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No. 318

New Delhi, Thursday, July 11, 2002

MINISTRY OF ENVIRONMENT AND FORESTS

NOTIFICATION

New Delhi, the 9th July, 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 I, 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 (800 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 generator sets)	Generator sets commissioning date			
			Before 1/7/2003	Between 1/7/2003 and 1/7/2005	On or after 1/7/2005	
Nox (as NO ₂) (AT 15% O ₂), dry basis, in ppmv	A	Upto 75MW	1100	970	710	
	B	Upto 150MW				
	A	More than 75MW	1100	710	360	
	B	More than 150MW				
NMHC (as C) (at 15% O ₂), mg/Nm ³	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 only A	Up to 5MW	Only Diesel Fuels (HSD, LDO) shall be used.			
Stack height (for generator sets commissioned after	Stack height shall be maximum of the following, in meter:					

1/7/2003)	<p>i. $14 Q^{0.3}$, Q = Total SO₂ emission from the plant in kg/hr</p> <p>ii. Minimum 6 m above the building where generator set is installed.</p> <p>(iii) 30 m.</p>
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Note:

1. Acronyms used:

MW : Mega (10^6) Watt

FO : Furnace Oil

NO_x : Oxides of Nitrogen

HSD : High Speed Diesel

NO₂ : Nitrogen Dioxide

LDO : Light Diesel Oil

O₂ : Oxygen

LSHS : Low Sulphur Heavy Stock

NMHC : Non- Methane Hydrocarbon

kPa : Kilo Pascal

C : Carbon

mm : Milli (10^{-3}) metre

PM : Particulate Matter

kg/hr : Kilo (10^3) gram per hour

CO : Carbon Monoxide

mg/Nm³ : Milli (10^{-3}) gram per

SO₂ : Sulphur Dioxide Normal metre cubic

ppmv : part per million (10^6) by volume

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 percent moisture (dry basis). Carbon Monoxide results -are to be normalized to 25⁰C, 1.01 Kilo Pascal (760 mm of mercury) pressure and zero

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 Waft. 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.	NMHC	Gas Chromatograph - Flame Ionisation Detector

Note :- The principal rules were published in the Gazette of India vide number S.O. 844(E) 1 9th 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.