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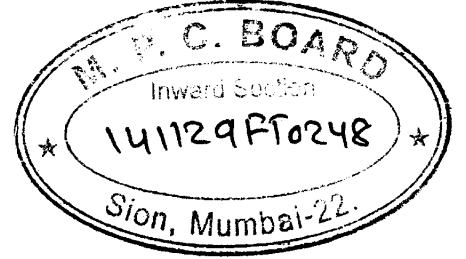
केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
(पर्यावरण एवं वन मंत्रालय, भारत सरकार)
(MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

No. B-12013/30/2009/PCI-II

4844

20th November 2014

The Member Secretary
Maharashtra Pollution Control Board
Kalpataru Point, Sion (E)
Mumbai-400022



Sub: Noise and Emission limit for in-use Generator sets.

Sir,

This is in reference to appeal No. 12(THC) of 2013 Market Welfare Association Vs. District Magistrate & Ors, OA No 17(THC) of 2013, Fashion Market Welfare Association Vs. District Magistrate, SAS Nagar & Ors and OA No. 32 (THC) of 2013 Sadhu Singh & Ors Vs The Chief Administrator & Ors before Hon'ble NGT, Delhi.

The matter has been adjourned to 16th December, 2014.

Hon'ble Tribunal vide its order No dated has directed CPCB to prepare guide lines for in-use Generator sets. Accordingly, draft guidelines have been drafted, a copy of which is enclosed for your comments.

Your comments in this regard (if any), may reach us by the next date of hearing for further follow-up action at CPCB end.

Yours faithfully,

S. S. Bala
(S.S. Bala)
Additional Director

JB (APG)

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Guidelines for in-use Generator sets(Noise and Emissions)

The in-use DGsets cause two types of problems that is noise pollution and pollution due to emissions. Ministry of Environment and Forests has notified emission limit for new diesel engines (upto 800 kW) for Generator sets vide GSR 371(E) dated 17th May 2002 under Environment (Protection) Act 1986. These limits have been amended from time to time and revised vide GSR 771(E) dated 11th December 2013. The limits are applicable at manufacturing stage only. The prescribed parameters are limited to HC+NO_x, CO, PM and smoke (light absorption coefficient) at full load.

Similarly, Ministry of Environment and Forests has notified noise limit for new diesel engines (upto 800 kW) for Generator sets vide GSR 371(E) dated 17th May 2002 under Environment (Protection) Act 1986. These limits have been amended from time to time. But, these limits implemented w.e.f. from 01.01.2005 due to legal issues on it. As per these rules, the maximum permissible sound pressure level for new diesel generator (DG) sets with rated capacity upto 1000 KVA, manufactured on or after the 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.

In reference to appeal Nos. 12(THC) of 2013 Market Welfare Association Vs. District Magistrate & Ors; OA No. 17(THC) of 2013, Fashion Market Welfare Association Vs. District Magistrate, SAS Nagar & Ors; and OA No.32 (THC) of 2013 Sadhu Singh & Ors. Vs The Chief Administrator & Ors., Hon'ble NGT, Delhi has directed CPCB to prepare guidelines for compliance monitoring and measures to be taken for controlling the pollution by in-use DGsets. The Hon'ble court specifically desired to know life time of locally manufactured DGsets and DGsets used for agriculture purpose in addition to possibility of checking emission standards as done in vehicles.

As a matter of fact every engine is subject to wear and tear, which leads to both rising noise and emission problems. It is said that in use-DGsets cannot achieve noise emission limits as achieved at manufacturing stage.

1. Noise standard for in-use Generator sets

This issue relating to standards / guidelines to control noise problem and checking exhaust emissions was discussed in 21st meeting of the 'National Committee on Noise Pollution control' held on 26.09.2014.

After due deliberations, Chairman of the committee suggested that 3 dB(A) cushion (which is double the noise power) may be fixed as noise limit for the in-use Generator sets. But the stake holders suggested that there should be at least 5 dB(A) cushion. In the mean time there was discussion on another proposal of 25 dB (A) insertion loss; which was agreed to all. Finally, the committee recommended to fix the limit at 25 dB(A) insertion loss or sound Pressure level (SPL) of 80 dB(A) at 1m distance, whichever is less.

2. Emission limit for in use Generator sets

At present, there is no installation guide-line for generator sets. In some cases, it is installed in roof tops or basements. On the existing installed locations and use practices, it is technically not possible to monitor the emissions from the Generator sets. To monitor the emissions, there should be an inbuilt standardised sampling point. This issue need to be addressed in consultation with manufacturers for new products.

3. Installation guidelines

The following installation guidelines are suggested;

- i. Installation of DGsets may be permitted keeping eye on ambience of the locality.
- ii. If use of DGsets is required over the ambience of the locality, second layer canopy / noise barrier may be imposed to meet the ambience of the locality.
- iii. DGset should be installed on the ground floor preferably on the front or backward of the premise for ease of monitoring.
- iv. Installation of a DGsets may be limited to a specified area and be governed by local authority / SPCB.
- v. Necessary precaution may be taken to avoid increase in Noise, vibration due to running of genset or the other.
- vi. Number of installed DGsets in a specified area should be limited. In the present case (SAS Nagar, Mohali); the number of installed DGsets is so large in number that all DGsets cannot be installed on the front door or back door.

4. Limitation in monitoring noise limits of in-use DGsets.

1. Every state Board is having equipment for monitoring noise limit, but scanty manpower. For regular monitoring, dedicated staff and adequate number of equipments at each SPCB are required.
2. No higher noise limit is permitted for use of DGsets over and above the ambient noise limit.

5. Maintenance of DGsets

It is the responsibility of DGset owner to maintain the DGSet. Proper maintenance as per following can reduce the pollution level and increase the Genset life.

5.1 Do 's

- Inspect the pre cleaner for dirt /dust accumulation and clean it
- Check vacuum indicator for red band and clean the outer element only by compressed air, not more than 60 psi, if necessary.
- Drain for the water and sediment from water separator & fuel tank before starting
- Drain for the water and sediment from water separator & fuel tank before starting
- Maintain coolant condition as per specifications.
- Check lube-oil pressure in the morning after starting.
- Check engine log book of previous shift and do corrections on engine, if necessary.
- Clean engine externally.
- Check any leakage of engine oil, coolant and fuel. Also top up the level, if required
- Prime the engine by priming pump, if provided before starting.
- Check battery condition and electrical connection before starting.
- Start the engine and operate at low idle for 2-3 minutes for any leakage or abnormal sound. Do corrections, if necessary.
- Start the engine on electrical mode and check for proper functioning of safety controls.
- Idle the engine for three minutes before shut off.
- Carry out recommended schedule maintenance checks.
- Use only genuine parts while replacing them.

5.2 Don't

- Operate the engine with choked or ruptured air cleaner element
- Operate the engine with vacuum indicator removed.
- Remove inner element for cleaning
- Operate the engine without diesel tank cap and strainer.
- Operate the engine without radiator pressure cap.
- Operate the engine without thermostat.
- Operate the engine with lubricating oil level below 'L' mark or above 'H' mark
- Crank the engine more than 30 seconds continuously.
- Operate the engine with dirty radiator core
- Over extend the filters and lubricating oil change period
- Allow dirt or any debris to enter oil system during oil change
- Operate the engine without support of exhaust and intake piping.
- Operate the engine with low oil pressure or with high coolant temperature.

6. CPCB's proposal for immediate action:

6.1 Common Back-up power supply

Service of a Generator set is used as a backup power supply. As per direction of the Hon'ble NGT, Delhi, the committee discussed the issue of effective maintenance for possible extended useful life. It was agreed that more than 15 years old Generator sets cannot meet the prescribed standard even after due maintenance. Hence, it is suggested that;

- i. Punjab Urban Development Authority (PUDA) / Developer should provide standby power supply to meet any eventualities to control pollution from probable use of Generator sets.
- ii. Individual shop owners should not be allowed to use Generator sets. Wherever possible, PUDA may provide backup power supply within frame work of laws of electricity board. The issue of individual commercial production and distribution is upto PUDA to find a solution to this issue.
- iii. Market welfare Association may have central solar power supply. However, there is no bar on individuals to produce and use solar power.

The above suggestions will also be applicable in other areas of cities and towns in general

6.2 Phasing out old Generator sets

As per discussions held and conclusions arrived at on the issue of useful life of Generator sets, the useful life of Generator sets may be fixed at 15 years from the effective date of utilisation. Accordingly, phasing out of old Generators as per following schedule is proposed. But, decision in this regard needs to be taken in consultation with concerned State Government, MoEF and CC.

- i. Any Generator set having engines not engraved with manufacturer's name and date of manufacturer shall not be allowed to operate after 01.04.2015.
- ii. No Generator set will be allowed to run without certified acoustic enclosure as per GSR 371(E), dated 17th May 2002.
- iii. All Generator sets manufactured after 17th May 2002 shall be discarded after its useful life.

6.3 Phasing out age old DGsets for agricultural applications

Generator sets for agricultural applications generally runs in isolation. There are no noise issue involved in this but, are having emission. Generator sets used in agriculture should have valid Type Approval. It is proposed that phasing out of such Generator sets may be carried out assuming useful life to be 20 years from the date of manufacture as per the following:

- i. Any Generator set having engines not engraved with manufacturer's name and date of manufacturer shall not be allowed to operate after 01.04.2015.
- ii. All Generator sets manufactured after 17th May 2002 shall be discarded after its useful life.

Concerned department of Punjab State and other cities as later on applicable will notify and publish it in the leading news papers including local news papers of Mohali at state level.

7. CPCB Proposal for Continued action plan

- i. Mean while, CPCB will follow-up with the manufacturers and in consultation with "Standing Committee on off-Road Vehicles and construction equipments" to prepare draft guidelines for monitoring of in-use Generator sets. Road map will also be developed to reduce the emission level on a phased manner. Type Approval and COP of Generator sets were proposed to be kept separate from the above as these were limited to manufacturing stage only.
- ii. A study project will simultaneously be undertaken with any of the Certification Agencies to suggest emission limits for in-use DGsets. On site monitoring of emission level will be carried out with PM and smoke parameters. This study will require around one and half years.
- iii. Since, it is not possible to create a sampling point in the existing old DGsets, manufacturers' meet will be proposed to create a sampling point in the exhaust outlet, after turbo charger for measurement of emission / smoke level.
- iv. DGset installation location specific guidelines may be framed by concerned departments so that monitoring can be done at ease preferably front yard or backward of the premise in ground floor and governed by local authority / SPCB.
- v. MoEF through MNRE may promote use of solar power driven Gensets by making available technology and may consider allowing suitable subsidy for user's / farmer's acceptability.

- vi. For sensitive / nearby residential areas fresh installations may be permitted with new Generator sets. Old or retro fitted Gensets may not be permitted in these areas.
- vii. In consultation with manufacturers possibility of creating a sampling point in old Generator set will be explored
- viii. Annual monitoring may be carried out like PUC of vehicles, after creation of a sampling point in the exhaust outlet, after turbo charger for measurement of emission / smoke level when required.
- ix. Regarding emission limit, CPCB will explore the possibility of imposing same emission limit as applicable 2&3 wheeler vehicles in case of Petrol driven Generator set and the same PUC norms for diesel vehicles to DGsets. But this can be done, once sampling point is available in Generator sets and monitoring equipment is available for this.

Honourable tribunal may so direct for prevention and control of Pollution proposed above without longing for the emission parameters and limit as it is a time consuming continued process.