

¹[87. Emission Regulations for Rayon Industry***]²[88. Generator Sets Run on Petrol and Kerosene

A. Emission Standards: - The emission standards for Generator sets on Petrol and Kerosene shall be as follows: -

Class	Displacement (CC)	CO (g/kW-hr)	HC+NO _x (g/kW-hr)
1.	Upto 99	≤ 250	≤ 12
2.	99 and upto 225	≤ 250	≤ 10
3.	>225	≤ 250	≤ 8

(i) Test method shall be as specified in SAE J 1088 and the measurement mode shall be D1-3 mode cycle specified under ISO 8178: Part 4 (Weighting Factor of 0.3 for 100 percent load, 0.5 for 75 percent load and 0.2 for 50 percent load);

(ii) Any of the following institutions shall test and certify emission standards for the petrol and kerosene based generator sets, at manufacturing stage, namely: -

- (a) The Automotive Research Association of India, Pune (Maharashtra);
- (b) The International Centre for Automotive Technology, Manesar (Haryana);
- (c) The Indian Oil Corporation, Research and Development Centre, Faridabad (Haryana);
- (d) The Indian Institute of Petroleum, Dehradun (Uttarakhand); and
- (e) The Vehicle Research Development Establishment, Ahmednagar (Maharashtra).

(iii) Type Approval or Conformity of Production certificates in respect of emission standards, issued prior to the date of publication of this notification and valid upto the 31st May 2014 or beyond, shall be re-issued considering above revised norms by the respective certification agency.

B. Noise Limits. – (i) The noise limit for new generator sets run with petrol and kerosene shall be as follows: -

	Noise Limits
Sound Power Level L _{wa}	86 dBA

(ii) Any of the following institutions shall undertake 'type approval' and for 'verification of conformity of production' for noise norms for petrol and kerosene gensets, namely: -

- (a) The Automotive Research Association of India, Pune (Maharashtra);
- (b) The International Centre for Automotive Technology, Manesar (Haryana);
- (c) The Fluid Control Research Institute, Palghat (Kerala);
- (d) The National Test House, Ghaziabad (Uttar Pradesh);
- (e) The National Aerospace Laboratory, Bangalore (Karnataka); and
- (f) The Naval Science and Technology Laboratory, Visakhapatnam (Andhra Pradesh).

³[(g) National Physical Laboratory, New Delhi.]

¹ Serial No. 87 relating to emission regulations for rayon industry and entries relating thereto omitted by G.S.R 1095(E), dated 9th November, 2018.

² S. No. 88 entries relating thereto inserted by the Environment (Protection) (Second Amendment) Rules, 1999 vide G.S.R. 682(E), dated 5.10.1999 & amendment Notification vide G.S.R. 535(E) dated-7th August, 2013

³ Inserted item (g) as (7) by Rule 2(a) vide G.S.R 97(E) dated 29th January, 2018

C. General Conditions

1. Applicability. - The stipulations in respect of emissions and noise referred to in entry A and entry B shall apply to all new generator sets using petrol and kerosene as fuel, manufactured in or, imported into India:

Provided that this provision shall not apply to, -

- (a) genset manufactured or, imported for the purpose of exports outside India; or,
- (b) genset intended for the purpose of Research and Development and not for sale or, captive use in India.

2. Requirement of certification. - Every manufacturer or importer (hereinafter referred to as manufacturer) of genset (hereinafter referred to as product) to which these conditions apply shall have a separate valid certificate of type approval for all the product models for emission as well as noise norms being manufactured or imported.

3. Verification of conformity of production. - Every manufacturer shall submit its products to the verification for conformity of production for emission and noise, by any of the institutions, as applicable, every conformity of production year.

4. Sale of generator sets not complying with these conditions. - The sale of product model, not having valid type approval certificate, or not complying with the emission or noise norms, as determined by the verification for conformity of production, shall continue to be prohibited in India.

5. Requirement of conformance labelling. - (1) The manufacturer of the product shall affix a conformance label on the product containing the following requirements, namely: -

- (i) the label shall be durable and legible;
- (ii) the label shall be affixed on a part necessary for normal operation of the product and not normally requiring replacement during the product life.

(2) The conformance label must contain the following information, namely: -

- (i) name and address of the manufacturer (even, if the address is described in the owners manual);
- (ii) statement that this product conforms to the Environment (Protection) Rules, 1986; and
- (iii) type approval certificate number and time phase (namely from the January 2014, the January 2016 or the January 2017).

6. Nodal agency. - (1) The Central Pollution Control Board shall be the nodal agency for implementation of these stipulations.

(2) In case of any dispute or difficulty in implementation of these rules the matter shall be referred to the nodal agency.

(3) The nodal agency shall constitute a Standing Committee for emission related issues and a National Committee for noise related issues, respectively to advise it on all matters related to the implementation of these rules including the dispute, if any.

7. Compliance and testing procedure. - (1) The compliance and testing procedure as published from time to time, if reviewed by Central Pollution Control Board shall be followed.

(2) The Central Pollution Control Board may revise the compliance and testing procedure.

(3) The institutes referred to in paragraph A and B above shall submit the testing and certification details in respect of emission or, noise, as applicable to the Central Pollution Control Board, annually and the Central Pollution Control Board shall be free to depute its official(s) to oversee the testing].

89. Noise standards for fire-crackers

- A. (i) The manufacture, sale or of fire-crackers generating noise level exceeding 125 dB(AI) of 145 dB(C) at 4 metres distance from the point of bursting shall be prohibited.
- (ii) For individual fire-cracker constituting the series (joined fire-crackers), the above mentioned limit be reduced by $5 \log_{10} (N)$ dB, where N = Number of crackers joined together.
- B. The broad requirements for measurement of noise from fire-crackers shall be-
- (i) The measurements shall be made on hard concrete surface of minimum 5 metre diameter or equivalent.
- (ii) The measurements shall be made in free field conditions i.e., there shall not be any reflecting surface upto 15 metre distance from the point of bursting.
- (iii) The measurement shall be made with an approved sound level metre.
- C. ¹[Petroleum and Explosives Safety Organization] shall ensure implementation of these standards.
- ²[D. The fire-crackers for the purpose of export shall be exempted from the sub-paragraphs A, B and C above subject to the compliance of the following conditions, namely: -
- (i) the manufacturer shall have an export order;
- (ii) the fire crackers shall conform to the level prescribed in the country to which it is exported;
- (iii) they shall have a different packing colour code, and
- (iv) there shall be a declaration on the box “not for sale in India” or “only for export in other countries”.]

Note: dB (A1): A – weighted impulse sound pressure level in decibel.

dB(C)_{pk}: C – weighted peak sound pressure level in decibel.

³[90. Standards for Coal Mines

1. Air Quality Standards

The Suspended Particulate Matter (SPM), Respirable Particulate Matter (RPM), Sulphur dioxide (SO₂) and Oxides of Nitrogen (NO_x) concentration in downwind direction considering predominant wind direction, at a distance of 500 metres from the following dust generating sources shall not exceed the standards specified in the Tables I, II and III given below:

¹ Substituted by G.S.R. 176(E), dated 18.3.2013.

² Inserted sub paragraph D by Rule 2(ii) of the Environment (Protection) Second Amended Rules, 2006 notified by G.S.R. 640(E), dated 16.10.2006.

³ Serial No. 90 and entries relating thereto were inserted by Rule 2(1) of the Environment (Protection) Amendment Rules, 2000 notified vide notification G.S.R. 742(E), dated 25.09.2000.

Dust Generating Sources

Loading or unloading, Haul road, coal transportation road, Coal handling plant (CHP), Railway sliding, Blasting, Drilling, Overburden dumps, or any other dust generating external sources like coke ovens (hard as well as soft), briquette industry, nearby road etc.

Table I				
Category	Pollutant	Time weighted average	Concentration in Ambient Air	Method of Measurement
1	2	3	4	5
I New Coal Mines (Coal Mines commenced operation after the date of publication of this notification)	Suspended Particulate Matter (SPM)	Annual Average* 24 Hours **	360 µg/m ³ 500 µg/m ³	– High Volume Sampling (Average flow rate not less than 1.1 m ³ /min)
	Respirable Particulate Matter (size less than 10µm) (RPM)	Annual Average* 24 Hours **	180 µg/m ³ 250 µg/m ³	Respirable Particulate Matter sampling and analysis
	Sulphur Dioxide (SO ₂)	Annual Average*	80 µg/m ³	1 Improved west and Gaeke method
		24 Hours **	120 µg/m ³	2 Ultraviolet fluorescence
Oxide of Nitrogen as NO ₂	Annual Average *	80 µg/m ³	1. Jacob & Hochheiser Modified (Na-Arsenic) Method	
	24 hours**	120 µg/m ³	2. Gas phase Chemiluminescence	

TABLE-II				
Category	Pollutant	Time weighted average	Concentration in Ambient Air	Method of Measurement
1	2	3	4	5
II Existing coal fields/mines given below: Karanpura, Ramgarh, Giridih, Wardha, Nagpur, Silewara, Pench Kanhan, Patharkhera, Umrer, Korba, Chirimiri, Central India Coalfields, (Including	Suspended Particulate Matter (SPM)	Annual Average* 24 Hours **	430 µg/m ³ 600 µg/m ³	– High Volume Sampling (Average flow rate not less than 1.1 m ³ /min)
	Respirable Particulate Matter (size less than 10µm) (RPM)	Annual Average* 24 Hours **	215µg/m ³ 300µg/m ³	Respirable Particulate Matter sampling and analysis
	Sulphur Dioxide (SO ₂)	Annual Average*	80 µg/m ³	1. Improved west and Gaeke method
		24 Hours **	120µg/m ³	2. Ultraviolet fluorescence
Oxide of Nitrogen as NO ₂	Annual Average*	80 µg/m ³	1. Jacob & Hochheiser Modified (Na-Arsenic) Method	
	24 Hours **	120µg/m ³		

Baikunthpur, Bistrampur), Singrauli, Ib Valley, Talcher, Godavary Valley and any other				2. Gas phase Chemiluminescence
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TABLE -III				
Category	Pollutant	Time weighted average	Concentration in Ambient Air	Method of Measurement
1	2	3	4	5
III Coal mines located in the coal fields of <ul style="list-style-type: none"> • Jharia • Raniganj • Bokaro 	Suspended Particulate Matter (SPM)	Annual Average* 24 Hours **	500 $\mu\text{g}/\text{m}^3$ 700 $\mu\text{g}/\text{m}^3$	– High Volume Sampling (Average flow rate not less than 1.1 m^3/minute)
	Respirable Particulate Matter (size less than 10 μm) (RPM)	Annual Average* 24 Hours **	250 $\mu\text{g}/\text{m}^3$ 300 $\mu\text{g}/\text{m}^3$	Respirable Particulate Matter sampling and analysis
	Sulphur Dioxide (SO ₂)	Annual Average* 24 Hours **	80 $\mu\text{g}/\text{m}^3$ 120 $\mu\text{g}/\text{m}^3$	1. Improved west and Gaeke method 2. Ultraviolet fluorescence
	Oxide of Nitrogen as NO ₂	Annual Average* 24 Hours **	80 $\mu\text{g}/\text{m}^3$ 120 $\mu\text{g}/\text{m}^3$	1. Jacob & Hochheiser Modified (Na-Arsenic) Method 2. Gas phase Chemiluminescence

Note:

- * Annual Arithmetic mean for the measurement taken in a year, following the guidelines for frequency of sampling laid down in clause 2.
- ** 24 hourly/ 8 hourly values shall be met 92% of the time in a year. However, 8% of the time it may exceed but not on two consecutive days.

Unauthorised construction shall not be taken as a reference of nearest residential or commercial place for monitoring.

In case any residential or commercial or industrial place falls within 500 metres of any dust generating sources, the National Ambient Air Quality Standards notified under scheduled VII shall be applicable.

2. Frequency of Sampling

- Air Quality monitoring at a frequency of once in a fortnight at the dust generating sources given in clause 1 shall be carried out.
- As a result of monthly monitoring, if it is found that the value of the pollutant is less than 50% of the specified standards for three consecutive months, then the sampling frequency may be shifted to two days in a quarter year (3 months).

- In case, the value has exceeded the specified standards, the air quality sampling shall be done twice a week. If the results of four consecutive weeks indicate that the concentration of pollutants is within the specified standards, then fortnight monitoring may be reverted to.

3. Effluent Standards

The standards for effluent discharge into sewer or stream or land, are given below:

pH	-	5.5 to 9.0
Chemical Oxygen Demand (COD)	-	250 mg/l
Total Suspended Solids (TSS)	-	100 mg/l, 200 mg/l (Land for irrigation)
Oil & Grease (O & G)	-	10 mg/l
(Monitoring frequency of these parameters shall be once in a fortnight)		
Optional Parameters:	All other parameters indicated in the general standards for discharge of environment pollutants under Schedule VI, shall be in addition to the effluent standards specified under clause 3. (Monitoring frequency shall be once in a year for the optional parameters)	

2. Noise Level Standards

	6.00 AM – 10.00 PM	10.00 PM – 6.00 AM
Noise level	Leq 75 dB(A)	Leq 70 dB(A)

(Monitoring frequency for noise level shall be once in a fortnight)

Occupational exposure limit of noise specified by Director General of Mines Safety (DGMS) shall be complied with by the local mines.

¹[91. Noise Limit for Generator Sets run with Petrol or Kerosene***]

²[92. Standards for Effluents from Textile Industry ***]

93. Primary Water Quality Criteria for Bathing Water

In a water body or its part, water is subjected to several types of uses. Depending on the types of uses and activities, water quality criteria have been specified to determine its suitability for a particular purpose. Among the various types of uses there is one use that demands highest level of water quality or purity and that is termed as “Designated Best Use” in that stretch of water body. Based on this, water quality requirements have been specified for different uses in terms of primary water quality criteria. The primary water quality criteria for bathing water are specified along with the rationale in Table 1.

¹ Serial No.91 relating to “Noise Limit for generator sets run with petrol or Kerosene” and entries thereto omitted by G.S.R. 535(E), dated 7th August, 2013 w.e.f. 07.08.2013).

² Serial No. 92 relating to Standards for effluents from Textile Industry and entries relating thereto omitted by G.S.R 978(E), dated 10th October, 2016 (w.e.f. 10.10.2016).

Table 1.
PRIMARY WATER QUALITY CRITERIA FOR BATHING WATER
(Water used for organised outdoor bathing)

CRITERIA		RATIONALE
1. Faecal Coliform MPN/100 ml:	500 (desirable)	To ensure low sewage contamination Faecal Coliform and faecal streptococci are considered as they reflect the bacterial pathogenicity.
	2500 (Maximum Permissible)	
2. Faecal Streptococci MNP/100 ml:	100 (desirable)	The desirable and permissible limits are suggested to allow for fluctuation in environmental conditions such as seasonal change, changes in flow conditions etc.
	500 (Maximum Permissible)	
3. pH:	Between 6.5-8.5	The range provides protection to the skin and delicate organs like eyes, nose and ears etc. which are directly exposed during outdoor bathing.
4. Dissolved Oxygen:	5 mg/l or more	The minimum dissolved oxygen concentration of 5 mg/l ensures reasonable freedom from oxygen consuming organic pollution immediately upstream which is necessary for preventing production of anaerobic gases (obnoxious gases) from sediment.
5. Biochemical Oxygen Demand 3 day, 27 °C:	3 mg/l or less	The Biochemical Oxygen Demand of 3 mg/l or less of the water ensures reasonable freedom from oxygen demanding pollutants and prevent production of obnoxious gases.

¹[94. NOISE LIMIT FOR GENERATOR SETS RUN WITH DIESEL

1. Noise limit for diesel generator sets (upto 1000 KVA) manufactured on or after the ²{1st January, 2005}.

The maximum permissible sound pressure level for new diesel generator (DG) sets with rated capacity upto 1000 KVA, manufactured on or after the ²{1st January, 2005} shall be 75 dB(A) at 1 metre from the enclosure surface.

The diesel generator sets should be provided with integral acoustic enclosure at the manufacturing stage itself.

The implementation of noise limit for these diesel generator sets shall be regulated as given in paragraph 3 below.

2. Noise limits for DG sets not covered by paragraph 1.

Noise limits for diesel generator sets not covered by paragraph 1, shall be as follows:

¹ Serial No.94 and entries relating thereto were inserted by Rule 2 (c) of the Environmental (Protection) Second Amendment Rules, 2002 notified vide Notification G.S.R. 371(E), dated 17.05.2002.

² Substituted by Rule 2 (a) (i) of the Environment (Protection) Second Amendment Rules, 2004 notified vide Notification No. G.S.R. 448 (E), dated 12.07.2004 (Earlier it was 1st July 2003 as per the Environment (Protection) Second Amendment, Rules, 2002 notified by G.S.R.371 (E), dated 17.05.2002. Subsequently, substituted as 1st July, 2004 by the Environment (Protection) Amendment Rules, 2003 notified by G.S.R.520 (E), dated 1.07.2003 and later substituted as 1st January, 2005 by the Environment (Protection) Second Amendment, Rules, 2004 notified by G.S.R. 448, dated 12.07.2004)

- 2.1 Noise from DG set shall be controlled by providing an acoustic enclosure or by treating the room acoustically, at the users end.
- 2.2 The acoustic enclosure or acoustic treatment of the room shall be designed for minimum 25 dB(A) insertion loss or for meeting the ambient noise standards, whichever is on the higher side (if the actual ambient noise is on the higher side, it may not be possible to check the performance of the acoustic enclosure/ acoustic treatment. Under such circumstances the performance may be checked for noise reduction upto actual ambient noise level, preferably, in the night time). The measurement for Insertion Loss may be done at different points at 0.5 m from the acoustic enclosure/ room, and then averaged.
- 2.3 The DG set shall be provided with proper exhaust muffler with insertion loss of minimum 25 dB(A).
- 2.4 These limits shall be regulated by the State Pollution Control Boards and the State Pollution Control Committees.
- 2.5 Guidelines for the manufactures/users of Diesel Generator sets shall be as under:
 - 01 The manufacturer shall offer to the user a standard acoustic enclosure of 25 dB(A) insertion loss and also a suitable exhaust muffler with insertion loss of 25 dB(A).
 - 02 The user shall make efforts to bring down the noise levels due to the DG set, outside his premises, within the ambient noise requirement by proper siting and control measures.
 - 03 Installation of a DG set must be strictly in compliance with the recommendations of the DG set manufacturer.
 - 04 A proper routine and preventive maintenance procedure for the DG set should be set and followed in consultation with the DG set manufacturer which would help prevent noise levels of the Dg set from deteriorating with use.

3. LIMITS OF NOISE FOR DG SETS (UPTO 1000 KVA) MANUFACTURED ON OR AFTER THE ¹{1ST JANUARY, 2005}

3.1 Applicability

- 01 These rules apply to DG sets upto 1000 KVA rated output, manufactured or imported in India, on or after ¹{1ST January, 2005}.
- 02 These rules shall not apply to:
 - (a) DG sets manufactured or imported for the purpose of exports outside India; and
 - (b) DG sets intended for the purpose of sample and not for sale in India.

3.2 Requirement of Certification

²{Every manufacturer or assembler or importer (thereinafter referred to as “manufacturer”)} of DG set (hereinafter referred to as “product”) to which these regulations apply must have valid certificates of Type Approval and also valid certificates of Conformity of Production for each year, for all product models

¹ Substituted by Rule 2(a) (ii) of the Environment (Protection) Second Amendment Rules, 2004 notified vide Notification No. G.S.R. 448 (E), dated 17.05.2002. Subsequently, substituted as 1st July, 2004 by the Environment (Protection) Amendment Rules, 2003 notified by G.S.R. 520 (E), dated 1.7.2003 and later substituted as 1st January, 2005 by the Environment (Protection) Second Amendment Rules, 2004 notified by G.S.R. 448, dated 12.07.2004).

² Substituted by Rule 2(a) (i) of the Environment (Protection) Eighth Amendment Rules, 2008 notified by G.S.R.752 (E), dated 24.10.2008.

being ¹{manufactured or assembled or imported} from ¹{1st January, 2005} with the noise limit specified in paragraph 1.

3.3 Sale, import or use of DG sets not complying with the rules prohibited

No person shall sell, import or use of a product model, which is not having a valid Type Approval certificate and Conformity of Production certificate.

3.4 Requirement of Conformance Labelling

- (i) The ²{manufacturer} of the 'product' must affix a conformance label on the product meeting the following requirements:
 - (a) The label shall be durable and legible.
 - (b) The label shall be affixed on apart necessary for normal operation of the 'product' and not normally requiring replacement during the 'product' life.
- (ii) The conformance label must contain the following information;
 - (a) Name and address of the ³{manufacturer} (if the address is described in the owner's manual, it may not be included in the label.)
 - (b) Statement "This product conforms to the Environment (Protection) Rules, 1986".
 - (c) Noise limit viz. 75 dB (A) at 1 m.
 - (d) Type approval certificate number.
 - (e) Date of manufacture of the product.

3.5 Nodal Agency

- (i) The Central Pollution Control Board shall be the nodal agency for implementation of these regulations.
- (ii) In case of any dispute or difficulty in implementation of these regulations, the matter shall be referred to the nodal agency.
- (iii) The nodal agency shall constitute a Committee to advise it on all matters; including the disputed matters, related to the implementation of these regulations.

3.6 Authorized agencies for certification

The following agencies are authorized to carry out such tests as they deem necessary for giving certificates for Type Approval and Conformity of Production testings of DG sets and to give such certificates: -

- (i) The Automotive Research Association of India, Pune
- (ii) The Naval Science and Technology Laboratory, Visakhapatnam
- (iii) The Fluid Control Research Institute, Palghat
- (iv) The National Aerospace Laboratory, Bangalore

¹ Substituted by Rule 2(a) (ii) of the Environment (Protection) Eighth Amendment Rules, 2008 notified by G.S.R. 752(E), dated 24.10.2008

² Substituted by Rule 2(b) of the Environment (Protection) Eighth Amendment Rules, 2008 notified by G.S.R.752 (E), dated 24.10.2008.

³ Substituted by Rule 2(b) of the Environment (Protection) Eighth Amendment Rules, 2008 notified by G.S.R.752 (E), dated 24.10.2008.

- (v) The International Centre for Automotive Technology, Manesar
- (vi) The National Test House, Ghaziabad (Uttar Pradesh)
- ¹[(vii) National Physical Laboratory];

3.7 Compliance and Testing Procedure

The compliance and testing procedure shall be prepared and published by the Central Pollution Control Board, with the help of the certification agencies.

²**4.0 Exemption from the provisions of paragraph 1 and 3, for the products (diesel generator sets upto 30 KVA) purchased by the Ministry of Defence, Govt. of India**

The products manufactured in or imported into India till ³[30th April, 2007] for the purpose of supplying to the Ministry of Defence, shall be exempted from the regulations given in paragraph 1 to 3 above. Subject to the following conditions namely: -

- (i) The ⁴[manufacture] shall manufacture or import the products only after getting purchase order from the ministry of Defence and shall maintain the record of receipts, production/import, dispatch, etc. for inspection by the Central Pollution Control Board.
- (ii) The special dispensation for noise norms shall be only for the mobile Defence vehicles which, with the present design/configuration, cannot carry the gensets with acoustic enclosures.
- (iii) Director, Ministry of Defence shall ensure and maintain the serial number of all gensets for the Army and he shall also direct the manufacturers of these gensets to emboss on the engine and the main body of the gensets, the words '**For the use of Army only**'.
- (iv) The gensets serial number shall be specially assigned by Ministry of Defence with the request for proposal and contract purchase order and this information shall be forwarded to the Central Pollution Control Board for inspection as and when required.
- (v) Registers shall be maintained at the manufactures premises and in the Ministry of Defence to ensure that the number of gensets manufactured under special dispensation is not misused.
- (vi) The gensets procured under this dispensation shall be operated in the remote areas and not in the cities.
- (vii) This shall be a onetime exemption during which the Army shall remodel its vehicles to contain the new gensets and also obtain the necessary Type Approval of the gensets.]

⁵**5.0 Exemption from the provisions of paragraph 1 and 3 for sixteen Diesel Generator sets of 45 KVA purchased by the Ministry of Defence, Government of India.**

The 45 KVA DG sets manufactured in India for the purpose of their use in Mobile Decontamination System for use by the Ministry of Defence shall be exempted from the regulations given in paragraph 1 to 3 above subject to the following conditions, namely: -

¹ Inserted item (vii) by Rule 2(b) vide G.S.R 97(E) dated 29th January, 2018

² Inserted by Rule 2 of the Environment (Protection) Second Amendment Rules, 2005 notified vide Notification G.S.R. 315(E), dated 16.05.2005

³ Substituted by Rule 2 of the Environment (Protection) Amendment Rules, 2006 notified by G.S.R.(E), dated 07.08.2006.

⁴ Substituted by Rule 2(c) of the Environment (Protection) Eighth Amendment Rules, 2008 notified by G.S.R.752 (E), dated 24.10.2008.

⁵ Inserted by vide Notification G.S.R. 315(E), dated 29.08.2007

- (i) The special dispensation for the noise norms shall be only for the DG sets to be used in Mobile Decontamination System (MDS) by Army which, with the present design/configuration cannot carry the gensets with acoustic enclosures.
- (ii) The Director, Ministry of Defence shall ensure and maintain the serial number for sixteen gensets and he shall also direct the manufacturers of these generator sets to emboss on the engine and main body of the gensets, the words "For the use of Army only in Mobile Decontamination System (MDS).
- (iii) A register shall be maintained at the manufactures premises and in the Ministry of Defence to ensure that only sixteen numbers of 45 KVA gensets are manufacturers under special dispensation and are not misused elsewhere.]

¹[6.0 Transportation of Diesel Generator Sets (above 250 KVA)

- (i) Diesel Generator set shall be transported after fulfilling the requirement of certification specified in paragraph 3.2 as a complete unit with acoustic enclosure, or dismantled, with relevant genset number specified on acoustic enclosure and silencer for reassembling of the site of its operation.
- (ii) Compliance with the noise norms shall be monitored after reassembling the D.G. set at the location of the installation by the concerned State Pollution Control Board or, as the case may be, the Union Territory Pollution Control Committee.]

²[95. Emission limits for new diesel engine up to 800 kW for generator set (Genset) application. - The emission limits for new diesel engine upto 800 kW for generator set (hereinafter referred to as Genset) application shall be effective from 1st April, 2014 as specified in the Table below subject to the general conditions contained therein, namely: -

TABLE

Power Category	Emission Limits (g/kW-hr)			Smoke Limit (light absorption coefficient, m ⁻¹)
	NO _x +HC	CO	PM	
Upto 19 KW	≤ 7.5	≤ 3.5	≤ 0.3	≤ 0.7
More than 19 KW upto 75 KW	≤ 4.7	≤ 3.5	≤ 0.3	≤ 0.7
More than 75 KW upto 800 KW	≤ 4.0	≤ 3.5	≤ 0.2	≤ 0.7

Note:

1. The abbreviations used in the Table shall mean as under: NO_x – Oxides of Nitrogen; HC – Hydrocarbon; CO – Carbon Monoxide; and PM – Particulate Matter.
2. Smoke shall not exceed above value throughout the operating load points of the test cycle.
3. The testing shall be done as per D2 – 5 mode cycle of ISO: 8178- Part 4.
4. The above mentioned emission limits shall be applicable for Type Approval and Conformity of Production (COP) carried out by authorised agencies.
5. Every manufacturer, importer or, assembler (hereinafter referred to as manufacturer) of the diesel engine (hereinafter referred to as 'engine') for genset application manufactured or imported into India or, diesel genset (hereinafter referred to as 'product'), assembled or imported into India shall obtain Type Approval and comply with COP of their product(s) for the emission limits which shall be valid for the next COP year or, the date of implementation of the revised norms specified above, whichever earlier.

Explanation. - The term 'COP year' means the period from 1st April to 31st March of next year.

¹ Inserted by Rule 2(d) of the Environment (Protection) Eighth Amendment Rules, 2008 notified by G.S.R. 752(E), dated 24.10.2008.

² Substituted by vide notification no. G.S.R. 771(E) dated 11th December, 2013

6. Stack height (in metres), for genset shall be governed as per Central Pollution Control Board (CPCB) guidelines.

General Conditions:

1. **Applicability.** - These conditions shall apply to all new engines for genset application and products manufactured, assembled or, imported into India, as the case may be:

Provided that these rules, shall not apply to, -

- (a) any engine or, product, assembled or manufactured or imported, as the case may be, for the purpose of export outside India, or;
 - (b) any engine or product intended for the purpose of sample limited to four in number and to be exported back within three months, and not for sale in India.
2. **Requirement of certification.** - Every manufacturer of engine or product, as the case may be, shall have valid certificate(s) of Type Approval and COP for each COP year, for all engine models being manufactured or, for all engine or product models being imported, after the effective date for the emission limits, as specified above and the COP for the genset sold on or after 1st April, 2014 shall be effective and in force as per revised emission norms with effect from 1st April, 2015.
 3. **Sale, import or use of engine or product not complying with these rules.** - No person shall sell, import or use an engine for genset application or, a product which is not having a valid Type Approval certificate and certificate of COP referred to in condition 2.
 4. **Requirement of conformance labelling.** - (1) All the engines, individually or as part of the product shall be clearly engraved 'Genset Engine' on the cylinder block.
 - (2) the engine or the product shall be affixed with a conformance label meeting the following requirements, namely: -
 - (a) the label shall be durable and legible;
 - (b) the label shall be affixed on a part necessary for normal operation of the engine or the product and not normally requiring replacement during the life of the engine or the product.
 - (3) The conformance label shall contain the following information, namely: -
 - (a) name and address of the manufacturer of engine or product, as the case may be;
 - (b) statement that the engine or product conforms to the Environment (Protection) Rules, 1986;
 - (c) Type Approval certificate number;
 - (d) date of manufacture of engine and the product or in case of import, the date of import of the engine and the product; and
 - (e) rated speed and corresponding gross power in kW.
 5. **Nodal Agency.** - (1) The Central Pollution Control Board shall be the nodal agency for implementation of these rules.
 - (2) In case of any dispute or difficulty in implementation of these rules, the matter shall be referred to the nodal agency.
 - (3) The nodal agency shall constitute a Committee to advise it on all matters, including the disputed matters, related to the implementation of these rules.

- 6. Authorised agencies for certification.** - The following institutions are authorised to carry out such tests as they may deem necessary, for giving certificates of Type Approval and Conformity of Production tests for diesel engines or products and to give such certificates, namely: -
- (i) the Automotive Research Association of India, Pune (Maharashtra);
 - (ii) the International Centre for Automotive Technology, Manesar (Haryana);
 - (iii) the Indian Oil Corporation, Research and Development Centre, Faridabad (Haryana);
 - (iv) The Indian Institute of Petroleum, Dehradun (Uttarakhand); and
 - (v) The Vehicle Research Development Establishment, Ahmednagar (Maharashtra).
- 7. Compliance and testing procedure.** - (1) The Compliance and Testing Procedure, as published by the Central Pollution Control Board shall be followed by all concerned.
- (2) The authorised agencies for certification shall submit the testing and certification details in respect of the emission to the Central Pollution Control Board annually.
- 8. Fuel Specification.** - The specification of commercial fuel applicable for diesel gensets shall be the same as applicable for commercial High Speed Diesel applicable for diesel vehicles in the area where product would be operated, from time to time, as per policy of Government of India.
- 9. Engine component or parts identification.** - All the details of engine components or parts responsible for the emission performance shall be clearly marked in English language.]

¹[95A. Genset run on dedicated Natural Gas (NG) or Liquid Petroleum Gas (LPG)

- A. Emission Limits.** - The emission limits for dedicated NG or LPG driven engine for genset application or genset (upto 800 kW) shall be effective from 1st July, 2016 as specified in the Table below subject to the general conditions contained therein, namely: -

TABLE

Power Category	Emission Limits (g/kW-hr)	
	NO _x + NMHC Or NO _x + RHC	CO
Upto 19 kW	≤ 7.5	≤ 3.5
More than 19 kW upto 75 kW	≤ 4.7	≤ 3.5
More than 75 kW upto 800 kW	≤ 4.0	≤ 3.5

Notes. - The abbreviations used in the Table shall mean as under:

1. NO_x - Oxides of Nitrogen; CO – Carbon Monoxide; NMHC – Non-Methane Hydrocarbon; and RHC – Reactive Hydrocarbon.
2. Dedicated NG or LPG genset engine shall mean a mono-fuel engine starting and operating with only one fuel, i.e., NG or LPG.
3. NO_x + NMHC or NO_x + RHC shall be measured in case of dedicated NG or LPG genset engine. NMHC shall be equal to 0.3×Total Hydrocarbon (THC) in case of NG, and RHC is equal to 0.5×THC in case of LPG.
4. These norms shall be applicable to Original Equipment Manufacturer (OEM) built dedicated NG or LPG genset engines.

¹ Inserted by G.S.R. 281(E), dated 07th March, 2016 serial no. 95A and the entries relating thereto

5. The above mentioned emission limits shall be applicable for Type Approval and Conformity of Production (COP) carried out by authorized agencies.
6. Any of the following institutions shall undertake Type Approval and for verification of Conformity of Production for emission standards for engine products and to issue such certificates on compliance of the prescribed norms, namely: -
 - (a) The Automotive Research Association of India, Pune (Maharashtra);
 - (b) The International Centre for Automotive Technology, Manesar (Haryana);
 - (c) The Indian Oil Corporation, Research and Development Centre, Faridabad (Haryana);
 - (d) The Indian Institute of Petroleum, Dehradun (Uttarakhand); and
 - (e) The Vehicle Research Development Establishment, Ahmednagar (Maharashtra).
7. Stack height (in metres), for genset shall be governed as per Central Pollution Control Board (CPCB) guidelines.

B. Noise Limits. - 1. The maximum permissible sound pressure level for genset, with rated capacity upto 800 kW shall be 75 dB(A) at 1 metre from the enclosure surface. Gensets should be provided with integral acoustic enclosure at the manufacturing stage itself. The noise norms shall be effective from the 1st January, 2017.

2. Noise limit for gensets not covered under paragraph (1) shall be as follows: -
 - (a) Noise from gensets shall be controlled by providing an acoustic enclosure or by treating the room acoustically, at the users end.
 - (b) The acoustic enclosure shall be designed for minimum 25 dB(A) insertion loss or for complying with the ambient noise standards, whichever is on the higher side (if the actual ambient noise is on the higher side, it may not be possible to check the performance of the acoustic enclosure or acoustic treatment. Under such circumstances the performance may be checked for noise reduction upto actual ambient noise level, preferably, in the night time between 10.00 pm-6.00 am). The measurement for insertion loss may be done at different points at 0.5m from the acoustic enclosure or room, and then averaged.
 - (c) The genset shall be provided with proper exhaust muffler with insertion loss of minimum 25 dB(A).
 - (d) These limits shall be regulated by the State Pollution Control Boards and the State Pollution Control Committees.
 - (e) The manufacturer shall offer to the user a standard acoustic enclosure of 25 dB(A) insertion loss and also a suitable exhaust muffler with insertion loss of 25 dB(A).
 - (f) The user shall make efforts to bring down the noise levels due to the genset, outside his premises, within the ambient noise requirements by proper siting and control measures.
 - (g) Installation of a genset shall be strictly in compliance with the recommendation of the genset manufacturer.
 - (h) A proper routine and preventive maintenance procedure for the genset shall be set and followed in consultation with the genset manufacturer.
3. Any of the following institutions shall undertake Type Approval and for verification of Conformity of Production for noise norms for dedicated NG or LPG gensets and issue such certificates on compliance of the prescribed norms, namely: -
 - (a) The Automotive Research Association of India, Pune (Maharashtra);
 - (b) The International Centre for Automotive Technology, Manesar (Haryana);
 - (c) The Fluid Control Research Institute, Palghat (Kerala);

- (d) The National Test House, Ghaziabad (Uttar Pradesh);
 - (e) The National Aerospace Laboratory, Bangaluru (Karnataka); and
 - (f) The Naval Science and Technology Laboratory, Visakhapatnam (Andhra Pradesh).
- ¹[(g) National Physical Laboratory, New Delhi.];

A. General Conditions. –

1. Every manufacturer, importer or assembler (hereinafter referred to as the ‘manufacturer’) of the dedicated NG or LPG engine (hereinafter referred to as ‘engine’) for genset application manufactured or imported into India or dedicated NG or LPG genset (hereinafter referred to as ‘product’), assembled or imported into India shall obtain Type Approval and comply with the COP of their products for the emission limits which shall be valid for the next COP year or, the date of implementation of the norms specified above, whichever is earlier. Thereafter, the manufacturer shall obtain COP approval every COP year. NG or LPG kit shall also have independent Type Approval and shall independently comply with COP requirement, as and when notified.
2. These conditions shall apply to all new engines for genset application and products manufactured, assembled or imported into India, as the case may be:

Provided that these rules, shall not apply to, -

- (a) any engine or, product, assembled or manufactured or imported, as the case may be, for the purpose of export outside India; or
 - (b) any engine or product intended for the purpose of sample limited to four in number and to be exported back within three months, and not for sale in India.
3. Every manufacturer of engine or product, as the case may be, shall have valid certificates of Type Approval and COP for each COP year, for all engine models being manufactured or, for all engine or product models being imported, after the effective date of the emission limits, as specified above and CPCB shall develop system and procedure to monitor the norms and COP year.
 4. Every manufacturer shall submit its engine or products, as the case may be, for the verification for conformity of production for emission and noise, by any of the institutions, as applicable, every COP year.

Note. – The term COP year, duty cycle and any other requirement for compliance of Type Approval and COP shall be prescribed in the system and procedure to be developed by the Central Pollution Control Board.

5. No person shall manufacture, sell, import or use an engine for genset application or any product which is not having a valid Type Approval certificate and certificate of COP referred to in sub - paragraph (3) above, as applicable.
6. All the engines, individually or as part of the product shall be clearly engraved as NG genset Engine or LPG genset engine on the cylinder block, as the case may be.
7. The engine or the product shall be affixed with a conformance label meeting the following requirements, namely: -
 - (a) the label shall be durable and legible;

¹ Inserted item (g) by Rule 2(c) vide G.S.R 97(E) dated 29th January, 2018

- (b) the label shall be affixed on a part necessary for normal operation of the engine or the product and not normally requiring replacement during the life of the engine or the product.
8. The conformance label shall contain the following information, namely: -
- (a) Name and address of the manufacturer of engine or product, as the case may be;
 - (b) Statement that the engine or product conforms to the Environment (Protection) Rules, 1986;
 - (c) Type Approval Certificate number;
 - (d) Date of manufacture of engine and the product or in case of import, the date of import of the engine and the product; and
 - (e) Rated speed and corresponding gross power in kW.
9. (a) The Central Pollution Control Board shall be the nodal agency for implementation of these rules.
- (b) In case of any dispute or difficulty in implementation of these rules, the matter shall be referred to the nodal agency.
 - (c) The nodal agency shall constitute a Standing Committee for emission related issues and a National Committee for noise related issues, respectively, to advise it on all matters related to the implementation of these rules including disputes, if any.
10. (a) All genset engines operating on dedicated NG or LPG shall be tested for Type Approval and COP of emission and noise limits compliance as per system and procedure published from time to time by the Central Pollution Control Board.
- (b) The Central Pollution Control Board may develop or as the case may be, revise the compliance and testing procedure allowing a time of six months for all concern.
 - (c) The institutes referred to in paragraph A and B above shall submit the testing and certification details in respect of emission and, or, noise, as applicable, to the Central Pollution Control Board, annually and the Central Pollution Control Board shall be free to depute its officials to oversee the testing.
11. All genset engines operating on dedicated NG or LPG shall comply safety requirements.
12. The specification of commercial fuel applicable for NG or LPG shall be applicable for vehicles run on NG or LPG in the area where product shall be operated, from time to time, as per policy of Government of India.
13. All the details of engine components or part responsible for the emission performance shall be clearly marked in English language.

95B. Genset run on Petrol and Natural Gas (NG) or Petrol and Liquid Petroleum Gas (LPG): -

A. Emission Limits. —The emission limits for Petrol and NG or Petrol and LPG genset (upto 19 kW) powered by SI engine (upto 400 cc displacement) (hereinafter referred to as Genset) shall be effective from the 1st August, 2016 as specified in the following Table: -

TABLE

Class	Engine Displacement (cc)	CO (g/kWh)	NO _x + THC/ NO _x + NMHC/NO _x + RHC (g/kWh)
1.	Upto 99	≤ 250	≤ 12
2.	>99 and upto 225	≤ 250	≤ 10
3.	≥ 225 ≤ 400	≤ 250	≤ 8

Notes: The abbreviations used in above table shall mean as under:

1. SI – Spark Ignition, NG – Natural Gas, LPG – Liquid Petroleum Gas, NO_x – Oxides of Nitrogen, THC – Total Hydrocarbon, CO – Carbon Monoxide, NMHC – Non- Methane Hydrocarbon and RHC – Reactive Hydrocarbon.
2. Dual fuel engine operation shall mean a two – fuel system having petrol as a primary combustion fuel and NG or LPG as supplementary fuel, both in a certain proportion, throughout the engine operating zone. Such dual fuel Genset engine may operate on petrol stand-alone mode in absence of gaseous fuel i.e. NG or LPG.
3. NMHC shall be equal to 0.3×THC in case of Natural Gas and RHC shall be equal to 0.5×THC in case of LPG.
4. These norms shall be applicable to Original Equipment Manufacturer (OEM) built petrol and NG or petrol and LPG genset (upto 19 kW) powered by SI engine (upto 400 cc displacement). Conversion or Retrofitment of the existing petrol or Kerosene generator sets to run on petrol and NG or petrol and LPG shall not be permitted.
5. The above emission limits shall be applicable for Type Approval and Conformity of Production (COP) undertaken by authorized agencies and shall be complied with petrol alone or petrol and NG or LPG fuel mode separately.
6. Any of the following institutions shall undertake Type Approval and for verification of Conformity of Production for emission standards for engine products and to issue such certificates on compliance of the prescribed norms, namely: -
 - (a) The Automotive Research Association of India, Pune (Maharashtra);
 - (b) The International Centre for Automotive Technology, Manesar (Haryana);
 - (c) The Indian Oil Corporation, Research and Development Centre, Faridabad (Haryana);
 - (d) The Indian Institute of Petroleum, Dehradun (Uttarakhand); and
 - (e) The Vehicle Research Development Establishment, Ahmednagar (Maharashtra).
7. NO_x + THC shall be measured as emissions from petrol alone in bi-fuel fuel mode of operation. NO_x + NMHC or NO_x +RHC shall be measured in case of petrol and NG or petrol and LPG fuel mode of operation, respectively.

B. Noise Limits. —1. The noise limit for gensets (upto 19 kW) powered by an SI engine (upto 400 cc displacement) run on petrol and NG or petrol and LPG shall be effective from the 1st September, 2016 as specified in the following table: -

TABLE

Noise Parameter	Noise Limits
Sound Power Level _{wa}	86 dB(A)

2. Any of the following institutions shall undertake Type Approval and for verification of Conformity of Production for noise norms for dedicated petrol or petrol and NG or LPG gensets and issue such certificates on compliance of the prescribed norms, namely: -
 - (a) The Automotive Research Association of India, Pune (Maharashtra);
 - (b) The International Centre for Automotive Technology, Manesar (Haryana);
 - (c) The Fluid Control Research Institute, Palghat (Kerala);
 - (d) The National Test House, Ghaziabad (Uttar Pradesh);
 - (e) The National Aerospace Laboratory, Bangaluru (Karnataka); and

(f) The Naval Science and Technology Laboratory, Visakhapatnam (Andhra Pradesh).

¹[(g) National Physical Laboratory, New Delhi.];

C. General Conditions:

1. Every manufacturer, importer or assembler (hereinafter referred to as the 'manufacturer') of the petrol and NG or LPG engine (hereinafter referred to as 'engine') for genset application manufactured or imported into India or petrol and NG or LPG genset (hereinafter referred to as 'product'), assembled or imported into India shall obtain Type Approval and comply with the COP of their products for the emission limits which shall be valid for the next COP year or, the date of implementation of the norms specified above, whichever is earlier. Thereafter, the manufacturer shall obtain COP approval every COP year. Petrol and NG or LPG kit shall also have independent Type Approval and shall independently comply with COP requirement, as and when notified.
2. These conditions shall apply to all new engines for genset application and products manufactured, assembled or imported into India, as the case may be:

Provided that these rules, shall not apply to, -

- (a) any engine or, product, assembled or manufactured or imported, as the case may be, for the purpose of export outside India; or
 - (b) any engine or product intended for the purpose of sample limited to four in number and to be exported back within three months, and not for sale in India.
3. Every manufacturer of engine or product, as the case may be, shall have valid certificates of Type Approval and COP for each COP year, for all engine models being manufactured or, for all engine or product models being imported, after the effective date of the emission limits, as specified above and CPCB shall develop system and procedure to monitor the norms and COP year.
 4. Every manufacturer shall submit its engines or products to the verification for conformity of production for emission and noise, by any of the institutions, as applicable, every COP year.

Note. - The term 'COP year', duty cycle and any other requirement for compliance of Type Approval and COP to be prescribed in the System and Procedure developed by the Central Pollution Control Board.
 5. No person shall manufacture, sell, import or use an engine for genset application or any product which is not having a valid Type Approval certificate and certificate of COP referred to in sub - paragraph (3) above, as applicable.
 6. All the engines, individually or as part of the product shall be clearly engraved as petrol and NG genset Engine or petrol and LPG genset engine on the cylinder block, as the case may be.
 7. The engine or the product shall be affixed with a conformance label meeting the following requirements, namely: -
 - (a) the label shall be durable and legible;
 - (b) the label shall be affixed on a part necessary for normal operation of the engine or the product and not normally requiring replacement during the life of the engine or the product.
 8. The conformance label shall contain the following information, namely: -
 - (a) Name and address of the manufacturer of engine or product, as the case may be;

¹ Inserted item (g) by Rule 2(d) vide G.S.R 97(E) dated 29th January, 2018

- (b) Statement that the engine or product conforms to the Environment (Protection) Rules, 1986;
- (c) Type Approval Certificate number;
- (d) Date of manufacture of engine and the product or in case of import, the date of import of the engine and the product; and
- (e) Rated speed and corresponding gross power in kW.
9. (a) The Central Pollution Control Board shall be the nodal agency for implementation of these rules.
- (b) In case of any dispute or difficulty in implementation of these rules, the matter shall be referred to the nodal agency.
- (c) The nodal agency shall constitute a Standing Committee for emission related issues and a National Committee for noise related issues, respectively, to advise it on all matters related to the implementation of these rules including disputes, if any.
10. (a) All genset engines operating on petrol and NG or LPG shall be tested for Type Approval and COP of emission and noise limits compliance as per system and procedure published from time to time by the Central Pollution Control Board.
- (b) The Central Pollution Control Board may develop or as the case may be, revise the compliance and testing procedure allowing a time of six months for all concern.
- (c) The institutes referred to in paragraph A and B above shall submit the testing and certification details in respect of emission and, or, noise, as applicable, to the Central Pollution Control Board, annually and the Central Pollution Control Board shall be free to depute its officials to oversee the testing.
11. All genset engines operating on petrol and NG or LPG shall comply safety requirements.
12. The specification of commercial fuel applicable for petrol and NG or LPG shall be applicable for vehicles run on petrol and NG or LPG in the area where product shall be operated, from time to time, as per policy of Government of India.
13. All the details of engine components or part responsible for the emission performance shall be clearly marked in English language.

95C Genset run on Diesel and Natural Gas (NG) or Diesel and Liquid Petroleum Gas (LPG): -

- A. Emission Limits.** —The emission limits for Diesel and NG or Diesel and LPG driven engine (upto 800 kW) for generator set (hereinafter referred to as Genset) application shall be effective from the 1st July, 2016 as specified in the Table below, subject to the general conditions specified therein, namely: -

TABLE

Power Category	Emission Limits (g/kW-hr)			Smoke Limit (light absorption coefficient, m ⁻¹)
	NO _x + THC or NO _x + NMHC or RHC	CO	PM	
Upto 19 kW	≤7.5	≤3.5	≤0.3	≤0.7
More than 19 kW upto 75 kW	≤4.7	≤3.5	≤0.3	≤0.7
More than 75 kW upto 800 kW	≤4.0	≤3.5	≤0.2	≤0.7

Notes. - The abbreviations used in the Table shall mean as under: 1. NO_x – Oxides of Nitrogen; THC – Total Hydrocarbon; CO- Carbon Monoxide; PM – Particulate Matter; NMHC – Non – Methane Hydrocarbon; and RHC – Reactive Hydrocarbon.

2. Dual fuel engine operation shall mean a two – fuel system having diesel as a primary combustion fuel and NG or LPG as supplementary fuel, both in a certain proportion, throughout the engine operating zone. Such dual fuel genset engine may operate on diesel stand-alone mode in absence of gaseous fuel i.e. NG or LPG.
3. NO_x + THC shall be measured as emission while diesel alone is used as fuel. NO_x + NMHC or NO_x + RHC shall be measured in case of diesel and NG or diesel and LPG dual fuel operation respectively. NMHC shall be equal to 0.3 × THC in case of NG and RHC as 0.5 × THC in case of LPG.
4. These norms shall be applicable to Original Equipment Manufacturer (OEM) built diesel and NG or LPG Genset engines. Conversion or retro fitment of the existing diesel engines to run on diesel and NG or diesel and LPG shall not be permitted.
5. The above mentioned emission limits shall be applicable for Type Approval and Conformity of Production (COP) carried out by authorised agencies. For Type Approval and COP for diesel and NG or diesel and LPG dual fuel operation engines, the emission and smoke limits prescribed in above Table shall be met in diesel alone or diesel and NG or diesel and LPG dual fuel mode separately.
6. Any of the following institutions shall undertake Type Approval and for verification of Conformity of Production for emission standards for engine products and to issue such certificates on compliance of the prescribed norms, namely: -
 - (a) The Automotive Research Association of India, Pune (Maharashtra);
 - (b) The International Centre for Automotive Technology, Manesar (Haryana);
 - (c) The Indian Oil Corporation, Research and Development Centre, Faridabad (Haryana);
 - (d) The Indian Institute of Petroleum, Dehradun (Uttarakhand); and
 - (e) The Vehicle Research Development Establishment, Ahmednagar (Maharashtra)
7. Stack height (in metres) for genset shall be governed as per Central Pollution Control Board (CPCB) guidelines.
8. NO_x + THC shall be measured as emissions from diesel alone in bi-fuel fuel mode of operation. NO_x + NMHC or NO_x + RHC shall be measured in case of diesel and NG or diesel and LPG fuel mode of operation, respectively.
9. The emission standards for smoke and particulate matter shall be applicable, when diesel is used as fuel. Smoke limit prescribed in above Table shall not exceed throughout the operating load points of the test cycle.

B. Noise Limits. – 1. The maximum permissible sound pressure level for genset, with rated capacity upto 800 kW shall be 75 dB(A) at 1 metre from the enclosure surface. Gensets shall be provided with integral acoustic enclosure at the manufacturing stage itself. The noise norms shall be effective from the 1st January, 2017.

2. Noise limit for gensets not covered under paragraph (1) shall be as follows: -
 - (a) Noise from gensets shall be controlled by providing an acoustic enclosure or by treating the room acoustically, at the users end.
 - (b) The acoustic enclosure shall be designed for minimum 25 dB(A) insertion loss or for complying with the ambient noise standards, whichever is on the higher side (if the actual ambient noise is on the higher side, it may not be possible to check the performance of the acoustic enclosure or acoustic treatment. Under such circumstances the performance

may be checked for noise reduction upto actual ambient noise level, preferably, in the night time between 10.00 PM-6.00 AM). The measurement for insertion loss may be done at different points at 0.5m from the acoustic enclosure or room, and then averaged.

- (c) The genset shall be provided with proper exhaust muffler with insertion loss of minimum 25 dB(A).
 - (d) These limits shall be regulated by the State Pollution Control Boards and Pollution Control Committees.
 - (e) The manufacturer shall offer to the user a standard acoustic enclosure of 25 dB(A) insertion loss and also a suitable exhaust muffler with insertion loss of 25 dB(A).
 - (f) The user shall make efforts to bring down the noise levels due to the genset, outside his premises, within the ambient noise requirements by proper siting and control measures.
 - (g) Installation of a genset shall be strictly made in compliance with the recommendations of the genset manufacturer.
 - (h) A proper routine and preventive maintenance procedure for the genset shall be set and followed in consultation with the genset manufacturer.
3. Any of the following institutions shall undertake Type Approval and for verification of Conformity of Production for noise norms for dedicated diesel or diesel and NG or LPG gensets and issue such certificates on compliance of the prescribed norms, namely: -
- (a) The Automotive Research Association of India, Pune (Maharashtra);
 - (b) The International Centre for Automotive Technology, Manesar (Haryana);
 - (c) The Fluid Control Research Institute, Palghat (Kerala);
 - (d) The National Test House, Ghaziabad (Uttar Pradesh);
 - (e) The National Aerospace Laboratory, Bangaluru (Karnataka); and
 - (f) The Naval Science and Technology Laboratory, Visakhapatnam (Andhra Pradesh).

¹[(g) National Physical Laboratory, New Delhi.];

C. General Conditions

1. Every manufacturer, importer or assembler (hereinafter referred to as the 'manufacturer') of the diesel and NG or LPG engine (hereinafter referred to as 'engine') for genset application manufactured or imported into India or diesel and NG or LPG genset (hereinafter referred to as 'product'), assembled or imported into India shall obtain Type Approval and comply with the COP of their products for the emission limits which shall be valid for the next COP year or, the date of implementation of the norms specified above, whichever is earlier. Thereafter, manufacturer shall obtain COP approval every COP year. Diesel and NG or LPG kit shall also have independent Type Approval and shall independently comply with COP requirement, as and when notified.
2. These conditions shall apply to all new engines for genset application and products manufactured, assembled or imported into India, as the case may be:

Provided that these rules, shall not apply to, -

- (a) any engine or, product, assembled or manufactured or imported, as the case may be, for the purpose of export outside India; or

¹ Inserted item (g) by Rule 2(e) vide G.S.R 97(E) dated 29th January, 2018

- (b) any engine or product intended for the purpose of sample limited to four in number and to be exported back within three months, and not for sale in India.
3. Every manufacturer of engine or product, as the case may be, shall have valid certificates of Type Approval and COP for each COP year, for all engine models being manufactured or, for all engine or product models being imported, after the effective date of the emission limits, as specified above and CPCB shall develop system and procedure to monitor the norms and COP year.
 4. Every manufacturer shall submit its engine or products, as the case may be, for the verification of conformity of production for emission and noise, by any of the institutions, as applicable, every COP year.
Note. - The term COP year, duty cycle and any other requirement for compliance of Type Approval and COP shall be prescribed in the system and procedure to be developed by the Central Pollution Control Board.
 5. No person shall manufacture, sell, import or use an engine for genset application or any product which is not having a valid Type Approval certificate and certificate of COP referred to in sub - paragraph (3) above.
 6. All the engines, individually or as part of the product shall be clearly engraved as diesel and NG genset Engine or diesel and LPG genset engine on the cylinder block, as the case may be.
 7. The engine or the product shall be affixed with a conformance label meeting the following requirements, namely: -
 - (a) the label shall be durable and legible;
 - (b) the label shall be affixed on a part necessary for normal operation of the engine or the product and not normally requiring replacement during the life of the engine or the product.
 8. The conformance label shall contain the following informations, namely: -
 - (a) Name and address of the manufacturer of engine or product, as the case may be;
 - (b) Statement that the engine or product conforms to the Environment (Protection) Rules, 1986;
 - (c) Type Approval Certificate number;
 - (d) Date of manufacture of engine and the product or in case of import, the date of import of the engine and the product; and
 - (e) Rated speed and corresponding gross power in kW.
 9. (a) The Central Pollution Control Board shall be the nodal agency for implementation of these rules;
 - (b) In case of any dispute or difficulty in implementation of these rules, the matter shall be referred to the nodal agency;
 - (c) The nodal agency shall constitute a Standing Committee for emission related issues and a National Committee for noise related issues, respectively, to advise it on all matters related to the implementation of these rules including disputes, if any.
 10. (a) All genset engines operating on diesel and NG or LPG shall be tested for Type Approval and COP of emission and noise limits compliance as per system and procedure published from time to time by the Central Pollution Control Board.
 - (b) The Central Pollution Control Board may develop or as the case may be, revise the compliance and testing procedure allowing a time for a period of six months for all concern.

(c) The institutes referred to in paragraph A and B above shall submit the testing and certification details in respect of emission and, or, noise, as applicable, to the Central Pollution Control Board, annually and the Central Pollution Control Board shall be free to depute its officials to oversee the testing.

11. All genset engines operating on diesel and NG or LPG shall comply safety requirements.
12. The specification of commercial fuel applicable for diesel and NG or LPG shall be applicable for vehicles run on diesel and NG or LPG in the area where product shall be operated, from time to time, as per the policy of the Government of India.
13. All the details of engine components or part responsible for the emission performance shall be clearly marked in English language].

¹[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 to 1.7.2005	On or after 1.7.2005
NO _x (as NO ₂) (At 15% O ₂), dry basis, in ppmv	A	Up to 75 MW	1100	970	710
	B	Up to 150 MW			
	A	More than 75 MW	1100	710	360
	B	More than 150 MW			
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 A only	Up to 5 MW	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 SO ₂ emission from the plant in kg/hr.				
	(ii) Minimum 6 m. above the building where generator set is installed.				
	(iii) 30m.				

¹ Serial No. 96 and entries relating thereto inserted by Rule 2 of the Environment (Protection) Third Amendment Rules, 2002 notified vide Notification G.S.R. 489(E), dated 9.7.2002.

Note:

1. Acronyms used:

MW	: Mega (10 ⁶) Watt	FO	: Furnace Oil
NO _x	: Oxides of Nitrogen	HSD	: High Speed Diesel
NO ₂	: Nitrogen Dioxide	LDO	: Light Diesel Oil
O ₂	: 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/Nm ³	: Milli (10 ⁻³) gram per Normal metre cubic
SO ₂	: Sulphur Dioxide		
ppmv	: parts per million (10 ⁶) by volume		

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

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

Category B: Areas not covered by category A.

- The standards shall be regulated by the State Pollution Control Boards or Pollution Control Committees, as the case may be.
- Individual units with engine ratings less than or equal to 800 KW are not covered by this notification.
- 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.
- For expansion project, stack height of new generator sets shall be as per total Sulphur Dioxide emission (including existing as well as additional load).
- 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.
- 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).
- Measurement shall be performed at steady load conditions of more than 85% of the rated load.
- 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.
- 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]

S. No.	Industry	Parameter	Standards
1	2	3	4
1 ¹ [97.	Boilers Using Agriculture Waste as Fuel	Step Grate Particulate matter	250 mg/Nm ³
		Horse Shoe/Pulsating Particulate matter	500 mg/Nm ³ (12% of CO ₂)
		Spreader stoker Particulate matter	500 mg/Nm ³ (12% of CO ₂ .)]

98. Guidelines for Pollution Control in Ginning Mills -

Measures for Noise Control

- (i) Creating separate soundproof enclosures for the fans within the ginning area.
- (ii) Keeping the fans outside the ginning room in separate enclosures.
- (iii) Roller gins may be covered by sound proof enclosures and use of pneumatic feeding of raw cotton while suction of ginned cotton is introduced to considerably reduce the dust pollution level.

Measures for Dust Control

- i. The fugitive emission can be largely controlled by employing mechanical or pneumatic handling of raw material and ginned material through covered ducts and providing overhead hoods connected to exhaust through ducts and filters; use of lifting platforms for bale formers.
- ii. The overhead hoods with exhaust arrangement can be provided at:
 - a) The saw-ginning machine where manual handling to maintain proper feeding in the machine.
 - b) At the feeding point of the roller ginning machine when manual feeding is carried out.
 - c) At the collection points of ginned cotton from saw ginning condenser.]

S. No.	Industry	Parameter	Standards	
1	2	3	4	
2 ² [99.	Sponge Iron Plant (Rotary Kiln)	A. Emission Standards *		
			Fuel Type	Limiting value for Concentration
		Particulate Matter	coal	100 mg/Nm ³
			gas	50 mg/Nm ³
		Carbon Monoxide (Vol/Vol.)	coal/gas	1%
Stack Height** (minimum)	coal/gas	30.0 m		

¹ Entry 97 added by Rule 2 (iv) of the Environment (Protection) Third Amendment Rules, 2005 notified vide Notification G.S.R. 546(E), dated 30.08.2005

² Inserted by Rule 2 (i) of the Environment (Protection) Fourth Amendment Rules, 2008 notified by G.S.R. 414(E), dated 30.05.2008.

		<p>Note: -</p> <p>* Emission shall be normalized at 12% CO₂ in stack emission.</p> <p>** Stack height shall be calculated as $H=14.0 Q^{0.3}$ where Q is emission of Sulphur Dioxide (SO₂) in kg/hr. i.e.</p>		
		SO₂ (kg/hr)	Height (metre)	
		Upto 12.68	30	
		12.69 -33.08	40	
		33.09-69.06	50	
		69.07-127.80	60	
		127.81-213.63	70	
	(De-dusting unit)	Particulate matter (mg/m³)	Existing Unit	New Unit
			100	50
		<p>Note: -</p> <p>(i) Stack attached to de-dusting unit shall have minimum height of 30.0 metre.</p> <p>(ii) If, De-dusting unit is connected to After Burner Chamber (ABC), emission shall be emitted through common stack (minimum height 30.0 metre) having separate arrangements for emission monitoring for de-dusting unit.</p>		
	(Rotary Kiln /De-dusting unit)	B. Fugitive Emission Standards		
		Particulate matter (µg/m³)	Existing Unit	New Unit
			3000	2000
		<p>Note: -</p> <p>(i) The existing industry shall comply with a standard of 2000 (µg/m³) after one year from the date of notification.</p> <p>(ii) Fugitive emission shall be monitored at a distance 10.0 metre from the source of fugitive emission as per following:</p>		
		Area	Monitoring Location	
		Raw material handling area	Wagon tippler, Screen area, Transfer points, Stock bin area.	
		Crusher area	Crushing plant, vibrating screen, transfer points.	
		Raw material feed area	Feeder area, Mixing area, Transfer points	
		Cooler discharge area	Over size discharge area, Transfer points	
		Product processing area	Intermediate stock bin area, Screening plant, Magnetic separation unit, Transfer points, Over size discharge area, Product separation area, Bagging area	
		Other areas	as specified by State Pollution Control Board/Pollution Control Committee	
		C. Effluent Standards		
		pH	5.5-9.0	
	Total suspended solids	100 mg/l		
	Oil & grease	10 mg/l		
	Chemical oxygen demand	250 mg/l		
	<p>Note: -</p> <p>(i) All effort shall be made to reuse and re-circulate the water and to maintain 'Zero discharge'.</p> <p>(ii) Storm water drain shall be provided within the premises of the industry so as to avoid mixing with effluent].</p>			

Guidelines / Code of Practice for Pollution Prevention for Sponge Iron Plants

1. Air Pollution

1.1. Stack Emission from Kiln

- (i) Suitable Air Pollution Control System shall be installed to achieve the prescribed stack emission standards. The following air pollution control system/combination of system are most commonly used in such type of industry:
 - Electrostatic Precipitator (ESP)
 - Bag Filter
 - Wet Scrubber
 - Cyclone / Multiclone
- (ii) All Pollution control equipment may be provided with separate electricity meter and totaliser for continuous recording of power consumption. The amperage of the ID fan may also be recorded continuously. Non-functioning of Pollution control equipment should be recorded in the same logbook along with reasons for not running the Pollution Control Equipment.
- (iii) The safety cap/emergency stack of rotary kiln type plant, which is generally installed above the After Burner Chamber (ABC) of feed end column should not be used for discharging untreated emission, bypassing the air pollution control device.
- (iv) In order to prevent bypassing of emissions through safety cap and non-operation of pollution control device, software controlled interlocking facility should be provided on the basis of real time data from the plant control system, to ensure stoppage of feed conveyor, so that, feed to the kiln would stop automatically, if safety cap of the rotary kiln is opened or Air Pollution Control System is not in operation. The system should be able to take care of multiple operating parameters and their inter relations to prevent any possibility of defeating the basic objective of the interlock. The system should be foolproof to prevent any kind of tempering. The software based interlocking system, proposed to be installed by industry should be get approved by the concerned State Pollution Control Board, for its adequacy, before installation by the industry.
- (v) Mechanical operated system for timely collection and removal of the flue dust generated in air pollution control device shall be installed.

1.2. Stack Emission from de-dusting units

All de-dusting units should be connected to a stack having a minimum stack height of 30 m. However, in specific cases stack height can be reduced as specified in the notified standards. Sampling porthole and platform etc. shall be provided as per CPCB emission regulation to facilitate stack monitoring. De-dusting units can also be connected to ABC Chamber and finally emitted through common stack with kiln off-gas emissions.

1.3. Fugitive Emission

The measurement may be done, preferably on 8-hour basis with high volume sampler. However, depending upon the prevalent conditions at the site, the period of measurement can be reduced.

2. Effluent Discharge

- (i) All efforts should be made to reuse and re-circulate the water and to maintain zero effluent discharge.
- (ii) Storm water / garland drain should be provided in the plant.

3. Noise Control

The industry should take measures to control the Noise Pollution so that the noise level standards already notified for Industrial area are complied.

4. Solid Waste Management

Char

Char should be mixed with coal or coal washery rejects and used as fuel for generation of power. It is techno-economic viable option for plants having capacity 200 TPD and above. Also the smaller capacity individual Sponge Iron Plants (Capacity upto 100 TPD) and operating in cluster can collectively install common unit for power generation. The Sponge Iron Plant are free to explore other options / possibilities to use char for generation of power. Char can be sold to local entrepreneurs for making coal briquettes. It can also be mixed with coal fines, converted to briquettes and used in brick kilns. The industry can explore other reuse / recycling techniques for Char.

Under no circumstances char should be disposed off in agricultural fields/other areas. Logbook for daily record, of Char production and usage must be maintained by the industry and the record shall be made available to officials of CPCB/SPCB/PCC during inspection.

Kiln Accretions

The kiln accretions are heavy solid lumps and can be used as sub- base material for road construction or landfill, after ascertaining the composition for its suitability and ensuring that it should not have any adverse environmental impact. The industry can explore other reuse / recycling techniques for Kiln Accretions.

Gas Cleaning Plant (GCP)/Scrubber Sludge

The sludge should be compacted and suitably disposed off after ascertaining the composition for its suitability and ensuring that it should not have any adverse environmental impact. The industry can explore other reuse/recycling techniques for Gas Cleaning Plant (GCP)/Scrubber Sludge

Flue Dust

Flue dust is generated from air pollution control system installed with kiln. Secondary flue dust is also generated from air pollution control equipment installed with Raw Material Handling, Coal Crusher, Cooler Discharge and Product house unit. The reuse/ recycling of the flue dust generated / collected may be explored and suitably implemented.

Fly ash

Fly ash is generated from Char / Coal based Captive Power Plant, if any. Fly ash brick making plant may be install for fly ash utilization. Fly ash can be utilized in cement making by Cement industry also. The industry can explore other reuse / recycling techniques for Flue Dust / Fly ash.

Bottom Ash

Bottom ash is generated from Char / Coal based Captive Power Plant, if any. Bottom ash may have objectionable metallic compounds, therefore should be stored in properly designed landfills as per CPCB guidelines to prevent leaching to the sub-soil and underground aquifer.

General

- (a) Solid waste management program should be prepared with thrust on reuse and recycling. Solid waste disposal site should be earmarked within the plant premises. The storage site of solid waste should be scientifically designed keeping in view that the storage of solid waste should not have any adverse impact on the air quality or water regime, in any way.
- (b) The various types of solid wastes generated should be stored separately as per CPCB guidelines so that it should not adversely affect the air quality, becoming air borne by wind or water regimen during rainy season by flowing along with the storm water.

5. Raw Material handling and Preparation

- (a) Unloading of coal by trucks or wagons should be carried out with proper care avoiding dropping of the materials from height. It is advisable to moist the material by sprinkling water while unloading.
- (b) Crushing and screening operation should be carried out in enclosed area. Centralized de-dusting facility (collection hood and suction arrangements followed by suitable de-dusting units such as bag filter or ESP or equally effective method or wet scrubber or any other de-dusting unit and finally discharge of emission through a stack) should be provided to control Fugitive Particulate Matter Emissions. The stack should conform to the emission standards notified for de-dusting units. Water sprinkling arrangement should be provided at raw material heaps and on land around the crushing and screening units.
- (c) Work area including the roads surrounding the plant shall be asphalted or concreted.
- (d) Enclosure should be provided for belt conveyors and transfer points of belt conveyors.

The above enclosures shall be rigid and permanent (and not of flexible/ cloth type enclosures) and fitted with self-closing doors and close fitting entrances and exits, where conveyors pass through the enclosures. Flexible covers shall be installed at entry and exit of the conveyor to the enclosures, minimizing the gaps around the conveyors.

In the wet system, water sprays/ sprinklers shall be provided at the following strategic locations for dust suppression during raw material transfer:

- Belt conveyor discharge/ transfer point
- Crusher/screen discharge locations

6. Waste Heat Recovery Boiler (WHRB)

Sponge Iron Plants of capacity more than 100 TPD kilns may use Waste Heat Recovery Boiler (WHRB) for generation of power. Installation of Waste Heat Recovery Boiler (WHRB) may qualify the industry for CDM benefits.

7. Cooler Discharge and Product Separation Unit

Permanent and rigid enclosures shall be provided for belt conveyors and transfer points of belt conveyors. Dust extraction cum control system to arrest product loss in cooler discharge and product separation area may be installed.

8. Char based Power Plant

For plant having capacity of 200 TPD of cumulative kiln capacity, the power generation using char as a part of fuel, is a viable option. Power generation using char as a part of fuel may be implemented in a phased manner targeting for 100% utilization of char.

Individual Sponge Iron Plants of capacity upto 100 TPD and located in cluster can install a common char based power plant collectively.

9. New Sponge Iron Plants

- (i) No New Sponge Iron Plant will be commissioned without installation of Pollution control systems to achieve the stipulated Standards. The concerned State Pollution Control Board will accord consent to operate only after physical verification of the adequacy of the installed pollution control systems for meeting the standards and stipulated conditions in the consent to establish.
- (ii) All new kilns shall have independent stack with the kiln or multi-flue stacks in case two or more kilns are joining the same stack for better dispersion of pollutants.

- (iii) Any entrepreneur having more than 2x100 TPD kiln may install WHRB for power generation, as it's a technically viable option, which also qualify the industry for CDM benefits.

For plants having capacity of 200 TPD or more, power generation using char as part of fuel in boiler is techno-economic viable option, therefore, new plants may install power generation unit at the time of installation of the industry.

10. General Guidelines

- (a) Extensive plantation/Green belt shall be developed along the roads and boundary line of the industry. A minimum 15 m width Green Belt along the boundary shall be maintained. However, the green belt may be designed scientifically depending upon the requirement and local and mix species of plants may be selected for the green belt.
- (b) Monitoring of stack emissions, fugitive emissions, trade effluent and noise level shall be done as per CPCB regulations. On line stack monitoring facilities shall be provided and operated continuously to ensure compliance to stack emission standards. Calibration of the system to be carried out by a third party accredited laboratory. List of the accredited laboratory may be obtained from CPCB/SPCB.
- (c) Pollution control systems shall be operated as an integral part of production to ensure minimum emissions. Pollution Control System shall start before conveyor operation/operation of plant. Similarly, pollution control system shall be stopped only after completion of conveyor operation/operation of plant so that possibility of dust settlement in ducts can be eliminated. Continuous evacuation of dust from air pollution control systems such as Dust catchers, ESPs, Bag filter hopper etc. shall be organized.

11. Siting Guideline for Sponge Iron Plants

Siting of new sponge iron plants shall be as per respective State Pollution Control Board guidelines. However, the following aspects shall also be considered:

- (a) Residential habitation (residential localities/ village) and ecologically and/or otherwise sensitive areas: A minimum distance of at least 1000 m (1.0 km) to be maintained.
- (b) If any plant/clusters of plants are located within 1 km from any residential area/ village they may be shifted by State Pollution Control Board/ State Govt. in a phased manner for which a time bound action plan is to be prepared by SPCBs.
- (c) The location of Sponge Iron Plant should be at least 500 m away from National Highway and State Highway.
- (d) Radial distance between two Sponge Iron Plants should be 5 km for plants having capacity 1000 TPD or more.
- (e) Sponge Iron Plants can be established in designated industrial areas / Estates as notified by State Govt.

S. No.	Industry	Parameter	Standards	
1	2	3	4	
¹ [100.	Common Hazardous Waste Incinerator	A. Emission		
			Limiting concentration in mg/Nm ³ unless stated	Sampling Duration in (minutes) unless stated
		Particulate Matter	50	30
		HCl	50	30
		SO ₂	200	30
		CO	100	30
			50	24 hours
		Total Organic Carbon	20	30
		HF	4	30
		NO _x (NO and NO ₂ expressed as NO ₂)	400	30
		Total dioxins and furans	0.1 ngTEQ/Nm ³	8 hours
		Cd+Th+their compounds	0.05	2 hours
		Hg and its compounds	0.05	2 hours
		Sb+As+Pb+Co+Cr+Cu+Mn+Ni+V+their compounds	0.50	2 hours
		Notes:		
i. All monitored values shall be corrected to 11% oxygen on dry basis.				
ii. The CO ₂ concentration in tail gas shall not be less than 7%.				
iii. In case, halogenated organic waste is less than 1% by weight in input waste, all the facilities in twin chamber incinerators shall be designed to achieve a minimum temperature of 950°C in secondary combustion chamber and with a gas residence time in secondary combustion chamber not less than 2 (two) seconds.				
iv. In case halogenated organic waste is more than 1% by weight in input waste, waste shall be incinerated only in twin chamber incinerators and all the facilities shall be designed to achieve a minimum temperature of 1100°C in secondary combustion chamber with a gas residence time in secondary combustion chamber not less than 2 (two) seconds).				
v. Incineration plants shall be operated (combustion chambers) with such temperature, retention time and turbulence, as to achieve Total Organic Carbon (TOC) content in the slag and bottom ashes less than 3%, or their loss on Ignition is less than 5% of the dry weight].				

²[101. Incinerator for Pesticide Industry ***]

¹ Inserted by Rule 2 of the Environment (Protection) Fifth Amendment Rules, 2008 notified by G.S.R. 481(E), dated 26.06.2008.

² Serial No. 101 relating to "Incinerator for Pesticide Industry" and entries relating thereto omitted by G.S.R. 446(E), dated 13.06.2011.

S. No.	Industry	Parameter	Standards	
1	2	3	4	
¹ [102.	Refractory Industry	A. Emission Standards		
		(i) Down Draft Kiln (Fuel: Coal)		
			Category *	limiting concentration (mg/Nm³)
		Particulate matter	small/medium /large	350
		Stack height	small medium large	Minimum (metres)
				15
				18
		21		
		(ii) Other than Down Draft Kiln (Fuel: Coal)		
			Category *	limiting concentration (mg/Nm³)
		Particulate matter	small	300
			medium	200
			large	150
		Stack height	small medium large	Minimum (metre)
				15
				18
				21
		(iii) Box, Tunnel, Down Draft Kiln, etc. (Fuel: Natural Gas/ Producer Gas/LPG or a combination of Fuels/Furnace Oil as Secondary Fuel)		
			Category *	limiting concentration (mg/Nm³)
		Particulate matter	Small	200
			medium/ large	150
Stack height	small medium large	Minimum (metre)		
		12		
		15		
	18			
	Category*	Production (tpa)		
small kiln	<15,000			
medium kiln	15,001-50,000			
large kiln	above 50,000			
(iv) Rotary Kiln (Fuel: Furnace Oil)				
	Category *	limiting concentration (mg/Nm³)		
Particulate matter	Small	200		
	medium/ large	150		
Stack height	small medium large	Minimum (metre)		
		35		
		45		
	60			
	Category*	Production (tpd)		
Small rotary kiln	<50			
medium rotary kiln	51-100			
large rotary kiln	above 100			
Notes: -				
(i) All values of particulate matter are to be corrected at 6 percent Carbon Dioxide.				

¹ Inserted by Rule 2 of the Environment (Protection) Amendment Rules, 2009 notified by G.S.R. 97(E), dated 18.02.2009

	(ii) Fugitive emission shall not exceed 10 mg/m ³ from any process or plant.																																								
	(iii) Each stack shall be at least 2 meter above the top most point of the building, shed or plant in the industry excluding bucket elevator, mill house and vibrating screen.																																								
	(iv) If more than one kiln is connected to single stack, sum of the production capacity of all the kilns would be considered for determining the capacity of the kiln and accordingly depending upon the total capacity, emission standard and stack height would be implemented.																																								
	(v) Monitoring of stack shall be carried out at the time of charging and after the completion of charging and average of these two results shall be considered as emission level.																																								
	B. Effluent Standards																																								
	Limiting value for concentration (mg/l, except for pH)																																								
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;"></td> <td style="width: 33%; text-align: center;">Inland Surface Water</td> <td style="width: 33%; text-align: center;">Public Sewer</td> <td style="width: 33%; text-align: center;">Land for Irrigation</td> </tr> <tr> <td>pH</td> <td style="text-align: center;">5.5 to 9.0</td> <td style="text-align: center;">5.5 to 9.0</td> <td style="text-align: center;">5.5 to 9.0</td> </tr> <tr> <td>Oil and Grease</td> <td style="text-align: center;">10</td> <td style="text-align: center;">20</td> <td style="text-align: center;">10</td> </tr> <tr> <td>BOD (3 days, 27 °C)</td> <td style="text-align: center;">30</td> <td style="text-align: center;">250</td> <td style="text-align: center;">100</td> </tr> <tr> <td>COD</td> <td style="text-align: center;">250</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> </tr> <tr> <td>Suspended Solids</td> <td style="text-align: center;">100</td> <td style="text-align: center;">600</td> <td style="text-align: center;">200</td> </tr> <tr> <td>Phenols</td> <td style="text-align: center;">1.0</td> <td style="text-align: center;">5.0</td> <td style="text-align: center;">-</td> </tr> <tr> <td>Cyanide as CN</td> <td style="text-align: center;">0.2</td> <td style="text-align: center;">2.0</td> <td style="text-align: center;">0.2</td> </tr> <tr> <td>Cr (Hexavalent)</td> <td style="text-align: center;">0.1</td> <td style="text-align: center;">2.0</td> <td style="text-align: center;">1.0</td> </tr> <tr> <td>Cr (Total)</td> <td style="text-align: center;">2.0</td> <td style="text-align: center;">2.0</td> <td style="text-align: center;">2.0]</td> </tr> </table>		Inland Surface Water	Public Sewer	Land for Irrigation	pH	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	Oil and Grease	10	20	10	BOD (3 days, 27 °C)	30	250	100	COD	250	-	-	Suspended Solids	100	600	200	Phenols	1.0	5.0	-	Cyanide as CN	0.2	2.0	0.2	Cr (Hexavalent)	0.1	2.0	1.0	Cr (Total)	2.0	2.0	2.0]
	Inland Surface Water	Public Sewer	Land for Irrigation																																						
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S. No.	Industry	Parameter	Standards	
1	2	3	4	
¹ [103]	Cashew Seed Processing Industry	A - Emission Standards		
			<i>Process</i>	<i>limiting concentration in mg/Nm³</i>
			Roasting	250
		Particulate matter	Cooking (roasted shell/deoiled cake as fuel)	150
			Borma Oven Heater (roasted shell/deoiled cake as fuel)	150
		Stack height		<i>minimum (metres)</i>
			Roasting	20
			Cooking	15
			Borma Oven Heater	15
			Note:	
	<ul style="list-style-type: none"> • All values of particulate matter shall be corrected at 4% Carbon Dioxide. • Each stack shall be at least 2 metres above the top most point of the building, shed or plant in the industry. • The emission form 'Dog-house' shall be channelised alongwith Roasting-drum emissions and shall pass through wet scrubber. • Bio-gasifier shall be installed if roasted shells are used as fuel in the unit. 			
	B - Effluent Standards			
	<i>Limiting concentration in mg/l, except for pH</i>			

¹ Inserted by Rule 2 of the Environment (Protection) Rules, 2010 notified vide GSR 1(E), dated 1.1.2010.

			<i>Inland surface Water</i>	<i>Public Sewer</i>	<i>Land for Irrigation</i>
		pH	6.5 to 8.5	6.5 to 8.5	6.5 to 8.5
		Oil & Grease	10	20	10
		BOD, (3 days 27 °C)	30	250	100
		Suspended Solids	100	600	200
		Phenols	1.0	5.0	-]

S. No.	Industry	Parameter	Standards	
1	2	3	4	
¹ [104]	Plaster of Paris Industry	A. Stack Emission Standards		
		Production Capacity upto 30 tonnes per day (tpd)		
			Source	Limiting concentration in mg/Nm ³
		Particulate matter	Crusher	500
			Calcliner Furnace	500
			Grinder	150
		Production Capacity above 30 tpd		
		Particulate matter	Crusher/ Calcliner Furnace/ Grinder	150
		Note: -		
		1. The units having production capacity up to 30 tpd shall channelise their emission through a stack or chimney of height at least ten metres above ground level or three metres above the top of shed or building of the industry, whichever is more.		
2. The units having production capacity above 30 tpd shall channelise their emission through a stack or chimney of height at least thirty metres above ground level or three metres above the top of shed or building whichever is more				
B. Fugitive Emission Standards (µg/m³)				
Particulate matter		Particulate matter		
Note: - Fugitive emission shall be monitored at a distance of 10 ± 1 metres from the source, irrespective of production capacity.]				

Sl. No.	Industry	Parameters	Standards	
1	2	3	4	
² [105]	Sewage Treatment Plants (STPs)	Effluent discharge standards (applicable to all mode of disposal)		
			Location	Concentration not to exceed
			(a)	(b)
		pH	Anywhere in the country	6.5-9.0

¹ Inserted by Rule 2 of the Environment (Protection) Second Amendment Rules, 2010 notified vide GSR 61(E), dated 5.2.2010.

² Inserted by vide Notification number G.S.R. 1265(E), dated 13.10.2017

	Bio-Chemical Oxygen Demand (BOD)	Metro Cities*, all State Capitals except in the State of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura Sikkim, Himachal Pradesh, Uttarakhand, Jammu and Kashmir, and Union territory of Andaman and Nicobar Islands, Dadar and Nagar Haveli Daman and Diu and Lakshadweep	20
		Areas/regions other than mentioned above	30
	Total Suspended Solids (TSS)	Metro Cities*, all State Capitals except in the State of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura Sikkim, Himachal Pradesh, Uttarakhand, Jammu and Kashmir and Union territory of Andaman and Nicobar Islands, Dadar and Nagar Haveli Daman and Diu and Lakshadweep	<50
		Areas/regions other than mentioned above	<100
Fecal Coliform (FC) (Most Probable Number per 100 milliliter, MPN/100ml)	Anywhere in the country	<1000	

*Metro Cities are Mumbai, Delhi, Kolkata, Chennai, Bengaluru, Hyderabad, Ahmedabad and Pune.

Note:

- (i) All values in mg/l except for pH and Fecal Coliform.
- (ii) These standards shall be applicable for discharge into water bodies as well as for land disposal/applications.
- (iii) The standards for Fecal Coliform shall not apply in respect of use of treated effluent for industrial purposes.
- (iv) These Standards shall apply to all STPs to be commissioned on or after the 1st June, 2019 and the old/existing STPs shall achieve these standards within a period of five years from date of publication of this notification in the Official Gazette.
- (v) In case of discharge of treated effluent into sea, it shall be through proper marine outfall and the existing shore discharge shall be converted to marine outfalls, and in cases where the marine outfall provides a minimum initial dilution of 150 times at the point of discharge and a minimum dilution of 1500 times at a point 100 meters away from discharge point, then, the existing norms shall apply as specified in the general discharge standards.
- (vi) Reuse/Recycling of treated effluent shall be encouraged and in cases where part of the treated effluent is reused and recycled involving possibility of human contact, standards as specified above shall apply.
- (vii) Central Pollution Control Board/State Pollution Control Boards/Pollution Control Committees may issue more stringent norms taking account to local condition under section 5 of the Environment (Protection) Act, 1986].

Sl. No.	Type of industrial boiler (fuel wise)	Standards	
		SO ₂	NO _x
¹ [106	Agro based fuel*	-	-
106A	Natural gas*	-	-
106B	Other fuels **	600 mg/Nm ³ at 6% dry O ₂ , for solid fuel and 3% dry O ₂ for liquid fuel	300 mg/Nm ³ at 6% dry O ₂ , for solid fuel and 3% dry O ₂ for liquid fuel

The boiler used in the industries, namely (1) sugar (2) cotton textiles (3) composite woollen mills (4) synthetic rubber (5) pulp and paper (6) distilleries (7) leather industries (8) calcium carbide (9) carbon black (10) natural rubber (11) asbestos (12) caustic soda (13) small boilers (14) aluminium plants (15) tannery (16) inorganic chemical and other such industries using boilers, shall adhere to emission norms in the said notification.

* It is required to meet stack height criteria notified vide G.S.R. 176(E), dated the 2nd April, 1996.

** The emissions from such industries need to be monitored and, all such industries as referred at Sl. No. 105C of the Table would be required to install online monitoring system as per online monitoring mechanism put in place by Central Pollution Control Board from time to time.

Note:

- *For captive power plants using Solid fuels such as coal, lignite, etc. the emission limit notified for Thermal Power Plants vide notification no S.O. 3305 (E), dated 7th December, 2015 shall be applicable.*
- *The standards set herein will not apply to any ban or restriction put in place by Competent Authority and for non-attainment cities, State Pollution Control Board or Pollution Control Committee may regulate or ban use of Pet Coke and Furnace Oil on the basis of available data].*

S. No.	Type of industrial Sector	Standards	
		SO ₂ (mg/Nm ³)	NO _x (mg/Nm ³)
² [107	Ceramic*	400	600
108	Foundry Industries ** (Furnaces based on Fuel)	300	400
109	Glass***	500 for natural gas firing 1500 for other fuels	1000
110	Lime Kiln****	400	500
111	Reheating furnace*****	300	1000]

Note:

* It is required to meet stack height criteria publication vide notification number G.S.R 475 (E), dated the 5th May, 1992 published in Gazette No. 202 dated 5th May 1992.

**It is required to meet stack height criteria publication vide notification number G.S.R. 742 (E), dated the 30th August, 1990 published in Gazette No. 365 dated 30th August, 1990.

***It is required to meet stack height criteria publication vide notification number G.S.R 93 (E), dated 21st February, 1991 published in the Gazette No. 79 dated the 27th February, 1991.

****The lime kiln shall ensure that the minimum stack height is in accordance with Environment (Protection) Act, 1986 as amended from time to time and relevant direction of SPCBs / PCCs shall to adhere to. It shall be the concerned SPCB/PCC to increase the stake height, if required based on the scientific studies, keeping in view the habitations around such lime kilns.

¹ Inserted by vide Notification number G.S.R. 96(E), dated 29.01.2018

² Inserted by vide Notification number G.S.R. 263(E), dated 22.03.2018

*****It is required to meet stack height criteria publication as prescribed by SPCBs/PCCs.

S. No.	Industry	Parameters	Standards	
1	2	3	4	
1[112]	Airports	Ambient Air Quality Standards with respect to Noise in Airport Noise Zone		
		Type of Airports	Limits in dB (A) Leq*	
			Day Time	Night Time
		Busy Airports	70	65
		All other Airports excluding proposed airports	65	60

Definitions:

- (a) *dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing. A day time from 6.00 a.m. to 10.00 p.m. and night time from 10.00 p.m. to 6.00 a.m. are considered for time weighted average.
- (b) "A", in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear (The range of human hearing is 20 Hz to 20 kHz).
- (c) A "decibel" is a unit in which noise is measured.
- (d) Leq: It is energy mean of the noise level over a specified period.
- (e) Busy Airport - For the purpose of noise management at airports, a busy airport shall be defined as "a civil airport which has more than 50,000 aircraft movements per year (a movement being a take-off or a landing)" excluding those purely for training purposes on light aircraft.
- (f) Take-off – A phase of flight from the application of takeoff power to an altitude of final take-off segment.
- (g) Landing – A phase of flight from the beginning of the landing flare until aircraft exits the landing runway comes to a stop on the runway, or when power is applied for takeoff in the case of a touch-and-go landing.
- (h) Lmax is unit for aircraft maximum noise level in units dB(A) which is maximum or peak noise value for aircrafts at the monitoring location in accordance with the noise standards notified by the Directorate General of Civil Aviation for respective airports.
- (i) Other Airports – an airport having more than 15000 but less than 50000 aircraft movement annually.
- (j) Proposed Airports – airport that is not functional yet and is under development.

Note:

- (i) Day time shall mean from 6.00 a.m. to 10.00 p.m and night time shall mean from 10.00 p.m. to 6.00 a.m.
- (ii) The above specified limits shall have a tolerance limit of 10dB (A) Leq.
- (iii) The specified limit excludes defence aircraft and aircraft landing and take-off noise from all runways and aircraft engine/ground run-ups, helipad locations earmarked by Airport Operator for this purpose.
- (iv) However, the limit for aircraft noise as Lmax will be notified by the airport operator with approval of the Directorate General of Civil Aviation at the aircraft noise monitoring locations installed by the airports as mentioned in paragraph 1 of this notification.

¹ Inserted by vide Notification number G.S.R. 568(E) dated 22.03.2018

- (v) The noise limits specified in above shall replace and supersede the ambient air quality in respect of noise limits of the following existing zones:
 - (a) Silence;
 - (b) Residential; and
 - (c) Commercial areas;
- (vi) As specified in the Noise Pollution (Regulation and Control) Rules, 2000 in the areas falling directly under Airport Noise Zone.
- (vii) The noise standards within the overall boundary of airports shall be applicable as Industrial Areas i.e. day time 75 dB (A) Leq and night time 70 db (A) Leq as per the Noise (Regulation and Control) Rules, 2000 and shall be measured at different points of airport boundary and then averaged.
- (viii) These standards will not be applicable to a civil airport which has less than 15,000 aircraft movement annually.

1(1) For Airports excluding newly proposed airports:

In addition to dB(A) Leq applicable in the 'airport noise zones' specified above, Lmax value in dB(A) shall be published by the airport operator with approval of the Directorate General of Civil Aviation only for airports having more than 50,000 annual traffic movements. These Lmax values shall be complied by airlines and to be monitored and communicated by Airport Operator to the Directorate General of Civil Aviation. These Lmax value shall be reviewed as and when there is a requirement in future.

(2) For Proposed Airports (yet to be operationalized):

- (i) For any upcoming/New Airports, noise modelling shall be conducted by the airport operators and results should be submitted to the Ministry of Environment, Forest and Climate Change while seeking Environment Clearance under the Environment Impact Assessment Notification, 2006.
 - (ii) The airport operators should also develop airport noise zone as specified in paragraph 4 and share the same with Ministry of Housing and Urban Affairs and concerned State Development Authority for necessary land use planning around airport.
 - (iii) The concerned State / Union Territory Development Authorities should not allow any new residential, institutions & commercial facilities and other noise sensitive area falling in the airport noise zone area without any noise reduction measure.
2. Compliance of noise levels applicable to Airport Noise Zone as specified above shall lie with the airport operator and overseen by the Directorate General of Civil Aviation.
 3. Airport operators shall prepare Noise Management Plan for compliance of the Airport Noise Standards.
 4. Airport Noise Zones:
 - (1) The Airport Noise Zone area for each Airport shall be defined as Noise Contour for day and night period by the respective Airport Operator on the basis of existing GSR 751 (E), issued by the Ministry of Civil Aviation (Height Restrictions for Safeguarding of Aircraft Operations) Rules, 2015 published on 30th September, 2015 as amended from time to time on Height Restriction for Safeguarding of Aircraft Operation considering all approach and departure funnels and Instrument Flight Procedures (i.e. Instrument Approach Procedures, Standard Instrument Departure & Standard Terminal Arrival Route) in consultation with airports Air Navigation Service Provider as per the Master Plan of the Airport. The same shall be approved by the Directorate General of Civil Aviation and displayed on the website of respective Airport Operators. This activity shall be completed within two years from the date of issuance of the final notification.

- (2) State / Union Territory Development Authorities should take into consideration of Airport Operations requirements in the airport noise zone area for the land use planning around the airport.

5. Airport Noise Mapping:

Noise mapping in for all airports should be carried out as per the requirements specified in the Director General Civil Aviation's requirements by the airport operators considering future aircraft movement and traffic projections of the airport as per the Master Plan of the Airport. This information to be displayed at a prominent places at Airports as well as in the website of respective Airport Operator and State / Union Territory Development Authority.

6. Protocol and Measurements Procedure:

Monitoring protocol and measurements procedure for airport noise zone displayed on the website of the Ministry of Environment, Forest and the Climate Change and the Central Pollution Control Board shall be followed.

7. Development Authorities / Regional Planning Department shall specify provisions for inclusion of sound resistance in new buildings, facilities and projects of residential, institutional, hospital and commercial facilities in the design, construction and materials selections for improving indoor environment under existing building codes and bye laws for any building constructions coming under airport noise zones.
8. All the Airport, Airline and Authority shall comply with the requirements specified in the notification within two years from the date of notification].

Sl. No.	Industry	Parameter	Standard	
1	2	3	4	
1[113	Kerosene standards	Characteristic	Requirement	
			Grade A	Grade B
		Appearance	Clear and bright. Free from un-dissolved water, foreign matter and other visible impurities	Clear and bright. Free from un-dissolved water, foreign matter and other visible impurities
		Acidity, inorganic	Nil	Nil
		Burning quality ⁽²⁾		
		(a) Char value, mg/kg of oil consumed, <i>Max</i>	20	20
		(b) Bloom on glass Chimney	Not darker than grey	Not darker than grey
		Colour		
		(a) Saybolt (in case of undyed Kerosene) ⁽³⁾ , <i>Min</i>	10	10
		(b) Visual (in case of dyed Kerosene)	Blue	Blue
Copper strip corrosion for 3 h at 50 °C	Not worse than No.1	Not worse than No.1		
Density at 15 °C, kg/m ³	Not limited, but to be reported	Not limited, but to be reported		

¹ Inserted by vide Notification number G.S.R. 5(E) dated 03.01.2019

		Distillation		
		(a) Percent recovered below 200 °C, percent (v/v), <i>Min</i>	20	20
		(b) Final boiling point, °C, <i>Max</i>	300	300
		Flash point (Abel), °C, <i>Min</i>	35	35
		Smoke point ⁽⁴⁾ , mm, <i>Min</i>	18	18
		Total sulphur content, percent ⁽⁵⁾ , m/m, <i>Max</i>	0.10	0.20*
		*The Ministry of Petroleum and Natural Gas shall make efforts to produce and supply Grade A Kerosene by 2020.		

NOTES:

- (1) In case of dispute, this shall be the referee method.
- (2) This test is to be done at refinery end.
- (3) Where Saybolt chromo meter is not available Lovibond colour of the sample kept in an 18 cell may be measured according to IS 1448: P-13 in which case the colour shall not be deeper than standard white (IP 4.0), however, in case of dispute [P:14] shall be referee method.
- (4) For supplies to Defence and Railway signal lamps the smoke point of the product shall be 22 mm, Minimum.
- (5) For all other specifications i.e. test methods, scope, references, grades, requirements, packing and marketing and sampling. It is require to meet Indian Standard IS 1459:2018 for Kerosene – Specifications (Fourth Revision), ICS No. 75.160.20, published in July, 2018].

Sl. No.	Industry	Parameter	Standard
1	2	3	4
1 ¹ [114	Automobile Service Station, Bus Depot or Workshop	Effluent Standard (Concentration not to exceed, in mg/l except for pH)	
		Inland Surface water/land for irrigation/Public Sewer	
		pH	6.5-8.5
		Total Suspended Solids	50
		Chemical Oxygen Demand	150
		Oil and Grease	10]

Note:

- (i) For Service Stations, Bus Depots and Workshops with metal pre-treatment facilities, limit of 5 mg/l of dissolved phosphates (as P) and 5 mg/l of zinc shall also apply.
- (ii) Solid Wastes/ Hazardous Waste, if any, shall be disposed off as per the Solid Waste Management Rules 2016, and the Hazardous and Other Wastes (Management and Transboundary-Movement) Rules, 2016.]

(F. No. Q-15017/95/2000-CPW)

(R. K. VAISH)

JOINT SECRETARY TO THE GOVT. OF INDIA

¹ Inserted by vide Notification number G.S.R. 952(E) dated 26.12.2019