

Emission from North Lantau Hospital**Towngas Combustion**

PM Emission Factor	=	7.6 lb/ 10^6 ft ³	[AP42 Table 1.4-2]
	=	121.6 kg/ 10^6 m ³	[To convert from lb/ 10^6 scf to kg/ 10^6 m ³ , multiply by 16.]
	=	121600 g/ 10^6 m ³	
	=	0.1216 g/m ³	

Towngas
 Consumption for each stack = 74 m³ per hour [provided by Hospital Authority]
 = 2.06E-02 m³ per second

Stack Emission Rate = 2.50E-03 g/s
 2.50E-03 g/s (TSP) [AP42 Table 1.4-2]
 2.50E-03 g/s (RSP) [AP42 Table 1.4-2]
 2.50E-03 g/s (FSP) [AP42 Table 1.4-2]

Source	Source ID	Type	X [1]	Y [1]	Release Height	Exit Temperature	Exit velocity	Internal diameter	Emission Rate (g/s)			Operation Hour	Remark / Reference
			(m)	(m)	(m)	(K)	(m/s)	(m)	TSP	RSP	FSP		
North Lantau Hospital	NLH_EP1	POINT	811778.1	815986.3	56	333	1.6	0.25	2.50E-03	2.50E-03	2.50E-03	24 hours a day	Fuel type, fuel consumption rate, height, diameter, exit velocity, exit temperature and operation period are provided by HA.
	NLH_EP2	POINT	811778.7	815986.2	56	333	1.6	0.25	2.50E-03	2.50E-03	2.50E-03		

Note

[1] Stack information are provided by HA

[2] Given that a large portion of towngas is natural gas, the emission factors for TSP, RSP and FSP derived from USEPA AP-42 (5th edition), Chapter 1.4 - Natural Gas Combustion are adopted current dust impact assessment.

[3] PM emission in USEPA AP-42 (5th edition), Chapter 1.4 - Natural Gas Combustion is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors presented here is used to estimate PM10 (RSP), PM2.5 (FSP) and TSP for conservative assessment.

Emission Inventory for Organic Resources Recovery Centre

Source	Source ID	Type	X	Y	Release Height	Exit Temperature	Exit velocity	Internal diameter	Pollutants Emission Rate		
			(m)	(m)	(m)	(K)	(m/s)	(m)	(g/s)	(g/s)	(g/s)
Organic Resources Recovery Centre	OWTFCU	Point	817820	819559	25	308	15.0	1.8	0.20300	0.20300	0.20300
	OWTFCO1	Point	817897	819550	12	453	16.5	0.5	0.02920	0.02920	0.02920
	OWTFCO2	Point	817897	819546	12	453	16.5	0.5	0.02920	0.02920	0.02920
	OWTFCO3	Point	817902	819545	12	453	16.5	0.5	0.02920	0.02920	0.02920
	OWTFFGS	Point	817903	819522	18	1173	13.3	2.2	0.05870	0.05870	0.05870
	OWTFASP	Point	817902	819540	12	413	9.2	0.5	0.00596	0.00596	0.00596

Note

[1] Source ID, stack information and emissions are extracted from Environmental Review Report for "Organic Waste Treatment Facilities Phase 1: Proposed Design Change" (VEP488/2015)

[2] FSP and TSP emission rates are not given in Environmental Review Report for "Organic Waste Treatment Facilities Phase 1: Proposed Design Change" (VEP488/2015). FSP and TSP emission rates are assumed to be equal to RSP emission rates.

