

Table 1

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

CRITERIA		RATIONALE
1. Fecal Coliform MPN/100 ml:	500 (desirable) 2500 (Maximum Permissible)	To ensure low sewage contamination Fecal coliform and fecal streptococci are considered as they reflect the bacterial pathogenicity.
2. Fecal Streptococci MPN/100 ml:	100 (desirable) 500 (Maximum Permissible)	The desirable and permissible limits are suggested to allow for fluctuation in environmental conditions such as seasonal change, changes in flow conditions etc.
2. pH:	Between 6.5 – 8.5	The range provides protection to the skin and delicate organs like eyes, nose, ears etc. which are directly exposed during outdoor bathing.
3. 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.
4. 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 up to 1000 KVA, manufactured on or after the ²[1st January, 2005] shall be 75 dB(A) at 1 metre from the enclosure surface.

¹ Serial No.94 and 95 and entries relating thereto were inserted by Rule 2(c) of the Environment (Protection) Second Amendment Rules, 2002 notified vide Notification G.S.R.371(E), dated 17.5.2002.

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 12.7.2004 (Earlier it was 1st July 2003 as per the Environment (Protection) Second Amendment, Rules, 2002 notified vide G.S.R. 371 (E), dated 17.5.2002. 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 12.7.2004).

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 limit for DG sets not covered by paragraph 1.

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

- 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 manufacturers/users of Diesel Generator sets shall be as under:
 1. 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).
 2. The user shall make efforts to bring down the noise levels due to the DG set, outside his premises, within the ambient noise requirements by proper siting and control measures.
 3. Installation of a DG set must be strictly in compliance with the recommendations of the DG set manufacturer.

4. 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

1. These rules apply to DG sets upto 1000 KVA rated output, manufactured or imported in India, on or after ¹[1ST January, 2005].
2. 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

Every manufacturer or importer (hereinafter referred to as "supplier") 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 the product models being manufactured 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 supplier of the 'product' must affix a conformance label on the product meeting the following requirements:
 - (a) The label shall be durable and legible.

¹ Substituted by Rule 2(a) (i) of the Environment (Protection) Second Amendment Rules, 2004 notified vide Notification No. G.S.R.448 (E), dated 12.7.2004 (Earlier it was 1st July 2003 as per the Environment (Protection) Second Amendment, Rules, 2002 notified vide G.S.R. 371 (E), dated 17.5.2002. 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 12.7.2004).

120

- (b) The label shall be affixed on a part 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 supplier (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 Authorised 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) Automotive Research Association of India, Pune
- (ii) National Physical Laboratory, New Delhi
- (iii) Naval Science & Technology Laboratory, Visakhapatnam
- (iv) Fluid Control Research Institute, Palghat
- (v) National Aerospace Laboratory, Bangalore

95. **EMISSION LIMITS FOR NEW DIESEL ENGINES (UP TO 800 kW) FOR GENERATOR SETS (GENSETS) APPLICATIONS**

¹[1. Emission Limits

The emission limits for new diesel engines upto 800 kW for gensets applications shall be as given in the Table below:

²[TABLE

Capacity of diesel engines	Date of implementation	Emission Limits (g/kw-hr) for				Smoke Limit (light absorption coefficient, m ⁻¹) (at full load)	Test Cycle	
		NO _x	HC	CO	PM		Torque %	Weighting Factor
Upto 19 kW	1.7.2005	9.2	1.3	3.5	0.3	0.7	100	0.05
>19 kW upto 176 kW	1.1.2004	9.2	1.3	5.0	0.5	0.7	75	0.25
	1.7.2004	9.2	1.3	3.5	0.3	0.7	50	0.30
>176 kW upto 800 kW	1.11.2004	9.2	1.3	3.5	0.3	0.7	25	0.30
							10	0.10

Explanation: This extension ³[for engines upto 19 kW] shall be applicable only to those suppliers:

- (I) Who have obtained Type Approval Certificate for atleast one of their engine models in this range upto 30th June, 2004. ⁴[or]
- (II) Who have submitted the bank guarantee and also contributed towards the study being carried out by the Union Institute of Science, Bangalore, for development of genset diesel engines to comply with emission limits.]

¹ Substituted by Rule 2(b) (i) of the Environment (Protection) Amendment Rules, 2003 notified vide Notification G.S.R. 520 (E), dated 1.7.2003.

² Substituted by Rule (b) of the Environment (Protection) Second Amendment Rule, 2004 notified vide Notification G.S.R.448(E), dated 12.7.2004.

³ For the word 'this extension', the word 'this extension for engines upto 19 kW added by Corrigendum notified vide Notification G.S.R.520(E), dated 12.8.2004.

⁴ The word 'or' added by Corrigendum notified vide Notification G.S.R.520(E), dated 12.8.2004 .

Note I:- The diesel engine ¹[suppliers] in the category of engines upto 19 kW, who are unable to meet the emission limits fixed for such diesel engines for gensets applications vide the notification of the Government of India, in the Ministry of Environment and Forests number G.S.R. 371 (E) dated 17th May, 2002 (herein referred to as the said notification), may avail the benefit of extension of time provided under this notification subject to the condition that every such ¹[supplier] shall submit (i) an affidavit to the Central Pollution Control Board or the respective State Pollution Control Board or Committees where they are located to the effect that the specified emission limits shall be complied with by them as per the extended date of implementation given hereinabove for that category of engines without seeking further extension of time and (ii) a bank guarantee of Rs. 50,000 (Rupees Fifty Thousand) which in case of non compliance shall stand forfeited.

Note II:- The diesel engine ¹[supplier] in the category of engines more than 19 kW and upto 800 kW, who are unable to meet the emission limits fixed for such diesel engines for gensets applications vide the said notification may avail the benefit of extension of time provided under this notification subject to the condition that every such ¹[supplier] shall submit (i) an affidavit to the Central Pollution Control Board or the respective State Pollution Control Board or Committees where they are located to the effect that the specified emission limits shall be complied with by them as per the extended date of implementation given hereinabove for that category of engines without seeking further extension of time and (ii) a bank guarantee of Rs 10,00,000/- (Rupees ten lakhs) per parent engine model which in case of non compliance shall stand forfeited.

Note III:- The diesel engine ¹[supplier] in the category of engines of more than 176 kW and upto 800 kW shall, in addition to the conditions specified in Note II above, also give an affidavit to the Central Pollution Control Board or to the respective State Pollution Control Boards or Committees where they are located to the effect that they shall develop either individual or a common test facility and get the same approved by the certification agencies mentioned in paragraph 8 of serial number 95 of Schedule I.]

²[Explanation: - For the purposes of this paragraph, 'supplier' means manufacturer of new diesel engines for genset applications in India and importer of such diesel engines for gensets applications and diesel gensets imported into India.]

2. Applicability

These rules shall apply to all new diesel engines for genset applications (herein after referred to as 'engine') manufactured in India and all diesel engines for genset

¹ For the word 'manufacturers' or 'manufacturer', the word 'supplier' substituted by Rule 2 of the Environment (Protection) Amendment Rules, 2004 notified vide Notification G.S.R.92(E), dated 29.1.2004.

² Inserted by Rule 2 (ii) of the Environment (Protection) Amendment Rules, 2004 notified vide Notification G.S.R.92(E), dated 29.1.2004.

124

applications and diesel gensets (herein after referred to as 'product'), imported into India, after the effective date:

Provided that these rules shall not apply to:

- (i) any engine manufactured or engine or product imported for the purpose of export outside India, or;
- (ii) any engine or product intended for the purpose of sample only and not for sale in India.

3. Requirement of certification

Every manufacturer of engine or every importer of engine or product must have valid certificates of Type. Approval and certificates of Conformity of Production for each year, for all engine models being manufactured or for all engine or product models being imported, after the effective date with the emission limit as specified in paragraph 1.

4. Sale, Import or use of engine or product not complying with these rules

No person shall sell, import or use of an engine or a product which is not having a valid Type Approval certificate and Conformity of Production certificate as per paragraph 3.

5. Requirement of conformance labelling

- (i) All the engines (individually or as part of the product) shall be clearly engraved 'Genset Engine' on the cylinder block.
- (ii) The engine or the product must be affixed with a conformance label meeting the following requirements:-
 - (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.
- (iii) The conformance label must contain the following information:
 - (a) name and address of the engine manufacturer or the engine or product importer (if the address is given in the owner's manual, it may not be included in the label);

125

- (b) statement that 'this engine or product conforms to the Environment (protection) Rules, 1986';
- (c) type approval certificate number;
- (d) date of manufacture of engine or in case of import, the date of import of the engine or the product.

6. Compliance with BIS specifications

All engines up to ¹[19 kw] (individually or as part of the product) shall carry ISI mark and meet relevant BIS specifications (IS 10001).

7. Nodal agency

- (i) The Central Pollution Control Board shall be the, nodal agency for implementation of these rules.
- (ii) In case of any dispute or difficulty in implementation of these rules 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 rules.

8. Authorized agencies for certification

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

- (i) Automotive Research Association of India, Pune.
- (ii) Vehicle Research and Development Establishment, Ahmednagar.

9. 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.

10. Fuel Specification

The specification of commercial fuel applicable for -diesel gensets shall be the same as applicable for commercial HSD(High Speed Diesel) applicable for diesel vehicles in the area, from time to time].

¹ Substituted by Rule 2(c) of the Environment (Protection) Amendment Rules, 2003 notified vide Notification G.S.R.520(E), dated 1.7.2003.

