

NRCA Emission Standards for New Sources, 2006

KEY AREA	SEGMENT	STANDARD FOR NEW SOURCES	
		Pollutant	Value
ALL SOURCES (except where there is an applicable PM standard)		OPACITY	20% opacity and up to 40% opacity for six (6) consecutive minutes in any hour or 6 hours in 10 days except during start-up, shutdown, soot blowing or malfunction for each stack
MINERAL INDUSTRIES	Portland Cement	PM	100 mg/m ³ from clinker cooler (a)
		PM	50 mg/m ³ from kilns, finish grinders and all other sources (a)
		SO ₂	Equivalent to a maximum of 2.2% sulphur in residual (Nos. 5 & 6) fuel oils based on plant wide SO ₂ emissions
	Lime	PM	100 mg/m ³ for all sources (a)
		SO ₂	Equivalent to a maximum of 2.2% sulphur in residual (Nos. 5 or 6) fuel oils based on plant wide SO ₂ emissions
	Alumina	PM	0.092 g/dscm (20°C, 101.3 kPa, dry gas); 10% opacity with 40% for 6 consecutive minutes/hour at start-up
		SO ₂	Equivalent to a maximum of 2.2% sulphur is residual (Nos. 5 or 6) fuel oils based on plant wide SO ₂ emissions
	Glass (oil fired)	Opacity	20% opacity with 40% opacity for 6 minutes in any hour during or 6 hours in 10 days except during start-up, shutdown, soot blowing or malfunction for each stack

Container, flat, pressed & blown soda lime; textile & wood fibreglass	PM	0.5 kg/Mg glass produced modified process
Blown with borosilicate recipe melting furnace modified process	PM	1.0 kg/Mg glass produced
Pressed & blown Borosilicate regular process	PM	0.65 kg/Mg glass produced
Soda lime regular process	PM	0.13 kg/Mg glass produced
Other, wool fibreglass regular process	PM	0.325 kg/Mg glass produced
Flat glass regular process	PM	0.225 kg/Mg glass produced
Oil fired, container glass, regular process	PM	0.13 kg/Mg glass produced

Emission Standards for New Sources continued...

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FUEL COMBUSTION	Fuel oils	SO ₂	2.2% sulphur in heavy fuel oil (Nos. 5 & 6 oils) 1.0 % sulphur in medium (Nos. 3 or 4) fuel oils 0.5% sulphur in light fuel oils (Nos. 1 & 2 oils) and diesel oils
	Coal Fired >70 MW	PM	45 ng/J input except during start-up, shutdown, soot blowing or malfunction for each stack
		SO ₂	520 ng/J input
		NO _x	260 ng/J
	All Other Coal Fired	PM	60 ng/J input except during start-up, shutdown, soot blowing or malfunction for each stack
		SO ₂	520 ng/J input
		NO _x	260 ng/J input
	Oil Fired	PM	43 ng/J input except during start-up, shutdown, soot blowing or malfunction for each stack
		NO _x	130 ng/J input

PETROLEUM REFINING	Gas fired		
	>73 MW	NO _x	86 ng/J
	29 - 73 MW	NO _x	40 ng/J
	2.9 to 29 MW	NO _x	26 ng/J
	Any size	CO	125 ng/J
	Any size	PM	13 ng/J
	Gas turbine >29.7 MW	NO _x	STD = 0.0075*14.4/Y + F (b)
	Gas turbine >2.9 and < 29.7 MW)	NO _x	STD = 0.0150*14.4/Y + F (b)
	Gas turbines > 20 MW non peaking	NO _x	380 ng/J output
	Gas turbines 3 - 20 MW non peaking	NO _x	460 ng/J output
	Gas turbines < 3 MW non peaking	NO _x	1250 ng/J output
	Gas turbines peaking	NO _x	530 ng/J output
	Gas turbines (all)	SO ₂	1.0% sulphur content in light (Nos. 1 or 2) fuel oils
	Liquid fuel fired Internal Combustion Engines 2 to 50 MW	PM	85 ng/J (100 mg/m ³ at 15% O ₂)
		NO _x	2,981 ng/J (3,512 mg/Nm ³ at 15 % O ₂)
Liquid fuel fired Internal Combustion Engines > 50 MW	PM	42 ng/J (50 mg/m ³ at 15% O ₂)	
	NO _x	1,700 ng/J (2,000 mg/Nm ³ 15 % O ₂)	
Bagasse Boilers	PM	4,200 g/t input	
Sulphur Plant	SO ₂	99 % sulphur removal	

	FCCU Regenerator	PM	115 mg/m ³ exhaust (a)
		SO ₂	830 mg/m ³ exhaust (a)
		CO	2,400 mg/m ³ exhaust (a)
	Coking Calciner	PM	100 mg/m ³ exhaust (a)
	Fluid Coking	PM	0.02 kg/m ³ feed (a)
	Steam Plant	PM	150 mg/m ³ exhaust (a)
		SO ₂	830 mg/m ³ exhaust (a)
WASTE TREATMENT	All	VOC	Leak detection and repair program
	Municipal/Biomedical Incinerators	PM	200 mg/m ³ (c)
		CO	100 mg/m ³ (c)
		SO ₂	300 mg/m ³ (c)
		VOC	20 mg/m ³ as C (c)
	Cement Kilns burning hazardous and non-hazardous wastes as supplementary fuel	PM	20 mg/Rm ³ (d) for that portion of the fuel resulting from combustion of waste fuel
		PCDD & PCDF	0.5 ng/Rm ³ (d)
HCl		50 mg/Rm ³ (d)	

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WASTE TREATMENT	Cement Kilns burning hazardous and non-hazardous wastes as supplementary fuel	Sum of Sb, Cu, Pb, Mn, V, Zn	1.5 mg/Rm ³ (d)
		Sum of As, Cr, Co, Ni, Se, Te	0.15 mg/Rm ³ (d)
		Sum of Cd, Hg, Tl	0.15 mg/Rm ³ (d)
		Sulphuric acid mist	0.075 kg/tonne 100% acid produced
INORGANIC CHEMICALS	Sulphuric Acid by contact process	SO ₂	2 kg/tonne 100% acid produced

(a) 20°C, 101.3 kPa, dry gas

(b) STD = allowable NOx emissions (percent by volume at 15 percent oxygen and on a dry basis). Y = manufacturer's rated heat rate at manufacturer's rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt-hour. F=NOx emission allowance for fuel-bound nitrogen as defined below.

Fuel-bound nitrogen (percent by weight)	F (NOx percent by volume)
N≤0.015	0
0.015<N≤0.1	0.04(N)
0.1<N≤0.25	0.004+0.0067(N-0.1)
N>0.25	0.005

where: N = the nitrogen content of the fuel (percent by weight). Or: Manufacturers may develop custom fuel-bound nitrogen allowances for each gas turbine model they manufacture.

(c) 273°K, 101.3 kPa, dry gas

(d) Rm³ refer to conditions of 25°C, 101.3 kPa corrected to 11%O₂, dry basis.