



TAMIL NADU POLLUTION CONTROL BOARD

ABSTRACT

TNPCB - Relaxing 1 KM distance criteria for the existing and new stone crushers in the state of Tamil Nadu – Orders issued – Reg.

B.P. No. 21

Dated 31.07.2019

- Read:
1. B.P. Ms. No. 4 dated 02.07.2004
 2. B.P. Ms. No. 55 dated 06.10.2005
 3. B.P. No. 26 dated 30.07.2018
 4. B.P. No. 8 dated 05.03.2019
 5. Board Resolution No. 277-1-7, dated 24.4.2019
 6. Board Resolution No. 278-1-6, dated 22.7.2019

The Tamil Nadu Pollution Control Board vide B.P. Ms. No. 4 dated 02.07.2004 (read with B.P. Ms. No. 55 dated 06.10.2005), has issued norms for the location of stone crushing industries. The highlights of the norms for New / Proposed Stone Crushing units are as follows:

- No new / proposed stone crushers should be located within 500 metres from any National Highways or State Highways or inhabited site or places of public and religious importance.
- The minimum distance between new / proposed stone crushers should be 1 KM to avoid dust pollution influence of one over the other.
- Green Belt Development: The stone crushing units shall provide adequate green belt cover around the periphery as suggested by the Board depending on site and meteorological conditions.
- The stone crushing units should provide dust containment and dust suppression systems suggested by National Productivity Council and should also adhere to the recommendations furnished in the NEERI report.

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River sand is the essential material for the construction activities. Extensive use of river sand as fine aggregate in the construction works results in scarcity of river sand. Further, indiscriminate mining of sand affects the river eco system and lowers the ground water table. Therefore, the Government is now encouraging the use of M-Sand in construction in place of river sand. M-sand is manufactured by crushing of blue metal jellies either in stone crushers as an extended facility or in standalone M- Sand units. In order to regulate the activities of M- Sand units, the Board vide B.P. No. 26 dated 30.07.2018 has issued guidelines for M-Sand units.

Stone Crushers Associations have made representation to the Hon'ble Minister for Environment that the norms for maintaining 1 KM distance from crusher to crusher shall be waived off so that the existing crushers can go for expansion to manufacture M-Sand in addition to the existing consented production of blue metal jellies and new crushers can be permitted so as to meet the demand for supply of blue metal and M-sand for construction activities.

In order to sort out the issue, a meeting was convened by the Hon'ble Minister for Environment with the Principal Secretary to Government, Environment & Forests Department & Chairman, TNPCB, and Member Secretary, TNPCB. After detailed discussion, it was decided to re-examine the 1 KM distance criteria mentioned in the B.P Ms No. 4 dated 02.07.2004 in view of the latest development in pollution control technologies, the present demand for construction materials and difficulties faced by the entrepreneurs to find suitable site.

In this regard, a proposal was placed before the Board. The Board vide circulation No. BM/CA/04/2019, dated 01.03.2019 has resolved to approve the proposal and to issue guidelines for the existing consented stone crushing units. Accordingly B.P. No. 8 dated 05.03.2019 was issued by the Board by issuing following guidelines for the existing consented stone crushing units:



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- The existing consented stone crushing units shall be permitted to increase their production along with or without M-sand production unit, such units shall comply with all the norms as prescribed in B.P. Ms. No. 4 dated 02.07.2004 (read with B.P. Ms. No. 55 dated 06.10.2005) except 1 KM distance criteria from crusher to crusher.
- The stone crushing units shall meet Ambient Air Quality standards at all times. The suspended particulate matter (measured between three metres and ten metres from any processes equipment of stone crushing unit shall not exceed 600 microgram per cubic metre) from a controlled isolated as well as from a unit located in a cluster should be less than $600\mu\text{g}/\text{m}^3$.
- The Standalone M-Sand units (within / outside stone crushing unit) shall comply with all the norms as prescribed in B.P. No. 26 dated 30.07.2018 except the distance criteria as prescribed under A-II of said B.P.
- The stone crushing units & M-Sand units shall not store raw materials & products of more than one month capacity and all the open storage should be properly covered with Tarpaulin to avoid dust emanation due to wind action.

The Board has also approved the proposal to re-examine the 1 KM distance criteria for the new stone crushers by conducting a study through a reputed institution like NEERI.

The above subject matter was again discussed in the meeting held with Hon'ble Minister for Environment at TNPCB Head Office on 6.3.2019. In the meeting it was discussed that the stone crushing units are now adopting latest technologies for dust suppression. In view of the establishment of M-Sand unit as integral part of stone crushing unit, they adopt spraying of fine water mist through special nozzles which suppress the particulate matter emission. In view of the above, it was decided to re-examine the 500 metre distance criteria fixed for the stone crushers from Habitations, NH (or) SH through a detailed study.

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Considering the above, the Board vide proceeding No. TNPCB/O&G/F. 4792/2019/Stone Crusher/dated 07.03.2019 has constituted a technical expert Committee comprising of officers from TNPCB, NEERI and NPC. The Terms of Reference for Committee is as follows:

- The Committee shall study the performance of existing stone crushers (cluster and isolated) with M-sand unit and without M-sand unit.
- The study shall focus on the air pollution control measures, dust suppression systems, green belt development, dust influence to the nearby habitations, National/State Highways.
- The Committee shall furnish its recommendation on the minimum distance criteria to be maintained between crusher to crusher, NH and SH, Habitations for the existing stone crushers and for the proposed stone crushers.
- The Committee shall suggest pollution control measures to be adopted by the units.
- The Committee can engage the service of TNPCB laboratories for carrying out AAQ survey.
- The Committee shall furnish its report with 10 days.

Committee Report

The committee has carried out a detailed study in the existing stone crushers on air pollution control measures provided and the ambient air quality in the vicinity of the crushers. AAQ survey was conducted in single stone crusher and cluster of stone crushers located in Kancheepuram, Tiruppur, Thiruvannamalai and Madurai districts. The committee has also gone through the guidelines issued by other SPCBs. After detailed study, the Committee has given the following recommendations.



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- The minimum distance of 1 KM between New / Proposed crushers as prescribed in the B.P. Ms No.4 dated 02.07.2004 may be dispensed with.
- The stone crushing units shall meet Ambient Air Quality standards at all times. The suspended particulate matter (measured between three metres and ten metres from any processes equipment of stone crushing unit shall not exceed 600 microgram per cubic metre) from a controlled isolated as well as from a unit located in a cluster should be less than $600\mu\text{g}/\text{m}^3$.
- The crushers may be encouraged to establish nearby quarry site so as to avoid transportation and to reduce air pollution.
- All the existing and the new crushers shall provide air pollution control measures as suggested by National Productivity Council, NEERI and Board circular as mentioned in this report.
- A detailed scientific study may be taken-up again through a reputed technical institution like NEERI. Based on the detailed study the minimum distance to be maintained from inhabited site, National Highway, State Highway, Places of public and religious importance may be decided. Until such time, the existing distance norms (500 metres from NH and SH, Habitations) as prescribed in B.P. Ms No.4 dated 02.07.2004 may be continued.

The Committee report was placed before the Board in the meeting held on 24.4.2019. The Board vide resolution No. 277-1-7 has stated that '*The Board has gone through the Committee Report and had a detailed discussion. The Board has observed that dispensing of the minimum distance of 1 KM between New / Proposed stone crushers may lead to mushrooming of crushers which will have dust pollution influence of one over the other and may have impact on the surrounding environment. At the same time, the supply of blue metal is also to be ensured for the development of construction industry. Hence the Board has instructed to conduct a*



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further detailed study to identify the notified areas and furnish a report so as to examine the relaxing of distance criteria of 1 KM from crusher to crusher of those notified areas only”.

In this connection, the Board vide letter dated 3.5.2019, has addressed CSIR-NEERI, Taramani to furnish proposal to take-up the detailed scientific study and give its recommendations on the distance criteria and dust control measures to be provided by the stone crushers. The CSIR-NEERI vide letter dated 29.5.2019, has submitted a proposal to carry out a detailed study with project duration of 6 months.

In the meantime, meeting was convened by the Hon'ble Minister for Environment with the Member Secretary. In the meeting it was instructed that a decision should be taken at the earliest on the 1 KM distance criteria so as to permit the new stone crushers to meet the M-sand demand for the construction projects in the State. In view of the above the following are submitted.

The subject was discussed with the Senior Officers of the Board on 28.5.2019. TNPCB has no power to notify the areas for establishing the stone crushers. The notification of land use shall be done by the competent authority (i.e) CMDA and Director of Town and Country Planning. With respect to relaxing the 1 KM distance from crusher to crusher, it is opined that the MoEF&CC, Gol has prescribed standards for the stone crushers in the Environment (Protection) Rules, 1986, as follows:

For control of suspended Particulate Matter – The standards consists of two parts:

- i. Implementation of the following pollution control measures:
 - a) Dust containment cum suppression system for the equipment.
 - b) Construction of wind breaking walls.
 - c) Construction of the metalled roads within the premises.
 - d) Regular cleaning and wetting of the ground within the premises.
 - e) Growing of a green belt along the periphery.

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ii. Quantitative standard for the SPM

The suspended particulate matter (measured between three metres and ten metres from any process equipment of stone crushing unit shall not exceed 600 microgram per cubic metre) from a controlled isolated as well as from a unit located in a cluster should be less than 600 microgram per cubic meter.

When the units meet the standard of suspended particulate matter $600 \mu\text{g}/\text{m}^3$ in the ambient air at 10 metres from the process equipment, there will not be dust pollution influence of one over the other. To meet the above standards, the stone crushers shall provide adequate air pollution control measures.

Further, as per the existing guidelines, no new/proposed stone crushers should be located within 500 metres from any National Highways or State Highways or inhabited site or places of public and religious importance.

Therefore, considering the M-sand demand for which new stone crushers are to be allowed, and at the same time without compromising the environmental quality, the distance criteria of keeping minimum 1 KM distance between new/proposed stone may be dispensed.

In view of the above the following proposal is submitted to the Board for consideration.

1. The minimum distance of 1 KM between New / Proposed crushers as prescribed in the B.P. Ms No.4 dated 02.07.2004 may be dispensed with. This relaxation is also applicable to the existing stone crushers and the M-Sand units.
2. The stone crushing units shall meet Ambient Air Quality standards at all times. The suspended particulate matter (measured between three metres and ten metres from any process equipment of stone crushing unit shall not exceed



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600 microgram per cubic metre) from a controlled isolated as well as from a unit located in a cluster should be less than $600\mu\text{g}/\text{m}^3$.

3. The crushers may be encouraged to establish nearby quarry site so as to avoid transportation and to reduce air pollution.
4. All the existing and the new crushers shall provide air pollution control measures as suggested by National Productivity Council, NEERI and Board circular as mentioned below:

Recommendation given by National Productivity Council

- Dust containment system comprises of building enclosures over the major dust emission sources so as to contain the dust within the housing.
- Enclosures to be constructed of G.I. sheets (1.66 mm and 1.25 mm thick) and supported on angle structures so that it can withstand strong wind.
- Wherever there is a persistent of wind speed is blowing in particular direction or high wind speed in a particular sector/directions construction wind breaking wall or net in such a way that it will bring down wind speed by 90%.
- Roof to be given a gradual slope / curvature so as to prevent accumulation of water.
- Material transfer point such as hopper bottom / product unloading conveyor to be covered suitably to prevent dust release into the atmosphere.
- Locations where complete enclosures are not possible such as openings in jaw crushers side and bottom, are to be covered suitably (GI sheets / rubber flap or any other material) to prevent dust release into the atmosphere.
- Telescopic chutes are to be provided at product unloading conveyor to prevent dust release into the atmosphere during free fall off material from height. These chutes can be adjusted in length according to size of the heap.

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- Openings in the enclosures over shafter, motor driver, conveyor belts etc., are to be covered with rubber flaps (wherever possible) to prevent release of dust.
- Openings fitted with doors are to be provided for inspection and access in the enclosures
- Paving of all the roads inside the crushing units and transport areas to avoid re-entrainment of dust into the atmosphere
- All fine dust other than aggregates need to be collected below the ground level or completely covered to avoid blow away of fine dust which suspends in air for longer time and behaves like gas.
- Dust generation from material transfer points is quite substantial. Therefore dust suppression system shall be provided in these points. Dust suppression system, comprising of spraying of fine water mist through special nozzles. It should be carried out over the dust generation sources to suppress the dust cloud.

Recommendations given by NEERI

- Periodical cleaning of water spray nozzles should be carried out to avoid choking.
- Fine dust accumulated in the crushing area should be periodically cleaned and the dumps should be covered with tarpaulins to arrest erosion by wind.
- The drop height of the processed material should be kept at a minimum during loading and unloading.
- Conveyor chutes should be provided at the discharge points.
- There should be bilane road system to approach the crushers.

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- The approach road should be properly laid with tar and concrete and should be sprayed with water. Similarly, the approach roads to individual crusher should be made in good condition and watered.
- Within the crusher, a minimum distance of 20 metres should be made for roads.
- The green belt will restrict the spread of particulate matter and trees should be evergreen high foliage type like neem, tamarind, gold-mohar, fire of the forest and any other local varieties are recommended. Cash crops like cashewnut, mango, lemon and sapota may be encouraged to get back financial benefits.
- Ornamental trees like Asoka along the roads on both sides leading to crushing area should be encouraged to improve the aesthetics of the working environment.
- As an occupational safety, all the workers should be provided with nose masks.

TNPCB's circular Memo No. T16/TNPCB/13086/2008/ Orange, dated 22.4.2008

- All the stone crushing units shall provide enclosures to the primary, secondary crushers. The entire conveyor belt shall be covered with GI sheet. Telescopic chute is to be provided at the product unloading conveyor so as to adjust the length according to size of heap.
- Water sprinkler arrangement at appropriate transfer points shall be provided.
- All the units shall provide compound wall / wind net arrestor of 20 feet height all around the unit premises.
- Green belt of evergreen high foliage type like neem, tamarind, and gold-mohar shall be developed within and outside the boundary of the unit.

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5. With respect to 500 metre distance to be maintained from any National Highways or State Highways or inhabited site or places of public and religious importance, a detailed scientific study shall be taken-up through a reputed technical institution like NEERI. Based on the detailed study, the minimum distance to be maintained from inhabited site, National Highway, State Highway, Places of public and religious importance shall be decided. Until such time, the existing distance norms 500 metres as prescribed in B.P. Ms No.4 dated 02.07.2004 shall be continued.

The above proposal was placed before the Board in the meeting held on 22.7.2019. The Board vide Resolution No. 278-1-6 dt. 22.7.2019, resolved to approve the proposal of relaxing 1 KM distance criteria for the existing and new stone crushers in the state of Tamil Nadu as follows:

1. The minimum distance of 1 KM between New / Proposed crushers as prescribed in the B.P. Ms No.4 dated 02.07.2004 is dispensed off. This relaxation is also applicable to the existing stone crushers and the M-Sand units.
2. The stone crushing units shall meet Ambient Air Quality standards at all times. The suspended particulate matter (measured between three metres and ten metres from any process equipment of stone crushing unit shall not exceed 600 microgram per cubic metre) from a controlled isolated as well as from a unit located in a cluster should be less than $600\mu\text{g}/\text{m}^3$.
3. The crushers may be encouraged to establish nearby quarry site so as to avoid transportation and to reduce air pollution.
4. All the existing and the new crushers shall provide air pollution control measures as suggested by National Productivity Council, NEERI and Board circular dated 22.4.2008.



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5. The stone crushing units & M-Sand units shall not store raw materials & products more than one month capacity and all the open storage should be properly covered with Tarpaulin to avoid dust emanation due to wind action.
6. No new / proposed stone crushers should be located within 500 metre from any National Highways or State Highways or inhabited site or educational institutions / and other public offices and places of religious importance.

The Board will review the performance of installation and operation of air pollution control measures and the compliance of standards by the stone crushing units after one year.


Sd/- dt. 31.7.2019
D.Sekar
Member Secretary

To

All JCEEs (Monitoring), TNPCB
All DEEs, TNPCB.

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BMS Section
Legal Section
PS to Chairman & Member Secretary


For Member Secretary

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31.7.19