

Appendix 6.6

Detailed Calculation of Emission from Typhoon Shelters

Barge Ship in Typhoon Shelters

Auxiliary Engine during idling:

Propulsion Engine power, KW = 82
 Load Factor ⁽¹⁾, % = 43%
 Activity time, hr = 1
 No. of barges per hour operate = 60

	Emission Factor in g/kWh ⁽³⁾	Emission Rate in kg	Emission Rate in kg/hr	Emission Rate in g/s per Barge	Remarks
NO _x	10	0.35	21.16	5.877	20% of NO _x (4) (4)
NO ₂	-			1.175	
SO ₂	0.63	0.02	1.33	0.938	
PM10	0.4	0.01	0.85	0.596	

Total area of Kwun Tong Typhoon Shelter, m² = 336600

Total area of To Kwa Wan Typhoon Shelter, m² = 233200

	Total emission rate g/s	Total emission rate, g/m2/s	
		Kwun Tong	To Kwa Wan
NO ₂	1.175	3.49178E-06	5.04002E-06
SO ₂	0.938	2.78644E-06	4.02194E-06
PM10	0.596	1.76917E-06	2.55361E-06

Notes:

- (1) Table 2-14 of Current Methodologies and Best Practices in Preparing Port Emission Inventories, Final Report, January 2006 prepared by ICF Consulting for USEPA.
- (2) Assume 60 barge per hours
- (3) Table 2-15 of Current Methodologies and Best Practices in Preparing Port Emission Inventories, Final Report, January 2006 prepared by ICF Consulting for USEPA.
- (4) Correction factor of 2.53 for average 3.8% fuel sulphur content was applied.