

Appendix 4.12

Details of Industrial Emission

Emission factor for Organic Waste Treatment Facilities, Phase 2

With reference to the approved EIA Report "Development of Organic Waste Treatment Facilities, Phase 2" (AEIAR-180/2013):

Emission Details - Combined Heat and Power (CHP) Plant

Flow rate = 2,500 Nm³ / hour

Emission Details - Flare

Flow rate = 1,500 Nm³ / hour

Pollutant	Concentration Limit	Emission Rate	
	(mg/Nm ³)	(mg/hour)	(g/s)
Nox	500	1,250,000	0.3472
RSP	15	37,500	0.0104
FSP [1]	15	37,500	0.0104

Pollutant	Concentration Limit	Emission Rate	
	(mg/Nm ³)	(mg/hour)	(g/s)
Nox	200	300,000	0.0833
RSP	5	7,500	0.0021
FSP [1]	5	7,500	0.0021

Note [1] FSP is not given in the approved OWTF Phase 2 EIA Report. As a conservative approach, concentration limit on RSP has been adopted.

Dimensions

Source ID	Gas Flow Rate	Temperature	Exit Velocity [2]	Diameter [3]	Emission Height
	(Nm ³ /hour)	(K)	(m/s)	(m)	(mAG)
STACK	2,500	733	15	0.24	30
FLARE	1,500	1173	3.5	0.39	20

Note :

[2] Exhaust exit velocities are not available from the approved OWTF Phase 2 EIA Report, hence, reference has been made to the approved EIA Report "Organic Waste Treatment Facilities, Phase 1" (AEIAR-149/2010) as the best available information.

[3] Calculated based on the gas flow rate and exit velocities referenced from the approved OWTF Phase 1 EIA Report.

Emission Inventory for Gaseous Pollutant

Source ID	Description	X	Y	Exit Temperature	Exit velocity	Internal diameter	Release Height	Emission Rate (g/s)		
		(m)	(m)	(K)	(m/s)	(m)	(m)	NOx	RSP	FSP
STACK	CHP	831420	843047	733	15.0	0.24	30	3.472E-01	1.042E-02	1.042E-02
FLARE	Flare	831397	843098	1173	3.5	0.39	20	8.333E-02	2.083E-03	2.083E-03

Emission factor for a Proposed Temporary Asphalt Plant at Man Kam To Road

With reference to the Environmental Assessment Report "S16 Planning Application for a Proposed Temporary Asphalt Plant at Man Kam To Road, Sheung Shui" (A/NE-FTA/148)

Emission Point	Description	Coordinates		X-length (m)	Y-length (m)	Angle (degree)	Type of Source	Emission Height above Ground (m)	Stack Diameter (m)	Exhaust Temperature (K)	Exit Velocity (m/s)	Pollutants Emission Rate for Emission Points at the Asphalt Plant									
		X	Y									RSP			FSP			Nox			
												Emission Rate (g/s)	Emission Rate (g/m/s)	Emission Rate (g/m2/s)	Emission Rate (g/s)	Emission Rate (g/m/s)	Emission Rate (g/m2/s)	Emission Rate (g/s)	Emission Rate (g/m/s)	Emission Rate (g/m2/s)	
EP1	Emission from Stack	830936.1	842374.7	N/A	N/A	N/A	Point	34	1	393.15	21.22	2.209E-01	N/A	N/A	1.856E-01	N/A	N/A	4.119E+00	N/A	N/A	
EP2	Emission from Importing and Transfer of Aggregate	830900.4	842319.8	4	5	44	Area	0	N/A	N/A	N/A	N/A	N/A	1.001E-04	N/A	N/A	1.515E-05	N/A	N/A	N/A	
EP3-1		830907.7	842334.3	5.5	9.5	45	Area	0	N/A	N/A	N/A	N/A	N/A	6.027E-06	N/A	N/A	9.127E-07	N/A	N/A	N/A	
EP3-2		830917.2	842344	12	15.8	45	Area	0	N/A	N/A	N/A	N/A	N/A	6.027E-06	N/A	N/A	9.127E-07	N/A	N/A	N/A	
EP4	Emission from Process, Storage and Transfer of Reclaimed Asphalt Pavement (RAP)	830921	842405	6.4	23.9	71	Area	0	N/A	N/A	N/A	N/A	N/A	1.480E-06	N/A	N/A	2.241E-07	N/A	N/A	N/A	
EP5		830905.3	842386.9	2	4	23	Area	0	N/A	N/A	N/A	N/A	N/A	2.309E-06	N/A	N/A	3.496E-07	N/A	N/A	N/A	
EP6		830954.3	842400.6	20	23.7	70	Area	0	N/A	N/A	N/A	N/A	N/A	1.283E-06	N/A	N/A	1.942E-07	N/A	N/A	N/A	
EP7		830948.3	842389.2	4.3	3.4	0	Area	0.5	N/A	N/A	N/A	N/A	N/A	1.294E-05	N/A	N/A	1.959E-06	N/A	N/A	N/A	
EP8		830918.8	842385.6	4.3	3.4	23	Area	0.5	N/A	N/A	N/A	N/A	N/A	1.294E-05	N/A	N/A	1.959E-06	N/A	N/A	N/A	
EP9		830913.4	842387.9	4.3	3.4	23	Area	0.5	N/A	N/A	N/A	N/A	N/A	1.294E-05	N/A	N/A	1.959E-06	N/A	N/A	N/A	
EP10	Emission from Filler and Imported Dust/Lime	830920.8	842374.9	N/A	N/A	N/A	Point	18	0.09	293.15	9	3.583E-05	N/A	N/A	5.426E-06	N/A	N/A	N/A	N/A	N/A	
EP11		830920.8	842374.9	N/A	N/A	N/A	Point	18	0.09	293.15	9	4.658E-06	N/A	N/A	7.054E-07	N/A	N/A	N/A	N/A	N/A	
EP12		830920.8	842374.9	N/A	N/A	N/A	Point	18	0.09	293.15	9	4.658E-06	N/A	N/A	7.054E-07	N/A	N/A	N/A	N/A	N/A	
EP21	Emission from Bitumen, Asphalt Rubber and Asphalt Emulsion Production and	830930.2	842355.4	N/A	N/A	N/A	Point	3	0.5	453.15	14.71	3.447E-03	N/A	N/A	1.280E-03	N/A	N/A	1.590E-01	N/A	N/A	
EP22		830928.6	842385.8	N/A	N/A	N/A	Point	3	0.5	453.15	14.71	3.447E-03	N/A	N/A	1.280E-03	N/A	N/A	1.590E-01	N/A	N/A	
EP23	Emission from Rejected Aggregate Storage	830920.8	842374.9	N/A	N/A	N/A	Point	18	0.09	293.15	9	4.658E-05	N/A	N/A	7.054E-06	N/A	N/A	N/A	N/A	N/A	
EP24		830925.7	842352.6	2	2	45	Area	0	N/A	N/A	N/A	N/A	N/A	1.165E-05	N/A	N/A	1.763E-06	N/A	N/A	N/A	
EP25	Emission from Open Road Traffic (Truck movement on paved roads at the Proposed Temporary Asphalt Plant)	R1	830865.6	842280.5	2	15.8	41	Area	0.5	N/A	N/A	N/A	N/A	N/A	4.500E-05	N/A	N/A	0.000E+00	N/A	N/A	N/A
		R2	830876	842292.3	2	15.8	41	Area	0.5	N/A	N/A	N/A	N/A	N/A	4.500E-05	N/A	N/A	0.000E+00	N/A	N/A	N/A
		R3	830886.3	842304.3	2	7.4	0	Area	0.5	N/A	N/A	N/A	N/A	N/A	4.500E-05	N/A	N/A	0.000E+00	N/A	N/A	N/A
		R4	830886.3	842311.7	2	13.6	-33	Area	0.5	N/A	N/A	N/A	N/A	N/A	4.500E-05	N/A	N/A	0.000E+00	N/A	N/A	N/A
		R5	830879	842323.1	2	15.6	-33	Area	0.5	N/A	N/A	N/A	N/A	N/A	4.500E-05	N/A	N/A	0.000E+00	N/A	N/A	N/A
		R6	830870.6	842336.2	2	17.6	-33	Area	0.5	N/A	N/A	N/A	N/A	N/A	4.500E-05	N/A	N/A	0.000E+00	N/A	N/A	N/A
		R7	830861.1	842351	2	8.9	5	Area	0.5	N/A	N/A	N/A	N/A	N/A	4.500E-05	N/A	N/A	0.000E+00	N/A	N/A	N/A
		R8	830862	842359.9	2	19.7	53	Area	0.5	N/A	N/A	N/A	N/A	N/A	4.500E-05	N/A	N/A	0.000E+00	N/A	N/A	N/A
		R9	830977.8	842371.7	2	19.6	53	Area	0.5	N/A	N/A	N/A	N/A	N/A	4.500E-05	N/A	N/A	0.000E+00	N/A	N/A	N/A
		R10	830893.5	842383.4	2	14.7	53	Area	0.5	N/A	N/A	N/A	N/A	N/A	4.500E-05	N/A	N/A	0.000E+00	N/A	N/A	N/A
		R11	830905.2	842392.2	2	11.3	74	Area	0.5	N/A	N/A	N/A	N/A	N/A	4.500E-05	N/A	N/A	0.000E+00	N/A	N/A	N/A
		R12	830916.1	842395.3	2	12.2	81	Area	0.5	N/A	N/A	N/A	N/A	N/A	4.500E-05	N/A	N/A	0.000E+00	N/A	N/A	N/A
		R13	830928.2	842397.2	2	9.2	74	Area	0.5	N/A	N/A	N/A	N/A	N/A	4.500E-05	N/A	N/A	0.000E+00	N/A	N/A	N/A
		R14	830937	842399.8	2	10.8	66	Area	0.5	N/A	N/A	N/A	N/A	N/A	4.500E-05	N/A	N/A	0.000E+00	N/A	N/A	N/A
		R15	830881.8	842318.8	2	15.3	48	Area	0.5	N/A	N/A	N/A	N/A	N/A	4.500E-05	N/A	N/A	0.000E+00	N/A	N/A	N/A
		R16	830893.1	842329.1	2	15.9	48	Area	0.5	N/A	N/A	N/A	N/A	N/A	4.500E-05	N/A	N/A	0.000E+00	N/A	N/A	N/A
		R17	830904.9	842339.7	2	12.2	57	Area	0.5	N/A	N/A	N/A	N/A	N/A	4.500E-05	N/A	N/A	0.000E+00	N/A	N/A	N/A
R18	830915.2	842346.3	2	18.2	45	Area	0.5	N/A	N/A	N/A	N/A	N/A	4.500E-05	N/A	N/A	0.000E+00	N/A	N/A	N/A		
R19	830915.2	842346.3	2	14.2	-56	Area	0.5	N/A	N/A	N/A	N/A	N/A	4.500E-05	N/A	N/A	0.000E+00	N/A	N/A	N/A		
R20	830903.4	842354.3	2	15.9	-56	Area	0.5	N/A	N/A	N/A	N/A	N/A	4.500E-05	N/A	N/A	0.000E+00	N/A	N/A	N/A		
R21	830890.2	842363.2	2	15	-56	Area	0.5	N/A	N/A	N/A	N/A	N/A	4.500E-05	N/A	N/A	0.000E+00	N/A	N/A	N/A		
EP26	Emission from Temporary and Emergency Generator	830959.3	842378.9	N/A	N/A	N/A	Point	8	0.15	772.15	17.26	3.309E-02	N/A	N/A	1.229E-02	N/A	N/A	1.524E-01	N/A	N/A	

Note :

[1] "N/A" means not applicable

