

No. K-14011/23/2018-UT-I
Government of India
Ministry of Housing and Urban Affairs
(Urban Transport – I Desk)

Nirman Bhawan, New Delhi
Dated 27th November, 2019

To,

All Metro Rail Corporations (as per list attached).

Subject: Reducing particulate Matter Emission from diesel Generators to reduce air pollution in Indian cities- regarding.

Sir/Madam,

This has reference of National Clean Air Programme (NCAP). NCAP, launched by Ministry of Environment, Forest and Climate Change (M/o EF&CC) for 122 cities holds special relevance for Ministry of Housing and Urban Affairs. One of the key action points in the NACP (reference para 7.5.3 of the NCAP Report) is to ensure reduction of pollution caused by the Diesel Generator (DG) sets. As per NCAP, DG Sets contribute to 7-18% to the ambient air pollution in non-attainment cities.

2. Centre of Excellence for Research on Clean Air, IIT Delhi, in a recent communication (copy enclosed), has mentioned that there is a huge scope to reduce the adverse impact of pollution through installation of retrofitted emission control system in DG sets and has recommended installing suitable retrofit devices. DG sets are used in a large scale in Metro line construction, emergency power supply in Metro Rail, places such as tourist infrastructure, Central Command Rooms, waste-water treatment plants, community centre, construction and infrastructure works.

3. All the Metro Rail Corporations are therefore requested to consider the following action plans, as per NCAP, in their respective organization, in order to reduce air pollution and contribute to build a greener and cleaner India:

- (i) to make suitable provisions on control of pollution from diesel generators in-use and also to include control and mitigation measures related to these generators as per extant NGT Guidelines, CPCB Norms etc.
- (ii) Use retro-fitted emission control equipment with diesel generators having a minimum specified particulate matter capturing efficiency of at least 70%.
- (iii) to shift to gas-based generators either by retrofitting existing generators for partial usage of gas (a mixture of diesel and gas) or buying new gas-based generators

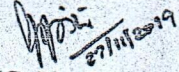
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4. Similar instructions may also be issued to the offices/establishments falling under the administrative control of organizations of Metro Rail Corporations for immediate compliance and an action taken report in this regard, may also be submitted to the Ministry.

5. This issues with the approval of the Competent Authority.

Yours faithfully,

Encl: As above



(C. Uppili)
Director (Urban Transport)

Copy with a request to issue similar instruction to the offices/establishments/organisations CPWD, NBCC, NBO, Smart Cities, AMRUT Cities etc., falling under their purview which are using DG sets in large scale:

1. AS (Delhi Division), Ministry of Housing and Urban Affairs, Government of India, Nirman Bhawan, New Delhi.
2. AS (Housing), Ministry of Housing and Urban Affairs, Government of India, Nirman Bhawan, New Delhi.
3. JS (SBM), JS (Works), Ministry of Housing and Urban Affairs, Government of India, Nirman Bhawan, New Delhi.
4. JS (Smart City Mission), Ministry of Housing and Urban Affairs, Government of India, Nirman Bhawan, New Delhi.
5. JS (AMRUT), Ministry of Housing and Urban Affairs, Government of India, Nirman Bhawan, New Delhi.
6. JS (Works), Ministry of Housing and Urban Affairs, Government of India, Nirman Bhawan, New Delhi.
7. Director & Head of the Department, NBO, Nirman Bhawan, Ministry of Housing & Urban Affairs, New Delhi - 110 011

Copy also to:

Shri Hement Kaushal, Project Coordinator, (CERCA) Centre of Excellence for Research on Clan Air (CERCA), Indian Institute of Technology, (IITD), Hauz Khas, New Delhi, Tel:011-26597361, Email: hemantkaushal.india@gmail.com; hemant.kaushal@civil.iitd.ac.in

Copy for information to:

1. PS to Hon'ble MoS I/C (HUA)
2. PSO to Secretary (HUA)
3. S.O (IT) for hosting on the Ministry's website



IIT-Delhi

CERCA

CENTRE OF EXCELLENCE FOR RESEARCH ON CLEAN AIR
INDIAN INSTITUTE OF TECHNOLOGY, DELHI
HAUZ KHAS, NEW DELHI-110016

Shri K. Sanjay Murthy, IAS

Additional Secretary, Ministry of Housing and Urban Affairs

Government of India

Dated: 05 Nov, 2019

Subject: Reducing Particulate Matter Emissions from Diesel Generators to reduce air pollution in Indian cities

Dear Sir,

As you are aware, studies conducted by WHO identify ambient air pollution as a leading cause of mortality, with an estimated 3 million deaths per year globally attributed to it. India is one of the most affected countries – twelve out of fifteen most polluted cities of the world are in India, causing various health effects to its citizens like lung cancer, COPD, ischemic heart disease and stroke to name a few. Diesel generators are an important source of pollution, with 7-18% of particulate matter in the air emanating from them.

Cities are the engines of growth and equity but they are also most affected by air pollution and it is in this context that National Clean Air Programme (NCAP), launched by the Ministry of Environment, Forest and Climate Change (MoEF&CC) Government of India for 122 cities, holds special relevance for the Ministry of Housing and Urban Affairs (MoHUA). Further, on 6 August 2019, the National Green Tribunal (NGT), Original Application No. 681/2018, passed directions to all states and union territories, ensuring a strict enforcement of the National Clean Air Plan. The order from NGT referred above, specifically highlights that air pollution from DG sets is a huge concern and hence has mandated that action should be taken to retrofit DG sets. States are now implementing this order, with Tamil Nadu and Maharashtra taking the lead have issued directives stating that in-use-DG sets have to be compliant with the NGT directions.

Several programs and schemes run by the MoHUA have a direct impact on the air pollution scenario, and there is a huge scope to reduce the same. One such area is reducing pollution from diesel generators, as they are a significant contributor to air pollution in urban areas – in fact, studies done under Central Pollution Control Board (CPCB) guidance for metropolitan cities have shown that up to 16% of all particulate matter is from the usage of DG sets in cities like Gurgaon.

Dependence on DG sets remains prominent across several establishments of the MoHUA, The following areas can be considered for the reduction of emissions from diesel generators:

- **Metro Rail Projects:** Diesel generators are an integral part of metro line construction. Also, all the stations of these metro rail systems include DG sets for emergency power supplies. Even minimal usage of these DG sets generates large amount of pollutants.
 - It is estimated that at the various metro stations of the Delhi Metro Rail network, DG sets are which are used for even fifteen minutes a day can add up to 5 tons of particulate matter from all the diesel

- generators used in DMRC alone. If left untreated, this can end up in the lungs of the citizens of this area.
- All new metro construction projects are powered by diesel generators, which run continuously during construction. In cities like Lucknow, Nagpur, Cochin, Mumbai, etc., with new projects, the DG sets being used for construction are resulting in over 2 tons of PM emissions from construction sites for one line.

Since MoHUA is directly responsible for funding these projects, it could direct all metro rail corporations to ensure that DG sets are retrofitted as per the NGT order to control emissions.

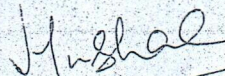
- **Smart Cities Programme:** 43 out of the 100 smart cities do not meet the National Ambient Air Quality standards and are classified as non-attainment cities. DG Sets are used at places such as tourist infrastructure, central command rooms, waste -water treatment plants, community centers, etc. which if retrofitted will not only reduce air pollution but also enable the smart cities to rank higher on the livability standards.
- **Construction and Infrastructure Management:** CPWD, NBCC etc. use DG sets at several construction project sites and at facilities they manage – their operations consequently expose people to their emissions. CPWD and other central bodies also hire DG sets for larger events like cricket matches, international conferences, national holiday celebrations and parades, which are often old and polluting in nature. Therefore, retrofits can be mandated for the in-use gensets owned or rented by such entities, such as
 - Under the CPWD Works Manual, it could be instructed that all DG sets being used by any contractor must come with a retrofitted emission control device as per NACP and NGT. It could also be included in the Standard Operating Procedures.
 - All the diesel generators being used in construction by NBCC and their contractors could be mandated to have retrofitted emission control systems as per NCAP and NGT.

Moreover, GeM has now included a category for Diesel Generator Retrofit Devices, which will further enable easy procurement for the concerned public sector entities.

We would therefore request you to kindly consider our suggestions, which if applied on the ground, can certainly help meet the various objectives, and offer citizens a chance at living a healthy, sustainable life, thus contributing to the building a greener and cleaner India for everyone.

We thank you for your patience and hope that our suggestions shall be considered.

Yours Sincerely,



Hemant Kaushal

Project Coordinator (CERCA),

Centre of Excellence for Research on Clean Air (CERCA) (<http://cerca.iitd.ac.in/>)

Indian Institute of Technology, (IITD) (<http://www.iitd.ac.in/>)

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