	493	8	0.3

	MARb17	809861.1	831652.5	0	0.01057	8	493	8	0.3
	MARb18	809908.9	831667.2	0	0.01057	8	493	8	0.3
	MARb19	809956.7	831681.9	0	0.01057	8	493	8	0.3
	MARb20	810004.5	831696.5	0	0.01057	8	493	8	0.3
	MARb21	810052.3	831711.2	0	0.01057	8	493	8	0.3
	MARb22	810100.1	831725.9	0	0.01057	8	493	8	0.3
	MARb23	810149.9	831731.1	0	0.01057	8	493	8	0.3
	MARb24	810199.6	831736.3	0	0.01057	8	493	8	0.3
	MARb25	810249.3	831741.5	0	0.01057	8	493	8	0.3
	MARb26	810299.1	831746.7	0	0.01057	8	493	8	0.3
	MARb27	810348.8	831751.9	0	0.01057	8	493	8	0.3
	MARb28	810398.5	831757	0	0.01057	8	493	8	0.3
	MARb29	810448.3	831762.2	0	0.01057	8	493	8	0.3
	MARb30	810498	831767.4	0	0.01057	8	493	8	0.3
	MARb31	810548	831765.7	0	0.01057	8	493	8	0.3
	MARb32	810597.9	831764.1	0	0.01057	8	493	8	0.3
	MARb33	810647.9	831762.4	0	0.01057	8	493	8	0.3
	MARb34	810697.9	831761.7	0	0.01057	8	493	8	0.3
	MARb35	810747.9	831761	0	0.01057	8	493	8	0.3
	MARb36	810797.9	831760.3	0	0.01057	8	493	8	0.3
	MARb37	810847.9	831759.7	0	0.01057	8	493	8	0.3
	MARb38	810897.7	831763.4	0	0.01057	8	493	8	0.3
	MARb39	810947.6	831767.1	0	0.01057	8	493	8	0.3
	MARb40	810997.5	831770.8	0	0.01057	8	493	8	0.3
	MARb41	811047.3	831774.5	0	0.01057	8	493	8	0.3
Marine Emission (OITF Vessel during maneuvering)	MARc1	809097.8	831413.5	0	0.005808	3.5	425	8	0.2
	MARc2	809145.3	831429.1	0	0.005808	3.5	425	8	0.2
	MARc3	809192.8	831444.8	0	0.005808	3.5	425	8	0.2
	MARc4	809240.3	831460.4	0	0.005808	3.5	425	8	0.2
	MARc5	809287.8	831476.1	0	0.005808	3.5	425	8	0.2
	MARc6	809335.8	831489.9	0	0.005808	3.5	425	8	0.2
	MARc7	809383.8	831503.8	0	0.005808	3.5	425	8	0.2
	MARc8	809431.9	831517.7	0	0.005808	3.5	425	8	0.2
	MARc9	809479.9	831531.5	0	0.005808	3.5	425	8	0.2
	MARc10	809527.4	831547.2	0	0.005808	3.5	425	8	0.2
	MARc11	809574.9	831562.9	0	0.005808	3.5	425	8	0.2
	MARc12	809622.3	831578.6	0	0.005808	3.5	425	8	0.2
	MARc13	809669.8	831594.3	0	0.005808	3.5	425	8	0.2
	MARc14	809717.6	831608.9	0	0.005808	3.5	425	8	0.2
	MARc15	809765.5	831623.4	0	0.005808	3.5	425	8	0.2
	MARc16	809813.3	831638	0	0.005808	3.5	425	8	0.2
	MARc17	809861.1	831652.5	0	0.005808	3.5	425	8	0.2

	MARc18	809908.9	831667.2	0	0.005808	3.5	425	8	0.2
	MARc19	809956.7	831681.9	0	0.005808	3.5	425	8	0.2
	MARc20	810004.5	831696.5	0	0.005808	3.5	425	8	0.2
	MARc21	810052.3	831711.2	0	0.005808	3.5	425	8	0.2
	MARc22	810100.1	831725.9	0	0.005808	3.5	425	8	0.2
	MARc23	810149.9	831731.1	0	0.005808	3.5	425	8	0.2
	MARc24	810199.6	831736.3	0	0.005808	3.5	425	8	0.2
	MARc25	810249.3	831741.5	0	0.005808	3.5	425	8	0.2
	MARc26	810299.1	831746.7	0	0.005808	3.5	425	8	0.2
	MARc27	810348.8	831751.9	0	0.005808	3.5	425	8	0.2
	MARc28	810398.5	831757	0	0.005808	3.5	425	8	0.2
	MARc29	810448.3	831762.2	0	0.005808	3.5	425	8	0.2
	MARc30	810498	831767.4	0	0.005808	3.5	425	8	0.2
	MARc31	810548	831765.7	0	0.005808	3.5	425	8	0.2
	MARc32	810597.9	831764.1	0	0.005808	3.5	425	8	0.2
	MARc33	810647.9	831762.4	0	0.005808	3.5	425	8	0.2
	MARc34	810697.9	831761.7	0	0.005808	3.5	425	8	0.2
	MARc35	810747.9	831761	0	0.005808	3.5	425	8	0.2
	MARc36	810797.9	831760.3	0	0.005808	3.5	425	8	0.2
	MARc37	810847.9	831759.7	0	0.005808	3.5	425	8	0.2
	MARc38	810897.7	831763.4	0	0.005808	3.5	425	8	0.2
	MARc39	810947.6	831767.1	0	0.005808	3.5	425	8	0.2
	MARc40	810997.5	831770.8	0	0.005808	3.5	425	8	0.2
	MARc41	811047.3	831774.5	0	0.005808	3.5	425	8	0.2
Marine Emission (North Lantau Vessel during maneuvering from propulsion engine)	MARd1	809097.8	831413.5	0	0.007664	11	699	8	0.2
	MARd2	809145.3	831429.1	0	0.007664	11	699	8	0.2
	MARd3	809192.8	831444.8	0	0.007664	11	699	8	0.2
	MARd4	809240.3	831460.4	0	0.007664	11	699	8	0.2
	MARd5	809287.8	831476.1	0	0.007664	11	699	8	0.2
	MARd6	809335.8	831489.9	0	0.007664	11	699	8	0.2
	MARd7	809383.8	831503.8	0	0.007664	11	699	8	0.2
	MARd8	809431.9	831517.7	0	0.007664	11	699	8	0.2
	MARd9	809479.9	831531.5	0	0.007664	11	699	8	0.2
	MARd10	809527.4	831547.2	0	0.007664	11	699	8	0.2
	MARd11	809574.9	831562.9	0	0.007664	11	699	8	0.2
	MARd12	809622.3	831578.6	0	0.007664	11	699	8	0.2
	MARd13	809669.8	831594.3	0	0.007664	11	699	8	0.2
	MARd14	809717.6	831608.9	0	0.007664	11	699	8	0.2
	MARd15	809765.5	831623.4	0	0.007664	11	699	8	0.2
	MARd16	809813.3	831638	0	0.007664	11	699	8	0.2
	MARd17	809861.1	831652.5	0	0.007664	11	699	8	0.2
	MARd18	809908.9	831667.2	0	0.007664	11	699	8	0.2

	MARd19	809956.7	831681.9	0	0.007664	11	699	8	0.2
	MARd20	810004.5	831696.5	0	0.007664	11	699	8	0.2
	MARd21	810052.3	831711.2	0	0.007664	11	699	8	0.2
	MARd22	810100.1	831725.9	0	0.007664	11	699	8	0.2
	MARd23	810149.9	831731.1	0	0.007664	11	699	8	0.2
	MARd24	810199.6	831736.3	0	0.007664	11	699	8	0.2
	MARd25	810249.3	831741.5	0	0.007664	11	699	8	0.2
	MARd26	810299.1	831746.7	0	0.007664	11	699	8	0.2
	MARd27	810348.8	831751.9	0	0.007664	11	699	8	0.2
	MARd28	810398.5	831757	0	0.007664	11	699	8	0.2
	MARd29	810448.3	831762.2	0	0.007664	11	699	8	0.2
	MARd30	810498	831767.4	0	0.007664	11	699	8	0.2
	MARd31	810548	831765.7	0	0.007664	11	699	8	0.2
	MARd32	810597.9	831764.1	0	0.007664	11	699	8	0.2
	MARd33	810647.9	831762.4	0	0.007664	11	699	8	0.2
	MARd34	810697.9	831761.7	0	0.007664	11	699	8	0.2
	MARd35	810747.9	831761	0	0.007664	11	699	8	0.2
	MARd36	810797.9	831760.3	0	0.007664	11	699	8	0.2
	MARd37	810847.9	831759.7	0	0.007664	11	699	8	0.2
	MARd38	810897.7	831763.4	0	0.007664	11	699	8	0.2
	MARd39	810947.6	831767.1	0	0.007664	11	699	8	0.2
	MARd40	810997.5	831770.8	0	0.007664	11	699	8	0.2
	MARd41	811047.3	831774.5	0	0.007664	11	699	8	0.2
Marine Emission (North Lantau Vessel during maneuvering from auxiliary engine)	MARe1	809097.8	831413.5	0	0.00323	11	588	8	0.2
	MARe2	809145.3	831429.1	0	0.00323	11	588	8	0.2
	MARe3	809192.8	831444.8	0	0.00323	11	588	8	0.2
	MARe4	809240.3	831460.4	0	0.00323	11	588	8	0.2
	MARe5	809287.8	831476.1	0	0.00323	11	588	8	0.2
	MARe6	809335.8	831489.9	0	0.00323	11	588	8	0.2
	MARe7	809383.8	831503.8	0	0.00323	11	588	8	0.2
	MARe8	809431.9	831517.7	0	0.00323	11	588	8	0.2
	MARe9	809479.9	831531.5	0	0.00323	11	588	8	0.2
	MARe10	809527.4	831547.2	0	0.00323	11	588	8	0.2
	MARe11	809574.9	831562.9	0	0.00323	11	588	8	0.2
	MARe12	809622.3	831578.6	0	0.00323	11	588	8	0.2
	MARe13	809669.8	831594.3	0	0.00323	11	588	8	0.2
	MARe14	809717.6	831608.9	0	0.00323	11	588	8	0.2
	MARe15	809765.5	831623.4	0	0.00323	11	588	8	0.2
	MARe16	809813.3	831638	0	0.00323	11	588	8	0.2
	MARe17	809861.1	831652.5	0	0.00323	11	588	8	0.2
	MARe18	809908.9	831667.2	0	0.00323	11	588	8	0.2
	MARe19	809956.7	831681.9	0	0.00323	11	588	8	0.2

	MARe20	810004.5	831696.5	0	0.00323	11	588	8	0.2
	MARe21	810052.3	831711.2	0	0.00323	11	588	8	0.2
	MARe22	810100.1	831725.9	0	0.00323	11	588	8	0.2
	MARe23	810149.9	831731.1	0	0.00323	11	588	8	0.2
	MARe24	810199.6	831736.3	0	0.00323	11	588	8	0.2
	MARe25	810249.3	831741.5	0	0.00323	11	588	8	0.2
	MARe26	810299.1	831746.7	0	0.00323	11	588	8	0.2
	MARe27	810348.8	831751.9	0	0.00323	11	588	8	0.2
	MARe28	810398.5	831757	0	0.00323	11	588	8	0.2
	MARe29	810448.3	831762.2	0	0.00323	11	588	8	0.2
	MARe30	810498	831767.4	0	0.00323	11	588	8	0.2
	MARe31	810548	831765.7	0	0.00323	11	588	8	0.2
	MARe32	810597.9	831764.1	0	0.00323	11	588	8	0.2
	MARe33	810647.9	831762.4	0	0.00323	11	588	8	0.2
	MARe34	810697.9	831761.7	0	0.00323	11	588	8	0.2
	MARe35	810747.9	831761	0	0.00323	11	588	8	0.2
	MARe36	810797.9	831760.3	0	0.00323	11	588	8	0.2
	MARe37	810847.9	831759.7	0	0.00323	11	588	8	0.2
	MARe38	810897.7	831763.4	0	0.00323	11	588	8	0.2
	MARe39	810947.6	831767.1	0	0.00323	11	588	8	0.2
	MARe40	810997.5	831770.8	0	0.00323	11	588	8	0.2
	MARe41	811047.3	831774.5	0	0.00323	11	588	8	0.2
Marine Emission (West Kowloon Vessel during maneuvering)	MARf1	809097.8	831413.5	0	0.02143	12	873	8	0.27
	MARf2	809145.3	831429.1	0	0.02143	12	873	8	0.27
	MARf3	809192.8	831444.8	0	0.02143	12	873	8	0.27
	MARf4	809240.3	831460.4	0	0.02143	12	873	8	0.27
	MARf5	809287.8	831476.1	0	0.02143	12	873	8	0.27
	MARf6	809335.8	831489.9	0	0.02143	12	873	8	0.27
	MARf7	809383.8	831503.8	0	0.02143	12	873	8	0.27
	MARf8	809431.9	831517.7	0	0.02143	12	873	8	0.27
	MARf9	809479.9	831531.5	0	0.02143	12	873	8	0.27
	MARf10	809527.4	831547.2	0	0.02143	12	873	8	0.27
	MARf11	809574.9	831562.9	0	0.02143	12	873	8	0.27
	MARf12	809622.3	831578.6	0	0.02143	12	873	8	0.27
	MARf13	809669.8	831594.3	0	0.02143	12	873	8	0.27
	MARf14	809717.6	831608.9	0	0.02143	12	873	8	0.27
	MARf15	809765.5	831623.4	0	0.02143	12	873	8	0.27
	MARf16	809813.3	831638	0	0.02143	12	873	8	0.27
	MARf17	809861.1	831652.5	0	0.02143	12	873	8	0.27
	MARf18	809908.9	831667.2	0	0.02143	12	873	8	0.27
	MARf19	809956.7	831681.9	0	0.02143	12	873	8	0.27
	MARf20	810004.5	831696.5	0	0.02143	12	873	8	0.27

	MARf21	810052.3	831711.2	0	0.02143	12	873	8	0.27
	MARf22	810100.1	831725.9	0	0.02143	12	873	8	0.27
	MARf23	810149.9	831731.1	0	0.02143	12	873	8	0.27
	MARf24	810199.6	831736.3	0	0.02143	12	873	8	0.27
	MARf25	810249.3	831741.5	0	0.02143	12	873	8	0.27
	MARf26	810299.1	831746.7	0	0.02143	12	873	8	0.27
	MARf27	810348.8	831751.9	0	0.02143	12	873	8	0.27
	MARf28	810398.5	831757	0	0.02143	12	873	8	0.27
	MARf29	810448.3	831762.2	0	0.02143	12	873	8	0.27
	MARf30	810498	831767.4	0	0.02143	12	873	8	0.27
	MARf31	810548	831765.7	0	0.02143	12	873	8	0.27
	MARf32	810597.9	831764.1	0	0.02143	12	873	8	0.27
	MARf33	810647.9	831762.4	0	0.02143	12	873	8	0.27
	MARf34	810697.9	831761.7	0	0.02143	12	873	8	0.27
	MARf35	810747.9	831761	0	0.02143	12	873	8	0.27
	MARf36	810797.9	831760.3	0	0.02143	12	873	8	0.27
	MARf37	810847.9	831759.7	0	0.02143	12	873	8	0.27
	MARf38	810897.7	831763.4	0	0.02143	12	873	8	0.27
	MARf39	810947.6	831767.1	0	0.02143	12	873	8	0.27
	MARf40	810997.5	831770.8	0	0.02143	12	873	8	0.27
	MARf41	811047.3	831774.5	0	0.02143	12	873	8	0.27
Marine Emission (Additiona vessels for STF during maneuvering)	MARh1	809097.8	831413.5	0	0.02143	12	873	8	0.27
	MARh2	809145.3	831429.1	0	0.02143	12	873	8	0.27
	MARh3	809192.8	831444.8	0	0.02143	12	873	8	0.27
	MARh4	809240.3	831460.4	0	0.02143	12	873	8	0.27
	MARh5	809287.8	831476.1	0	0.02143	12	873	8	0.27
	MARh6	809335.8	831489.9	0	0.02143	12	873	8	0.27
	MARh7	809383.8	831503.8	0	0.02143	12	873	8	0.27
	MARh8	809431.9	831517.7	0	0.02143	12	873	8	0.27
	MARh9	809479.9	831531.5	0	0.02143	12	873	8	0.27
	MARh10	809527.4	831547.2	0	0.02143	12	873	8	0.27
	MARh11	809574.9	831562.9	0	0.02143	12	873	8	0.27
	MARh12	809622.3	831578.6	0	0.02143	12	873	8	0.27
	MARh13	809669.8	831594.3	0	0.02143	12	873	8	0.27
	MARh14	809717.6	831608.9	0	0.02143	12	873	8	0.27
	MARh15	809765.5	831623.4	0	0.02143	12	873	8	0.27
	MARh16	809813.3	831638	0	0.02143	12	873	8	0.27
	MARh17	809861.1	831652.5	0	0.02143	12	873	8	0.27
	MARh18	809908.9	831667.2	0	0.02143	12	873	8	0.27
	MARh19	809956.7	831681.9	0	0.02143	12	873	8	0.27
	MARh20	810004.5	831696.5	0	0.02143	12	873	8	0.27
	MARh21	810052.3	831711.2	0	0.02143	12	873	8	0.27

	MARh22	810100.1	831725.9	0	0.02143	12	873	8	0.27
	MARh23	810149.9	831731.1	0	0.02143	12	873	8	0.27
	MARh24	810199.6	831736.3	0	0.02143	12	873	8	0.27
	MARh25	810249.3	831741.5	0	0.02143	12	873	8	0.27
	MARh26	810299.1	831746.7	0	0.02143	12	873	8	0.27
	MARh27	810348.8	831751.9	0	0.02143	12	873	8	0.27
	MARh28	810398.5	831757	0	0.02143	12	873	8	0.27
	MARh29	810448.3	831762.2	0	0.02143	12	873	8	0.27
	MARh30	810498	831767.4	0	0.02143	12	873	8	0.27
	MARh31	810548	831765.7	0	0.02143	12	873	8	0.27
	MARh32	810597.9	831764.1	0	0.02143	12	873	8	0.27
	MARh33	810647.9	831762.4	0	0.02143	12	873	8	0.27
	MARh34	810697.9	831761.7	0	0.02143	12	873	8	0.27
	MARh35	810747.9	831761	0	0.02143	12	873	8	0.27
	MARh36	810797.9	831760.3	0	0.02143	12	873	8	0.27
	MARh37	810847.9	831759.7	0	0.02143	12	873	8	0.27
	MARh38	810897.7	831763.4	0	0.02143	12	873	8	0.27
	MARh39	810947.6	831767.1	0	0.02143	12	873	8	0.27
	MARh40	810997.5	831770.8	0	0.02143	12	873	8	0.27
	MARh41	811047.3	831774.5	0	0.02143	12	873	8	0.27
Marine Emission (during idling)	IETS	810986	831745.8	0	0.275	8	531	8	0.3
	IWTS	811080	831779.6	0	0.275	8	493	8	0.3
	OITF	811174.4	831812.6	0	0.2552	3.5	425	8	0.1
	NLTS	811362.1	831881.8	0	1.254	11	588	8	0.2

Annex 4A-4 Maximum Hourly NO2 Results

Project Emission Contribution ONLY

ASR	Scenario 1			Scenario 2			Scenario 3			Scenario 4		
	1.5m	5m	10m	1.5m	5m	10m	1.5m	5m	10m	1.5m	5m	10m
A1	11.9	12.0	12.1	28.6	28.7	29.0	11.6	11.7	12.0	51.6	52.1	55.4
A2	5.2	5.2	5.2	10.7	10.7	10.7	9.6	9.7	9.7	21.9	22.2	23.7
A3	10.9	10.9	10.9	23.5	23.5	23.7	6.4	6.4	6.4	20.9	20.9	21.0
A4	7.7	7.7	7.7	18.2	18.2	18.4	11.5	11.5	11.7	26.4	26.4	26.6
A5	6.9	6.9	6.9	13.3	13.4	13.4	8.9	8.9	8.9	26.5	26.6	26.6
A6	9.5	9.5	9.6	21.0	21.0	21.0	5.7	5.7	5.7	17.3	17.3	17.3
A7	11.4	11.5	11.6	25.8	25.8	26.0	10.5	10.5	10.6	23.5	23.5	23.7
A8	6.6	6.6	6.6	13.6	13.6	13.6	7.2	7.2	7.2	22.3	22.3	22.4

Overall Results

ASR	Project	Ecopark	GIC	Shiu Wing	STF	Marine Vessel	Marine Vessel (idling)	WENT Extension	WENT Existing	BPPS	CPPS	LKT AQMS	TOTAL
Scenario 1													
1.5m above ground													
A1	0.00528	0	0	0	45.11472	0.44908	5.04311	0.33264	2.69428	55.00	-	28.00	137
A2	0.00032	0	0	0	51.13929	0	1.36507	0.24894	2.08395	55.00	-	28.00	138
A3	0.01055	0	0	0	30.77328	0.37219	0.55094	1.4153	0.98939	55.00	-	28.00	117
A4	0.00123	0	0	0	33.67874	0.3809	0.63975	1.45433	1.10983	55.00	-	28.00	120
A5	0.00012	0	0	0	32.07915	0.27725	0.92805	1.82894	1.5216	55.00	-	28.00	120
A6	0.00885	0	0	0	43.95339	0	0.55303	0.16492	1.30937	55.00	-	28.00	129
A7	0.00007	0	0	0	0	18.66742	0	0	0	18.20	88.30	28.00	153
A8	6.55809	0	0	0	0	0	0	0	0	18.20	88.30	28.00	141
5m above ground													
A1	0.00533	0	0	0	45.12363	0.44903	5.04301	0.33264	2.6946	55.00	-	28.00	137
A2	0.00032	0	0	0	51.14153	0	1.36506	0.24894	2.08404	55.00	-	28.00	138
A3	0.01056	0	0	0	30.77282	0.37215	0.55089	1.41548	0.98938	55.00	-	28.00	117
A4	0.00123	0	0	0	33.67879	0.38085	0.63969	1.45457	1.10983	55.00	-	28.00	120
A5	0.00012	0	0	0	32.07872	0.27722	0.92798	1.82918	1.52158	55.00	-	28.00	120
A6	0.00886	0	0	0	43.95516	0	0.55302	0.16492	1.30942	55.00	-	28.00	129
A7	0.00007	0	0	0	0	18.5789	0	0	0	18.20	88.30	28.00	153
A8	6.55908	0	0	0	0	0	0	0	0	18.20	88.30	28.00	141
10m above ground													
A1	0.0055	0	0	0	45.15302	0.44888	5.04269	0.33262	2.69567	55.00	-	28.00	137
A2	0.00032	0	0	0	51.14887	0	1.36502	0.24894	2.08432	55.00	-	28.00	138
A3	0.01059	0	0	0	30.77132	0.37201	0.55074	1.41607	0.98932	55.00	-	28.00	117
A4	0.00124	0	0	0	33.67895	0.38069	0.63949	1.45538	1.10981	55.00	-	28.00	120
A5	0.00012	0	0	0	32.07732	0.27713	0.92772	1.82996	1.5215	55.00	-	28.00	120
A6	0.00887	0	0	0	43.96101	0	0.55301	0.16492	1.30958	55.00	-	28.00	129
A7	0.00007	0	0	0	0	18.28873	0	0	0	18.20	88.30	28.00	153
A8	6.56228	0	0	0	0	0	0	0	0	18.20	88.30	28.00	141
Scenario 2													
1.5m above ground													
A1	0.00918	0	0	0	45.11472	0.44908	5.04311	0.33264	2.69428	55.00	-	28.00	137
A2	0.00035	0	0	0	51.13929	0	1.36507	0.24894	2.08395	55.00	-	28.00	138
A3	0.02045	0	0	0	30.77328	0.37219	0.55094	1.4153	0.98939	55.00	-	28.00	117
A4	0.00212	0	0	0	33.67874	0.3809	0.63975	1.45433	1.10983	55.00	-	28.00	120
A5	0.00015	0	0	0	32.07915	0.27725	0.92805	1.82894	1.5216	55.00	-	28.00	120
A6	0.01208	0	0	0	43.95339	0	0.55303	0.16492	1.30937	55.00	-	28.00	129
A7	25.75244	0	0	0	0	0	0	0	0	18.20	88.30	28.00	160
A8	13.60423	0	0	0	0	0.00714	0	0	0	18.20	88.30	28.00	148
5m above ground													
A1	0.00925	0	0	0	45.12363	0.44903	5.04301	0.33264	2.6946	55.00	-	28.00	137
A2	0.00035	0	0	0	51.14153	0	1.36506	0.24894	2.08404	55.00	-	28.00	138
A3	0.02044	0	0	0	30.77282	0.37215	0.55089	1.41548	0.98938	55.00	-	28.00	117
A4	0.00212	0	0	0	33.67879	0.38085	0.63969	1.45457	1.10983	55.00	-	28.00	120
A5	0.00015	0	0	0	32.07872	0.27722	0.92798	1.82918	1.52158	55.00	-	28.00	120
A6	0.01208	0	0	0	43.95516	0	0.55302	0.16492	1.30942	55.00	-	28.00	129
A7	25.80382	0	0	0	0	0	0	0	0	18.20	88.30	28.00	160
A8	13.5974	0	0	0	0	0.00712	0	0	0	18.20	88.30	28.00	148
10m above ground													
A1	0.00948	0	0	0	45.15302	0.44888	5.04269	0.33262	2.69567	55.00	-	28.00	137
A2	0.00035	0	0	0	51.14887	0	1.36502	0.24894	2.08432	55.00	-	28.00	138
A3	0.02044	0	0	0	30.77132	0.37201	0.55074	1.41607	0.98932	55.00	-	28.00	117
A4	0.00212	0	0	0	33.67895	0.38069	0.63949	1.45538	1.10981	55.00	-	28.00	120
A5	0.00015	0	0	0	32.07732	0.27713	0.92772	1.82996	1.5215	55.00	-	28.00	120
A6	0.01207	0	0	0	43.96101	0	0.55301	0.16492	1.30958	55.00	-	28.00	129
A7	26.01244	0	0	0	0	0	0	0	0	18.20	88.30	28.00	161
A8	13.57482	0	0	0	0	0.00708	0	0	0	18.20	88.30	28.00	148
Scenario 3													
1.5m above ground													
A1	0.00027	0	0	0	45.11472	0.44908	5.04311	0.33264	2.69428	55.00	-	28.00	137
A2	0.00001	0	0	0	51.13929	0	1.36507	0.24894	2.08395	55.00	-	28.00	138
A3	0.0005	0	0	0	30.77328	0.37219	0.55094	1.4153	0.98939	55.00	-	28.00	117
A4	0.00002	0	0	0	33.67874	0.3809	0.63975	1.45433	1.10983	55.00	-	28.00	120
A5	0.00258	0	0	0	32.52322	0	0.28045	0.09703	0.73235	55.00	-	28.00	117
A6	0.00041	0	0	0	43.95339	0	0.55303	0.16492	1.30937	55.00	-	28.00	129
A7	0.00001	0	0	0	0	18.66742	0	0	0	18.20	88.30	28.00	153
A8	7.16248	0	0	0	0	0	0	0	0	18.20	88.30	28.00	142
5m above ground													
A1	0.00028	0	0	0	45.12363	0.44903	5.04301	0.33264	2.6946	55.00	-	28.00	137
A2	0.00001	0	0	0	51.14153	0	1.36506	0.24894	2.08404	55.00	-	28.00	138
A3	0.0005	0	0	0	30.77282	0.37215	0.55089	1.41548	0.98938	55.00	-	28.00	117
A4	0.00002	0	0	0	33.67879	0.38085	0.63969	1.45457	1.10983	55.00	-	28.00	120
A5	0.00258	0	0	0	32.52488	0	0.28045	0.09703	0.73238	55.00	-	28.00	117
A6	0.00041	0	0	0	43.95516	0	0.55302	0.16492	1.30942	55.00	-	28.00	129
A7	0.00001	0	0	0	0	18.5789	0	0	0	18.20	88.30	28.00	153
A8	7.16381	0	0	0	0	0	0	0	0	18.20	88.30	28.00	142
10m above ground													
A1	0.00029	0	0	0	45.15302	0.44888	5.04269	0.33262	2.69567	55.00	-	28.00	137
A2	0.00001	0	0	0	51.14887	0	1.36502	0.24894	2.08432	55.00	-	28.00	138
A3	0.0005	0	0	0	30.77132	0.37201	0.55074	1.41607	0.98932	55.00	-	28.00	117
A4	0.00002	0	0	0	33.67895	0.38069	0.63949	1.45538	1.10981	55.00	-	28.00	120
A5	0.00259	0	0	0	32.53032	0	0.28043	0.09703	0.7325	55.00	-	28.00	117
A6	0.00041	0	0	0	43.96101	0	0.55301	0.16492	1.30958	55.00	-	28.00	129
A7	0.00001	0	0	0	0	18.28873	0	0	0	18.20	88.30	28.00	153
A8	7.16815	0	0	0	0	0	0	0	0	18.20	88.30	28.00	142
Scenario 4													
1.5m above ground													
A1	0.001	0	0	0	45.11472	0.44908	5.04311	0.33264	2.69428	55.00	-	28.00	137
A2	0.00001	0	0	0	51.13929	0	1.36507	0.24894	2.08395	55.00	-	28.00	138
A3	0.00244	0	0	0	30.77328	0.37219	0.55094	1.4153	0.98939	55.00	-	28.00	117
A4	0.00009	0	0	0	33.67874	0.3809	0.63975	1.45433	1.10983	55.00	-	28.00	120
A5	0.00905	0	0	0	32.52322	0	0.28045	0.09703	0.73235	55.00	-	28.00	117
A6	0.00121	0	0	0	43.95339	0	0.55303	0.16492	1.30937	55.00	-	28.00	129
A7	23.5294	0	0	0	0	0	0	0	0	18.20	88.30	28.00	158
A8	22.31704	0	0	0	0	0	0	0	0	18.20	88.30	28.00	157
5m above ground													
A1	0.00102	0	0	0	45.12363	0.44903	5.04301	0.33264	2.6946	55.00	-	28.00	137
A2	0.00001	0	0	0	51.14153	0	1.36506	0.24894	2.08404	55.00	-	28.00	138
A3	0.00244	0	0	0	30.77282	0.37215	0.55089	1.41548	0.98938	55.00	-	28.00	117
A4	0.00009	0	0	0	33.67879	0.38085	0.63969	1.45457	1.10983	55.00	-	28.00	120
A5	0.00905	0	0	0	32.52488	0	0.28045	0.09703	0.73238	55.00	-	28.00	117
A6	0.00121	0	0	0	43.95516	0	0.55302	0.16492	1.30942	55.00	-	28.00	129
A7	23.54157	0	0	0	0	0	0	0	0	18.20	88.30	28.00	158
A8	22.33304	0	0	0	0	0	0	0	0	18.20	88.30	28.00	157
10m above ground													
A1	55.40569	0	0	0	0	0	0	0	0	55.00	-	28.00	138
A2	0.00001	0	0	0	51.14887	0	1.36502	0.24894	2.08432	55.00	-	28.00	138
A3	0.00244	0	0	0	30.77132	0.37201	0.55074	1.41607	0.98932	55.00	-	28.00	117
A4	0.00009	0	0	0	33.67895	0.38069	0.63949	1.45538	1.10981	55.00	-	28.00	120
A5	0.00905	0	0	0	32.53032	0	0.28043	0.09703	0.7325	55.00	-	28.00	117
A6	0.00121	0	0	0	43.96101	0	0.55301	0.16492	1.30958	55.00	-	28.00	129
A7	23.66659	0	0	0	0	0	0	0	0	18.20	88.30	28.00	158
A8	22.40793	0	0	0	0	0	0	0	0	18.20	88.30	28.00	157

Daily Average NO2 Results

Project Emission Contribution ONLY

ASR	Scenario 1			Scenario 2			Scenario 3			Scenario 4		
	1.5m	5m	10m	1.5m	5m	10m	1.5m	5m	10m	1.5m	5m	10m
A1	2.30	2.32	2.39	8.59	8.75	9.26	3.13	3.36	4.10	11.08	11.72	13.74
A2	0.75	0.75	0.75	1.05	1.05	1.07	1.46	1.48	1.53	3.60	3.62	3.74
A3	3.18	3.19	3.20	6.32	6.33	6.37	1.63	1.64	1.66	5.62	5.62	5.65
A4	2.26	2.26	2.27	4.81	4.82	4.85	1.07	1.07	1.09	2.51	2.51	2.49
A5	1.20	1.20	1.21	2.09	2.09	2.08	0.90	0.90	0.90	2.05	2.08	2.18
A6	0.89	0.90	0.90	1.68	1.70	1.75	0.81	0.81	0.81	1.27	1.28	1.33
A7	2.93	2.94	3.10	6.33	6.45	6.85	2.78	2.84	3.02	6.37	6.46	6.77
A8	2.04	2.05	2.06	3.19	3.19	3.18	2.14	2.15	2.15	5.89	5.97	6.24

Overall Results

ASR	Project	Ecopark	GIC	Shiu Wing	STF	Marine Vessel	Marine Vessel (idling)	WENT Extension	WENT Existing	BPPS & CPPS	LKT AQMS	TOTAL
Scenario 1												
1.5m above ground												
A1	0.36298	0	0	0	4.90116	0.66751	1.92263	0.9826	1.06822	21.30	28.00	59.2
A2	0.006	6.5579	0.00018	0.0022	2.3872	0.02458	0.38774	0.25229	0.12988	21.30	28.00	59.0
A3	0.36475	2.30147	5.63667	0.9276	0.01209	0.02729	0.00001	0.00038	0.00006	21.30	28.00	58.6
A4	0.00051	0	0	0	5.41892	0.31284	2.64475	0.58986	0.56222	21.30	28.00	58.8
A5	0.00002	0	0	0	7.70563	0.20696	0.50315	0.91097	0.68342	21.30	28.00	59.3
A6	0.13451	1.35257	4.55667	0.54181	0.19919	0.02988	0.00052	0.01041	0.00266	21.30	28.00	56.1
A7	0.43698	0	0	0	0	0.49262	9.66842	0.00454	0.02241	19.80	28.00	58.4
A8	0.50897	0	0	0	0.00034	0.60988	9.74103	0.01971	0.08929	19.80	28.00	58.8
5m above ground												
A1	0.37445	0	0	0	4.93533	0.6651	1.91639	0.99377	1.07576	21.30	28.00	59.3
A2	0.00641	6.69627	0.00019	0.00224	2.38688	0.02457	0.38624	0.25248	0.13023	21.30	28.00	59.2
A3	0.36483	2.3129	5.6382	0.93134	0.01209	0.02729	0.00001	0.00038	0.00006	21.30	28.00	58.6
A4	0.00052	0	0	0	5.43386	0.31175	2.63526	0.5935	0.56625	21.30	28.00	58.8
A5	0.00002	0	0	0	7.72993	0.20641	0.5023	0.9133	0.68432	21.30	28.00	59.3
A6	0.13453	1.35496	4.55709	0.54217	0.19917	0.02987	0.00052	0.01041	0.00266	21.30	28.00	56.1
A7	0.43687	0	0	0	0	0.48841	10.07101	0.00586	0.03517	19.80	28.00	58.8
A8	0.50915	0	0	0	0.0004	0.66419	10.22578	0.05257	0.11479	19.80	28.00	59.4
10m above ground												
A1	0.41276	0	0	0	5.0482	0.65721	1.89599	1.03063	1.10042	21.30	28.00	59.4
A2	0.0078	7.14488	0.00023	0.00234	2.38579	0.02454	0.38134	0.25309	0.13137	21.30	28.00	59.6
A3	0.36509	2.34983	5.64335	0.94364	0.01208	0.02727	0.00001	0.00038	0.00006	21.30	28.00	58.6
A4	0.0006	0	0	0	7.99609	0.25821	0.26455	0.63337	0.45663	21.30	28.00	58.9
A5	0.00002	0	0	0	7.8097	0.20461	0.49953	0.92098	0.68727	21.30	28.00	59.4
A6	0.1346	1.36267	4.55848	0.54333	0.19912	0.02986	0.00052	0.01041	0.00266	21.30	28.00	56.1
A7	0.12598	0	0	0	0	0.7996	12.9848	0.03727	0.06322	19.80	28.00	61.8
A8	0.50974	0	0	0	0.00062	0.83052	11.59154	0.31452	0.21468	19.80	28.00	61.3
Scenario 2												
1.5m above ground												
A1	8.75287	0	0	0	2.17007	0.829	0.88032	0.42372	0.51542	21.30	28.00	62.9
A2	0.0102	6.69627	0.00019	0.00224	2.38688	0.02457	0.38624	0.25248	0.13023	21.30	28.00	59.2
A3	0.77535	2.3129	5.6382	0.93134	0.01209	0.02729	0.00001	0.00038	0.00006	21.30	28.00	59.0
A4	0.00229	0	0	0	5.43386	0.31175	2.63526	0.5935	0.56625	21.30	28.00	58.8
A5	0.00007	0	0	0	7.72993	0.20641	0.5023	0.9133	0.68432	21.30	28.00	59.3
A6	0.27322	1.35496	4.55709	0.54217	0.19917	0.02987	0.00052	0.01041	0.00266	21.30	28.00	56.3
A7	0.35936	0	0	0	0	0.75542	10.02775	0.01237	0.03952	19.80	28.00	59.0
A8	0.89628	0	0	0	0.0004	0.66419	10.22578	0.05257	0.11479	19.80	28.00	59.8
5m above ground												
A1	8.75287	0	0	0	2.17007	0.829	0.88032	0.42372	0.51542	21.30	28.00	62.9
A2	0.0102	6.69627	0.00019	0.00224	2.38688	0.02457	0.38624	0.25248	0.13023	21.30	28.00	59.2
A3	0.77535	2.3129	5.6382	0.93134	0.01209	0.02729	0.00001	0.00038	0.00006	21.30	28.00	59.0
A4	0.00229	0	0	0	5.43386	0.31175	2.63526	0.5935	0.56625	21.30	28.00	58.8
A5	0.00007	0	0	0	7.72993	0.20641	0.5023	0.9133	0.68432	21.30	28.00	59.3
A6	0.27322	1.35496	4.55709	0.54217	0.19917	0.02987	0.00052	0.01041	0.00266	21.30	28.00	56.3
A7	0.35936	0	0	0	0	0.75542	10.02775	0.01237	0.03952	19.80	28.00	59.0
A8	0.89628	0	0	0	0.0004	0.66419	10.22578	0.05257	0.11479	19.80	28.00	59.8
10m above ground												
A1	9.26481	0	0	0	2.24441	0.8168	0.87048	0.44145	0.52975	21.30	28.00	63.5
A2	0.01226	7.14488	0.00023	0.00234	2.38579	0.02454	0.38134	0.25309	0.13137	21.30	28.00	59.6
A3	0.77485	2.34983	5.64335	0.94364	0.01208	0.02727	0.00001	0.00038	0.00006	21.30	28.00	59.1
A4	0.00224	0	0	0	7.99609	0.25821	0.26455	0.63337	0.45663	21.30	28.00	58.9
A5	0.00007	0	0	0	7.8097	0.20461	0.49953	0.92098	0.68727	21.30	28.00	59.4
A6	0.27307	1.36267	4.55848	0.54333	0.19912	0.02986	0.00052	0.01041	0.00266	21.30	28.00	56.3
A7	0.35919	0	0	0	0	0.7996	12.9848	0.03727	0.06322	19.80	28.00	62.0
A8	0.89439	0	0	0	0.00062	0.83052	11.59154	0.31452	0.21468	19.80	28.00	61.6
Scenario 3												
1.5m above ground												
A1	0.25603	0	0	0	4.90116	0.66751	1.92263	0.9826	1.06822	21.30	28.00	59.1
A2	0.05238	1.35257	4.55667	0.54181	0.19919	0.02988	0.00052	0.01041	0.00266	21.30	28.00	56.0
A3	0.01303	1.95866	3.76245	0.42642	0.49202	0.03058	0.00205	0.03003	0.00925	21.30	28.00	56.0
A4	0.24102	2.30147	5.63667	0.9276	0.01209	0.02729	0.00001	0.00038	0.00006	21.30	28.00	58.4
A5	0.1263	1.16377	4.95455	0.63677	0.01917	0.03251	0.00002	0.00056	0.00009	21.30	28.00	56.2
A6	0.09066	1.24262	4.90602	0.61424	0.08273	0.03036	0.00014	0.00352	0.00076	21.30	28.00	56.3
A7	0.30024	0	0	0	0	0.49262	9.66842	0.00454	0.02241	19.80	28.00	58.3
A8	0.39464	0	0	0	0.00034	0.60988	9.74103	0.01971	0.08929	19.80	28.00	58.7
5m above ground												
A1	0.26572	0	0	0	4.93533	0.6651	1.91639	0.99377	1.07576	21.30	28.00	59.2
A2	0.05239	1.35496	4.55709	0.54217	0.19917	0.02987	0.00052	0.01041	0.00266	21.30	28.00	56.0
A3	0.18881	6.69627	0.00019	0.00224	2.38688	0.02457	0.38624	0.25248	0.13023	21.30	28.00	59.4
A4	0.24111	2.3129	5.6382	0.93134	0.01209	0.02729	0.00001	0.00038	0.00006	21.30	28.00	58.5
A5	0.12638	1.16543	4.95524	0.63797	0.01917	0.0325	0.00002	0.00057	0.00009	21.30	28.00	56.2
A6	0.09069	1.24474	4.90659	0.61513	0.08273	0.03035	0.00014	0.00352	0.00076	21.30	28.00	56.3
A7	0.111	0	0	0	0	0.75542	10.02775	0.01237	0.03952	19.80	28.00	58.7
A8	0.39468	0	0	0	0.0004	0.66419	10.22578	0.05257	0.11479	19.80	28.00	59.3
10m above ground												
A1	0.29813	0	0	0	5.0482	0.65721	1.89599	1.03063	1.10042	21.30	28.00	59.3
A2	0.05243	1.36267	4.55848	0.54333	0.19912	0.02986	0.00052	0.01041	0.00266	21.30	28.00	56.1
A3	0.25237	7.14488	0.00023	0.00234	2.38579	0.02454	0.38134	0.25309	0.13137	21.30	28.00	59.9
A4	0.24142	2.34983	5.64335	0.94364	0.01208	0.02727	0.00001	0.00038	0.00006	21.30	28.00	58.5
A5	0.12665	1.17076	4.95756	0.64191	0.01916	0.03248	0.00002	0.00057	0.00009	21.30	28.00	56.2
A6	0.09079	1.25158	4.90851	0.61804	0.08271	0.03034	0.00014	0.00352	0.00076	21.30	28.00	56.3
A7	0.11112	0	0	0	0	0.7996	12.9848	0.03727	0.06322	19.80	28.00	61.8
A8	0.39482	0	0	0	0.00062	0.83052	11.59154	0.31452	0.21468	19.80	28.00	61.1
Scenario 4												
1.5m above ground												
A1	9.69264	0	0	0	1.62978	0.68828	1.01437	0.44251	0.62338	21.30	28.00	63.4
A2	0.66196	6.5579	0.00018	0.0022	2.3872	0.02458	0.38774	0.25229	0.12988	21.30	28.00	59.7
A3	0.70968	2.30147	5.63667	0.9276	0.01209	0.02729	0.00001	0.00038	0.00006	21.30	28.00	58.9
A4	0.00001	0	0	0	5.41892	0.31284	2.64475	0.58986	0.56222	21.30	28.00	58.8
A5	2.05301	0	0	0	3.46934	0.61156	0.36586	0.52819	0.33963	21.30	28.00	56.7
A6	0.14817	1.35257	4.55667	0.54181	0.19919	0.02988	0.00052	0.01041	0.00266	21.30	28.00	56.1
A7	0.30794	0	0	0	0	0.49262	9.66842	0.00454	0.02241	19.80	28.00	58.3
A8	0.58389	0	0	0	0.00034	0.60988	9.74103	0.01971	0.08929	19.80	28.00	58.8
5m above ground												
A1	10.04532	0	0	0	1.65747	0.68539	1.01145	0.45217	0.63207	21.30	28.00	63.8
A2	0.71626	6.69627	0.00019	0.00224	2.38688	0.02457	0.38624	0.25248	0.13023	21.30	28.00	59.9
A3	0.70955	2.3129	5.6382	0.93134	0.01209	0.02729	0.00001	0.00038	0.00006	21.30	28.00	58.9
A4	0.00001	0	0	0	5.43386	0.31175	2.63526	0.5935	0.56625	21.30	28.00	58.8
A5	2.08289	0	0	0	3.48281	0.61302	0.36483	0.53229	0.34126	21.30	28.00	56.7
A6	0.14815	1.35496	4.55709	0.54217	0.19917	0.02987	0.00052	0.01041	0.00266	21.30	28.00	56.1
A7	0.21841	0	0	0	0	0.75542	10.02775	0.01237	0.03952	19.80	28.00	58.9
A8	0.58358	0	0	0	0.0004	0.66419	10.22578	0.05257	0.11479	19.80	28.00	59.4
10m above ground												
A1	11.17067	0	0	0	1.74866	0.67594	1.00187	0.4845	0.66085	21.30	28.00	65.0
A2	0.89423	7.14488	0.00023	0.00234	2.38579	0.02454	0.38134	0.25309	0.13137	21.30	28.00	60.5
A3	0.70915	2.34983	5.64335	0.94364	0.01208	0.02727	0.00001	0.00038	0.00006	21.30	28.00	59.0
A4	0.00001	0	0	0	7.99609	0.25821	0.26455	0.63337	0.45663	21.30	28.00	58.9
A5	2.17927	0	0	0	3.52748	0.61711	0.36143	0.54581	0.34657	21.30	28.00	56.9
A6	0.14807	1.36267	4.55848	0.54333	0.19912	0.02986	0.00052	0.01041	0.00266	21.30	28.00	56.2
A7	0.21835	0	0	0	0	0.7996	12.9848	0.03727	0.06322	19.80	28.00	61.9
A8	0.58257	0	0	0	0.00062	0.83052	11.59154	0.31452	0.21468	19.80	28.00	61.3

Annual Average NO2 Results

Project Emission Contribution ONLY

ASR	Scenario 1			Scenario 2			Scenario 3			Scenario 4		
	1.5m	5m	10m	1.5m	5m	10m	1.5m	5m	10m	1.5m	5m	10m
A1	0.203	0.208	0.224	0.843	0.857	0.900	0.216	0.225	0.255	1.163	1.194	1.293
A2	0.056	0.056	0.057	0.089	0.089	0.090	0.068	0.069	0.071	0.140	0.142	0.146
A3	0.202	0.203	0.208	0.381	0.383	0.391	0.126	0.127	0.128	0.341	0.342	0.346
A4	0.152	0.153	0.155	0.305	0.306	0.309	0.088	0.088	0.090	0.204	0.205	0.209
A5	0.096	0.096	0.097	0.166	0.166	0.167	0.070	0.070	0.071	0.149	0.151	0.157
A6	0.072	0.073	0.074	0.122	0.123	0.127	0.060	0.060	0.061	0.111	0.112	0.114
A7	0.271	0.273	0.279	0.489	0.492	0.505	0.243	0.245	0.250	0.447	0.450	0.460
A8	0.249	0.250	0.252	0.413	0.414	0.415	0.233	0.234	0.236	0.459	0.462	0.469

Overall Results

ASR	Project	Ecopark	GIC	Shiu Wing	STF	Marine Vessel	Marine Vessel (idling)	WENT Extension	WENT Existing	BPPS & CPPS	LKT AQMS	TOTAL
Scenario 1												
1.5m above ground												
A1	0.20266	0.17077	0.25217	0.11129	0.50408	0.22985	0.30355	0.11556	0.11495	0.60	28.00	30.6
A2	0.05611	0.77268	0.27824	0.14809	0.64762	0.0866	0.18843	0.07837	0.05012	0.60	28.00	30.9
A3	0.20172	0.2925	0.27387	0.13204	0.50343	0.1179	0.23295	0.06573	0.0615	0.60	28.00	30.5
A4	0.15233	0.21991	0.25715	0.08673	0.54579	0.12381	0.24229	0.06587	0.061	0.60	28.00	30.4
A5	0.09577	0.23522	0.26095	0.08811	0.57567	0.10546	0.09953	0.08215	0.05501	0.60	28.00	30.2
A6	0.07216	0.31214	0.2638	0.09682	0.55164	0.09942	0.13114	0.07847	0.06724	0.60	28.00	30.3
A7	0.27138	0.07521	0.28564	0.11497	0	0.49459	1.89709	0.01832	0.11514	0.50	28.00	31.8
A8	0.24911	0.07771	0.28634	0.11357	0.00039	0.3562	1.40064	0.017	0.06224	0.50	28.00	31.1
5m above ground												
A1	0.20762	0.17132	0.25276	0.11233	0.50762	0.2305	0.30254	0.11804	0.11699	0.60	28.00	30.6
A2	0.05624	0.78804	0.27878	0.15033	0.64967	0.08651	0.18785	0.07867	0.05022	0.60	28.00	30.9
A3	0.20306	0.29358	0.27447	0.13367	0.50522	0.11781	0.23217	0.06613	0.06196	0.60	28.00	30.5
A4	0.15303	0.22098	0.25757	0.08709	0.54798	0.12377	0.2415	0.06625	0.06143	0.60	28.00	30.4
A5	0.09602	0.23648	0.26135	0.08846	0.57764	0.10536	0.09926	0.08284	0.05529	0.60	28.00	30.2
A6	0.07259	0.31527	0.26419	0.09737	0.55296	0.09931	0.13079	0.07893	0.06779	0.60	28.00	30.3
A7	0.2731	0.07526	0.28612	0.11593	0	0.50285	1.96511	0.03426	0.14605	0.50	28.00	31.9
A8	0.24976	0.07776	0.28682	0.11449	0.00047	0.36164	1.42941	0.04047	0.07424	0.50	28.00	31.1
10m above ground												
A1	0.22415	0.17309	0.2547	0.11577	0.51935	0.23218	0.29917	0.1263	0.12375	0.60	28.00	30.7
A2	0.05667	0.8379	0.28055	0.15784	0.65646	0.08616	0.18592	0.07964	0.05053	0.60	28.00	31.0
A3	0.20755	0.29705	0.27648	0.13913	0.51112	0.11743	0.22956	0.06746	0.06348	0.60	28.00	30.5
A4	0.15533	0.22444	0.25895	0.08829	0.5552	0.12352	0.23886	0.0675	0.06285	0.60	28.00	30.4
A5	0.09684	0.24056	0.26266	0.08963	0.58414	0.10501	0.09835	0.08513	0.0562	0.60	28.00	30.2
A6	0.07405	0.3254	0.26549	0.09919	0.55732	0.09892	0.12961	0.08044	0.06962	0.60	28.00	30.3
A7	0.27887	0.07539	0.28772	0.1191	0	0.52984	2.16059	0.11735	0.25186	0.50	28.00	32.3
A8	0.25188	0.0779	0.28841	0.11754	0.00076	0.37891	1.50905	0.21236	0.11889	0.50	28.00	31.5
Scenario 2												
1.5m above ground												
A1	0.84322	0.17077	0.25217	0.11129	0.50408	0.22985	0.30355	0.11556	0.11495	0.60	28.00	31.2
A2	0.08921	0.77268	0.27824	0.14809	0.64762	0.0866	0.18843	0.07837	0.05012	0.60	28.00	30.9
A3	0.3812	0.2925	0.27387	0.13204	0.50343	0.1179	0.23295	0.06573	0.0615	0.60	28.00	30.7
A4	0.30457	0.21991	0.25715	0.08673	0.54579	0.12381	0.24229	0.06587	0.061	0.60	28.00	30.5
A5	0.16593	0.23522	0.26095	0.08811	0.57567	0.10546	0.09953	0.08215	0.05501	0.60	28.00	30.3
A6	0.12151	0.31214	0.2638	0.09682	0.55164	0.09942	0.13114	0.07847	0.06724	0.60	28.00	30.3
A7	0.48866	0.07521	0.28564	0.11497	0	0.49459	1.89709	0.01832	0.11514	0.50	28.00	32.0
A8	0.41311	0.07771	0.28634	0.11357	0.00039	0.3562	1.40064	0.017	0.06224	0.50	28.00	31.2
5m above ground												
A1	0.85662	0.17132	0.25276	0.11233	0.50762	0.2305	0.30254	0.11804	0.11699	0.60	28.00	31.3
A2	0.08938	0.78804	0.27878	0.15033	0.64967	0.08651	0.18785	0.07867	0.05022	0.60	28.00	31.0
A3	0.38346	0.29358	0.27447	0.13367	0.50522	0.11781	0.23217	0.06613	0.06196	0.60	28.00	30.7
A4	0.30552	0.22098	0.25757	0.08709	0.54798	0.12377	0.2415	0.06625	0.06143	0.60	28.00	30.5
A5	0.16618	0.23648	0.26135	0.08846	0.57764	0.10536	0.09926	0.08284	0.05529	0.60	28.00	30.3
A6	0.12266	0.31527	0.26419	0.09737	0.55296	0.09931	0.13079	0.07893	0.06779	0.60	28.00	30.3
A7	0.49235	0.07526	0.28612	0.11593	0	0.50285	1.96511	0.03426	0.14605	0.50	28.00	32.1
A8	0.41357	0.07776	0.28682	0.11449	0.00047	0.36164	1.42941	0.04047	0.07424	0.50	28.00	31.3
10m above ground												
A1	0.90011	0.17309	0.2547	0.11577	0.51935	0.23218	0.29917	0.1263	0.12375	0.60	28.00	31.3
A2	0.08994	0.8379	0.28055	0.15784	0.65646	0.08616	0.18592	0.07964	0.05053	0.60	28.00	31.0
A3	0.39112	0.29705	0.27648	0.13913	0.51112	0.11743	0.22956	0.06746	0.06348	0.60	28.00	30.7
A4	0.30869	0.22444	0.25895	0.08829	0.5552	0.12352	0.23886	0.0675	0.06285	0.60	28.00	30.5
A5	0.167	0.24056	0.26266	0.08963	0.58414	0.10501	0.09835	0.08513	0.0562	0.60	28.00	30.3
A6	0.1265	0.3254	0.26549	0.09919	0.55732	0.09892	0.12961	0.08044	0.06962	0.60	28.00	30.4
A7	0.50485	0.07539	0.28772	0.1191	0	0.52984	2.16059	0.11735	0.25186	0.50	28.00	32.5
A8	0.4151	0.0779	0.28841	0.11754	0.00076	0.37891	1.50905	0.21236	0.11889	0.50	28.00	31.6
Scenario 3												
1.5m above ground												
A1	0.21612	0.17077	0.25217	0.11129	0.50408	0.22985	0.30355	0.11556	0.11495	0.60	28.00	30.6
A2	0.06793	0.77268	0.27824	0.14809	0.64762	0.0866	0.18843	0.07837	0.05012	0.60	28.00	30.9
A3	0.12646	0.2925	0.27387	0.13204	0.50343	0.1179	0.23295	0.06573	0.0615	0.60	28.00	30.4
A4	0.08787	0.21991	0.25715	0.08673	0.54579	0.12381	0.24229	0.06587	0.061	0.60	28.00	30.3
A5	0.06984	0.23522	0.26095	0.08811	0.57567	0.10546	0.09953	0.08215	0.05501	0.60	28.00	30.2
A6	0.06033	0.31214	0.2638	0.09682	0.55164	0.09942	0.13114	0.07847	0.06724	0.60	28.00	30.3
A7	0.24343	0.07521	0.28564	0.11497	0	0.49459	1.89709	0.01832	0.11514	0.50	28.00	31.7
A8	0.23306	0.07771	0.28634	0.11357	0.00039	0.3562	1.40064	0.017	0.06224	0.50	28.00	31.0
5m above ground												
A1	0.22499	0.17132	0.25276	0.11233	0.50762	0.2305	0.30254	0.11804	0.11699	0.60	28.00	30.6
A2	0.06856	0.78804	0.27878	0.15033	0.64967	0.08651	0.18785	0.07867	0.05022	0.60	28.00	30.9
A3	0.12688	0.29358	0.27447	0.13367	0.50522	0.11781	0.23217	0.06613	0.06196	0.60	28.00	30.4
A4	0.08836	0.22098	0.25757	0.08709	0.54798	0.12377	0.2415	0.06625	0.06143	0.60	28.00	30.3
A5	0.07015	0.23648	0.26135	0.08846	0.57764	0.10536	0.09926	0.08284	0.05529	0.60	28.00	30.2
A6	0.06048	0.31527	0.26419	0.09737	0.55296	0.09931	0.13079	0.07893	0.06779	0.60	28.00	30.3
A7	0.24494	0.07526	0.28612	0.11593	0	0.50285	1.96511	0.03426	0.14605	0.50	28.00	31.9
A8	0.23373	0.07776	0.28682	0.11449	0.00047	0.36164	1.42941	0.04047	0.07424	0.50	28.00	31.1
10m above ground												
A1	0.25473	0.17309	0.2547	0.11577	0.51935	0.23218	0.29917	0.1263	0.12375	0.60	28.00	30.7
A2	0.07066	0.8379	0.28055	0.15784	0.65646	0.08616	0.18592	0.07964	0.05053	0.60	28.00	31.0
A3	0.12825	0.29705	0.27648	0.13913	0.51112	0.11743	0.22956	0.06746	0.06348	0.60	28.00	30.4
A4	0.09005	0.22444	0.25895	0.08829	0.5552	0.12352	0.23886	0.0675	0.06285	0.60	28.00	30.3
A5	0.07122	0.24056	0.26266	0.08963	0.58414	0.10501	0.09835	0.08513	0.0562	0.60	28.00	30.2
A6	0.06098	0.3254	0.26549	0.09919	0.55732	0.09892	0.12961	0.08044	0.06962	0.60	28.00	30.3
A7	0.25002	0.07539	0.28772	0.1191	0	0.52984	2.16059	0.11735	0.25186	0.50	28.00	32.3
A8	0.23596	0.0779	0.28841	0.11754	0.00076	0.37891	1.50905	0.21236	0.11889	0.50	28.00	31.4
Scenario 4												
1.5m above ground												
A1	1.16316	0.17077	0.25217	0.11129	0.50408	0.22985	0.30355	0.11556	0.11495	0.60	28.00	31.6
A2	0.14034	0.77268	0.27824	0.14809	0.64762	0.0866	0.18843	0.07837	0.05012	0.60	28.00	31.0
A3	0.34058	0.2925	0.27387	0.13204	0.50343	0.1179	0.23295	0.06573	0.0615	0.60	28.00	30.6
A4	0.2035	0.21991	0.25715	0.08673	0.54579	0.12381	0.24229	0.06587	0.061	0.60	28.00	30.4
A5	0.14881	0.23522	0.26095	0.08811	0.57567	0.10546	0.09953	0.08215	0.05501	0.60	28.00	30.3
A6	0.11149	0.31214	0.2638	0.09682	0.55164	0.09942	0.13114	0.07847	0.06724	0.60	28.00	30.3
A7	0.44709	0.07521	0.28564	0.11497	0	0.49459	1.89709	0.01832	0.11514	0.50	28.00	31.9
A8	0.45917	0.07771	0.28634	0.11357	0.00039	0.3562	1.40064	0.017	0.06224	0.50	28.00	31.3
5m above ground												
A1	1.19383	0.17132	0.25276	0.11233	0.50762	0.2305	0.30254	0.11804	0.11699	0.60	28.00	31.6
A2	0.14173	0.78804	0.27878	0.15033	0.64967	0.08651	0.18785	0.07867	0.05022	0.60	28.00	31.0
A3	0.34193	0.29358	0.27447	0.13367	0.50522	0.11781	0.23217	0.06613	0.06196	0.60	28.00	30.6
A4	0.20474	0.22098	0.25757	0.08709	0.54798	0.12377	0.2415	0.06625	0.06143	0.60	28.00	30.4
A5	0.15059	0.23648	0.26135	0.08846	0.57764	0.10536	0.09926	0.08284	0.05529	0.60	28.00	30.3
A6	0.11203	0.31527	0.26419	0.09737	0.55296	0.09931	0.13079	0.07893	0.06779	0.60	28.00	30.3
A7	0.45017	0.07526	0.28612	0.11593	0	0.50285	1.96511	0.03426	0.14605	0.50	28.00	32.1
A8	0.46155	0.07776	0.28682	0.11449	0.00047	0.36164	1.42941	0.04047	0.07424	0.50	28.00	31.3
10m above ground												
A1	1.29331	0.17309	0.2547	0.11577	0.51935	0.23218	0.29917	0.1263	0.12375	0.60	28.00	31.7
A2	0.14632	0.8379	0.28055	0.15784	0.65646	0.08616	0.18592	0.07964	0.05053	0.60	28.00	31.1
A3	0.34642	0.29705	0.27648	0.13913	0.51112	0.11743	0.22956	0.06746	0.06348	0.60	28.00	30.6
A4	0.20892	0.22444	0.25895	0.08829	0.5552	0.12352	0.23886	0.0675	0.06285	0.60	28.00	30.4
A5	0.15655	0.24056	0.26266	0.08963	0.58414	0.10501	0.09835	0.08513	0.0562	0.60	28.00	30.3
A6	0.1138	0.3254	0.26549	0.09919	0.55732	0.09892	0.12961	0.08044	0.06962	0.60	28.00	30.3
A7	0.46039	0.07539	0.28772	0.1191	0	0.52984	2.16059	0.11735	0.25186	0.50	28.00	32.5
A8	0.46948	0.0779	0.28841	0.11754	0.00076	0.37891	1.50905	0.21236	0.11889	0.50	28.00	31.7

Maximum Hourly and 8-hour CO Results

Background CO 837 ug/m3

ASR	Maximum Hourly						8-hour Averaging					
	Modelled			Total			Modelled			Total		
	1.5m	5m	10m	1.5m	5m	10m	1.5m	5m	10m	1.5m	5m	10m
Scenario 1												
A1	7.4	7.5	7.5	844	844	845	4.3	4.3	4.5	841	841	841
A2	3.3	3.3	3.3	840	840	840	1.4	1.4	1.4	838	838	838
A3	6.8	6.8	6.8	844	844	844	3.0	3.0	3.0	840	840	840
A4	4.8	4.8	4.8	842	842	842	2.1	2.1	2.1	839	839	839
A5	4.3	4.3	4.3	841	841	841	1.5	1.5	1.5	838	838	838
A6	5.9	5.9	6.0	843	843	843	1.4	1.4	1.4	838	838	838
A7	7.1	7.1	7.2	844	844	844	3.7	3.7	3.8	841	841	841
A8	4.1	4.1	4.1	841	841	841	2.9	2.9	2.9	840	840	840
Scenario 2												
A1	18.1	18.1	18.3	855	855	855	12.2	12.2	12.3	849	849	849
A2	6.8	6.8	6.8	844	844	844	2.0	2.0	2.0	839	839	839
A3	14.8	14.9	15.0	852	852	852	6.5	6.5	6.6	843	844	844
A4	11.5	11.5	11.6	848	849	849	5.0	5.0	5.1	842	842	842
A5	8.4	8.4	8.5	845	845	845	2.4	2.4	2.4	839	839	839
A6	13.2	13.2	13.3	850	850	850	2.9	2.9	3.0	840	840	840
A7	16.3	16.3	16.4	853	853	853	5.5	5.5	5.5	843	843	842
A8	8.6	8.6	8.6	846	846	846	4.1	4.1	4.1	841	841	841
Scenario 3												
A1	7.2	7.3	7.5	844	844	845	3.3	3.4	3.8	840	840	841
A2	6.0	6.0	6.1	843	843	843	2.2	2.2	2.1	839	839	839
A3	4.0	4.0	4.0	841	841	841	1.8	1.8	1.8	839	839	839
A4	7.2	7.2	7.3	844	844	844	1.9	1.9	1.9	839	839	839
A5	5.5	5.5	5.6	843	843	843	1.7	1.7	1.7	839	839	839
A6	3.5	3.5	3.5	841	841	841	1.5	1.5	1.5	839	839	839
A7	6.5	6.6	6.6	844	844	844	3.2	3.2	3.2	840	840	840
A8	4.5	4.5	4.5	841	841	841	2.9	2.9	2.9	840	840	840
Scenario 4												
A1	26.3	26.4	26.8	863	863	864	20.1	20.2	20.6	857	857	858
A2	16.0	16.2	17.6	853	853	855	7.8	7.9	8.2	845	845	845
A3	14.1	14.1	14.2	851	851	851	6.3	6.3	6.4	843	843	843
A4	19.2	19.3	19.4	856	856	856	3.7	3.7	3.7	841	841	841
A5	17.9	17.9	17.9	855	855	855	3.7	3.8	4.0	841	841	841
A6	10.5	10.5	10.5	847	847	847	2.6	2.6	2.6	840	840	840
A7	9.7	9.7	9.7	847	847	847	4.0	4.0	3.9	841	841	841
A8	18.0	18.0	18.6	855	855	856	5.7	5.8	6.6	843	843	844