

MINISTRY OF ENVIRONMENT AND FORESTS

NOTIFICATION

New Delhi, the 9th July, 2002

Environment (Protection) Third Amendment Rules, 2002.

G.S.R- 489(E),--In exercise of the powers conferred by sections 6 and 25 of the Environment (Protection).Act, 1986 (29 of 1986), the Central Government hereby makes the following rules further to amend the Environment (Protection) Rules, 1986, namely:-

1. (1) These rules may be called the Environment (Protection) Third Amendment Rules, 2002.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Environment (Protection) Rules, 1986, in Schedule 1, after serial number 95 relating to Emission Limits for New Diesel Engines (up to 800 KW) for Generator Sets (Gensets) Applications and the entries relating thereto, the following serial number and entries shall be inserted, namely :

"96. EMISSION STANDARDS FOR DIESEL ENGINES (ENGINE : RATING MORE THAN 0.8 MW (80.0 KW) FOR POWER PLANT, GENERATOR SET APPLICATIONS AND OTHER REQUIREMENTS

TABLE

Parameter	Area Category	Total engine rating of the plant (includes existing as well as new generators sets)t		Generator sets commissioning date	
		Before 1.7.2003	Between 1.7.2003 and 1.7.2005	On or after 1.7.2005	
NO _x (as NO ₂) (AT 15% O ₂), dry basis, in ppmv	A Upto 75 MW	1100	970	710	
	B Upto 50 MW				
	A More than 75 MW	1100	710	360	
NMHC (as C) (at 15% O ₂), mg/Nm ³	B More than 150 MW				
			Both A and B	150	100
PM (at 15% O ₂), mg/NM ³ .		Diesel Fuels - HSD & LDO	Both A and B	75	75
		Furnace Oils-LSHS & FO	Both A and B	150	100
CO (at 15% O ₂ , mg/Nm ³			Both A and B	150	150
Sulphur content in fuel	A		<2%		
	B		<4%		
Fuel specification	For A only	Up to 5MW	Only Diesel Fuels (HSD, LDO) shall be used.		

Stack height (for generator sets commissioned after 1.7.2003) Stack height shall be maximum of the following, in meter :

(i) $14 Q^{0.3}$, Q = Total SO₂ emission from the plant in kg/hr.

(ii) Minimum 6 m. above the building where generator set is installed.

(iii) 30 m.

MW	: Mega (10 ⁶) Watt
NO _x	: Oxides of Nitrogen
NO ₂	: Nitrogen Dioxide
O ₂	: Oxygen
NMHC	: Non-Methane Hydrocarbon
C	: Carbon
PM	: Particulate Matter
CO	: Carbon Monoxide
SO ₂	: Sulphur Dioxide
ppmv	: Part per million (10 ⁶) by volume
FO	: Furnace Oil
HSD	: High Speed Diesel
LDO	: Light Diesel Oil
LSHS	: Low Sulphur Heavy Stock
kPa	: Kilo Pascal
mm	: Milli (10 ⁻³) metre
kg/hr	: Kilo (10 ³) gram per hour
mg/Nm ³	: Milli (10 ⁻³) gram per Normal metre cubic

2. Area categories A and B are defined as follows :

Category A: Areas within the municipal limits of towns/cities having population more than 10 lakhs and also upto 5 km beyond the municipal limits of such towns/cities.

Category B: Areas not covered by category A.

3. The standards shall be regulated by the State Pollution Control Boards or Pollution Control Committees, as the case may be.

4. Individual units with engine ratings less than or equal to 800 KW are not covered by this notification.

5. Only following liquid fuels viz. High Speed Diesel, Light Diesel oil, Low Sulphur Heavy Stock and Furnace Oil or liquid fuels with equivalent specifications shall be used in these power plants and generator sets.

6. For expansion project, stack height of new generator sets shall be as per total Sulphur Dioxide emission (including existing as well as additional load).

7. For multi engine plants, fuels shall be grouped in cluster to get better plume rise and dispersion. Provision for any future expansion should be made in planning stage itself.

8. Particulate Matter, Non-Methane Hydrocarbon and Carbon Monoxide results are to be normalized to 25° C, 1.01 Kilo Pascal (760 mm of mercury) pressure and zero percent moisture (dry basis).

9. Measurement shall be performed at steady load conditions of more than 85% of the rated load.

10. Continuous monitoring of Oxides of Nitrogen shall be done by the plants whose total engine capacity is more than 50 Mega Watt. However, minimum once in six month monitoring for other parameters shall be adopted by the plants.

11. Following methods may be adopted for the measurement of emission parameters,-

Sl. No.	Emission Parameters	Measurement Methods
1.	Particulates	Gravimetric
2.	SO ₂	Barium Perchlorate-Thorin indicator method
3.	NO _x	Chemiluminescence, Non Dispersive Infra Red, Non Dispersive Ultra-violet (for continuous measurement), Phenol disulphonic method
4.	CO	Non Dispersive Infra Red
5.	O ₂	Paramagnetic, Electrochemical sensor
6.	NHMC	Gas Chromatograph - Flame Ionisation Detector

[F. No. Q-15017/24/2002-CPW]

C. VISWANATH, Jt. Secy.

Note :- The principal rules were published in the Gazette. of India vide number S.O. 844(E) 19th November, 1986 and subsequently amended vide S.O. 433(E) dated 18th April, 1987, S.O. 64(E) dated 18th January, 1988, S.O.3(E) dated 3rd January. 1989. S.O. 190(E) dated 15th March, 1989, G.S.R. 913(E) the 24th October, 1989, S.O. 12(E) dated the 8th January, 1990, G.S.R. 742(E) dated the 30th August, 1990, S.O. 23(E) dated the 16th January, 1991, G.S.R. 93(E) dated the 21st February, 1991, G.S.R. 95(E) dated the 12th February, 1992, G.S.R. 329(E) dated the 13th March, 1992, G.S.R. 475(E) dated the 5th May, 1992, G.S.R. 797(E) dated the 1st October, 1992, G.S.R. 386(E) dated the 28th April, 1993, G.S.R. 422(E) dated the 19th May, 1993, G.S.R. 801(E) dated the 31st December, 1993, G.S.R. 176(E) dated the 3rd April 1996, G.S.R. 631(E) dated the 31st October, 1997, G.S.R. 504(E) dated the 20th August, 1998, G.S.R. 7(E) dated the 25th September, 2000, G.S.R. 72(E) dated 6th February, 2001, G.S.R. 54(E) dated 22.1.2002 and G.S.R. No. 371(E) dated 17.5.2002.