

TAMIL NADU POLLUTION CONTROL BOARD

ABSTRACT

**TNPCB - STONE CRUSHERS - REVISED GUIDELINES FOR STONE CRUSHER IN
TAMIL NADU, IN LINE WITH THE HON'BLE NGT (SZ) ORDER DATED 08.08.2024
IN OA NO. 12 OF 2024, EXISTING GUIDELINES FOR STONE CRUSHERS ISSUED
BY THE CPCB & NEERI'S RECOMMENDATION – ISSUED - REGARDING**

BPNo.:116

Dated: 06.05.2025

- Read:**
1. B.P.MS.No.4, dated: 02.07.2004
 2. B.P.MS.No.21, dated: 31.07.2019
 3. Environmental Guidelines for Stone Crushing Units issued by the CPCB during July, 2023
 4. Hon'ble NGT(SZ) Order dated 08.08.2024 in OA No. 12 of 2024.
 5. Joint Committee report dated 22.11.2024
 6. Board's resolution No. 296-2-16, dated 02.04.2025

1. Preamble

The TNPCB vide BP No. 4 dated 02.07.2004 read with BP No. 55 dated 06.10.2005 has prescribed guidelines and siting criteria for locating stone crushing units inter alia as follows:

- No new / proposed stone crushers should be located within 500 metres from any National Highways or State Highways or inhabited site or educational institutions / and other public offices and 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.

Subsequently, the TNPCB vide BP No. 21, dated 31.07.2019 dispensed off the 1 Km distance criteria between stone crushers for the reasons stated therein. Aggrieved by the same, Thiru. E.V. Sampath filed a W.P. No.26786 of 2019 before the Hon'ble High Court of Madras, with a prayer to quash BP No. 21, dated 31.07.2019, dispensing off the minimum distance of 1 km between new/proposed crushers prescribed in the B.P.Ms.No.4 dated 02.07.2004.

The Hon'ble High Court of Madras on hearing the same, vide order dated 06.09.2019 issued stay on dispensing the 1 KM distance criteria and issued orders to carry out further study through any reputed institution.

Based on the above, the TNPCB vide proceeding dated 11.08.2021 issued work order to the NEERI, Chennai to conduct a detailed study for assessing the dust emissions and distance criteria with respect to Stone Crushers in Tamil Nadu.

The NEERI, in May, 2022 submitted its final report on the stone crushers, inter alia recommending that the minimum 1 Km distance between one stone crushing unit to another stone crushing unit shall be dispensed so as to avoid mushrooming of single crushers over a larger area. The same was submitted before the Hon'ble High Court of Madras.

Meanwhile, the CPCB issued 'Environmental Guidelines for Stone Crushing Units' in July 2023, wherein the distance criteria to be maintained between two stone crushers were not specified and however, it is mentioned that new crushers should be allowed to operate only in dedicated crusher zones as per the siting policies of SPCBs/PCCs.

Also, while reviewing the distance criteria prescribed by other States, it was found that except Kerala (100 metres) and Assam (300 metres), no other State prescribed distance criteria for crusher to crusher. Telangana SPCB states that stone crushers shall preferably be located near the quarries.

In view of the above, the subject was placed before the Board meeting held on 10.10.2023. The Board vide resolution No. 292-2-2 resolved to dispense off 1 Km distance between one stone crushing unit to another stone crushing unit as recommended by the NEERI in its final report, dated 09.06.2022 along with the other recommendations of the NEERI with respect to stone crushing units and also to adopt the "Environmental Guidelines for Stone Crushing Units" issued by the CPCB in July, 2023.

Subsequently, the Hon'ble High Court of Madras vide judgement dated 07.02.2024 disposed the case W.P. No.26786 of 2019 directing the petitioner to approach the Hon'ble NGT stating that the NGT would be more appropriate authority to consider about the apprehensions raised by the petitioner.



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The petitioner filed an application vide OA No. 12 of 2024 before the Hon'ble NGT (SZ) and the Hon'ble NGT vide order dated 08.08.2024 disposed the case inter alia with the following orders and certain directions to the TNPCB for compliance.

*"57. Considering the recommendations of the CPCB as well as other studies that recommend the formation of clusters of stone crushing industry and that currently except for the States of Tamil Nadu (1 Km), Kerala (100 Meters) and Assam (300 Meters), other states do not have distance criteria between crusher units, **this Tribunal cannot uphold the prayer of the applicant.**"*

59(I) TNPCB is directed to examine the siting criteria for the location of stone crushing units before granting consent. The TNPCB shall arrive at different siting criteria for individual stone crushing units and for units to be located in a cluster.

(II) In case a cluster approach is being adopted, the TNPCB shall conduct a carrying capacity study and decide the maximum number of crushing units/production capacities that can be established in a cluster. While doing so, the TNPCB shall also consider the cumulative impact of having multiple units in a cluster on the environment and nearby habitations, public buildings, water bodies, ecologically sensitive areas, etc.

(III) The review of B.P. No.21 dated 31.07.2019 may be taken up and new guidelines may be framed with a specified time of 3 (Three) months."

In view of the various directions issued by the Hon'ble NGT (SZ), the Board vide proceeding dated 10.10.2024, constituted a Joint Committee with the officials from the CPCB, Forest Department, Health and Family Welfare Department, NEERI, Chennai and TNPCB to furnish report & recommendation for the effective compliance of the said Hon'ble NGT order dated 08.08.2024. The committee submitted its report on 22.11.2024 with certain recommendations.

2. Minutes of the Board Meeting vide ITEM No. 295-2-11, dated 25.11.2024:

Based on the report furnished by the said committee, the subject was placed before the Board meeting held on 25.11.2024, to examine the issue of revised guidelines for stone crusher units in Tamil Nadu subject to the conditions stipulated in existing guidelines for stone crushers issued by the CPCB, NEERI's and committee recommendations.

During the Board meeting, it was decided to present the draft guidelines before the other stakeholders viz., Forest Department, Health and Family Welfare Department, Geology & Mining Department etc., to get their views and to incorporate the same in the guidelines before issuance of the said guidelines.

As decided in the Board meeting, a meeting under the chairmanship of the Principal Secretary to Government, Environment, Climate Change & Forest was convened on 23.01.2025 with the officials from the Forest Department, Health and Family Welfare Department, Geology & Mining Department etc.

3. Minutes of Stakeholders Meeting held on 23.01.2025:

In the meeting, it was decided to revise the said draft guidelines as follows in view of the suggestions received from the officials of the various Department and to place the same before the ensuing Board meeting for its approval:

- The phrase "whichever is stringent" may be removed from the siting criteria in respect of reserve forests and eco sensitive areas
- In respect of expansion of existing industries, the expansion shall be restricted to only one time up to a maximum of 100% increase from the consented quantity.
- The TNEB may be requested to insist for TNPCB Consent for Expansion before sanctioning additional power load to stone crushing units.
- TNPCB may either authorize NABL and EPA accredited private laboratories to carryout AAQ/emission monitoring surveys on behalf of the Board.
- TNPCB may equip JCEEs(M) with mini mobile laboratories for effective monitoring of air polluting industries including stone crusher.
- As suggested by the representative of the Health department, in the condition in respect of "Periodical medical checkup for the workers and for the village people", the phrase 'Periodical medical checkup' may be modified as 'Health surveillance' and the same shall be undertaken by the Health & Family Welfare department.

In view of the above, the subject was placed before the Board to examine the issue of the revised guidelines for stone crusher units in Tamil Nadu subject to the conditions stipulated in the existing guidelines for stone crushers issued by the CPCB, NEERI and committee recommendations.



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The Board vide resolution No. 296-2-16 dated 02.04.2025 resolved to approve the following revised guidelines for stone crusher units in Tamil Nadu, in line with Hon'ble NGT (SZ) order dated 08.08.2024 in OA No. 12 of 2024, existing guidelines for stone crushers issued by the CPCB, NEERI and committee recommendations.

1. Siting criteria for individual stone crusher units

1.1 Proposed Individual stone crusher units:

The siting criteria as prescribed in BP No. 4 dated 02/07/2004 may be adopted as such except the criteria for distance between stone crushers. As reserve forest is not included in the said BP, the reserve forest may also be included as one of the features in the siting criteria as described below:

- No new stone crushers should be located within 500 metres from any National Highways or State Highways or inhabited site or educational institutions / and other public offices and places of religious importance measured from the boundary of the proposed site.
- No new stone crushers should be located within 500 metres from the reserve forest or within eco sensitive zone.

1.2 Existing consented unit for expansion:

- Siting criteria specified under serial no. 1.1 in respect of proposed individual stone crusher is applicable.
- Expansion of the existing consented stone crushing unit shall be permitted only if Ambient Air Quality is within the standards prescribed by the Board at all four directions at radial distance of 500 m around the boundary of the unit.
- Expansion of the existing consented stone crushing unit shall be restricted to only one time up to a maximum of 100% increase from the existing consented quantity.

2. Siting criteria for Stone crushers located in clusters:

2.1 Definition for Clusters:

- If the distance between two proposed / existing crushers boundaries is less than 100 m, then it will be considered as cluster.
- All the existing clusters which are having more than 15 units or with 5000 ton/day of actual production capacity shall be considered as vulnerable clusters.

2.2 Siting criteria for clusters other than vulnerable clusters:

- No new / expansion of existing consented stone crushers should be located within 500 metres from any National Highways or State Highways or inhabited site or educational institutions / and other public offices and places of religious importance measured from the boundary of the proposed site.
- No new / expansion of existing consented stone crushers should be located within 500 metres from the reserve forest or within eco sensitive zone.
- No new / expansion of existing consented stone crushers should be permitted, if Ambient Air Quality is above the standards prescribed by the Board at any of the four directions at radial distance of 500 m around the line of boundary of the cluster.
- Expansion of the existing consented stone crushing unit shall be restricted to only one time up to a maximum of 100% increase from the existing consented quantity.

2.3 Siting criteria for vulnerable clusters:

- No new / expansion of existing consented stone crushers should be located within 500 metres from any National Highways or State Highways or inhabited site or educational institutions / and other public offices and places of religious importance measured from the boundary of the proposed site.
- No new / expansion of existing consented stone crushers should be located within 500 metres from the reserve forest or within eco sensitive zone.
- New / expansion of existing consented stone crushers shall be permitted only after assessing the carrying capacity of the location by conducting carrying capacity study approved by NEERI / any other expert institutions in coordination with the TNPCB.
- Expansion of the existing consented stone crushing unit shall be restricted to only one time up to a maximum of 100% increase from the existing consented quantity.

Note:

- a. 'Inhabited site' shall mean a village site or town site or a house site as referred to in the revenue records or a house site or layout approved by a Local Body or Town or Country or Metropolitan Planning Authority, where the said Body or Authority is



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created under a statute and empowered to approve such an area as a house site or layout area (as desired in Rule 35 of Tamil Nadu Minor Minerals Concession Rules, 1959).

- b. All existing stone crushers without CTE/CTO shall be considered as new / proposed stone crushers and siting criteria applicable to such crushers shall apply.

3. Guidelines in line with CPCB and NEERI's recommendations for Stone Crushers

3.1. APC measures

1. The stone crushing units shall meet Ambient Air Quality standards at all times. The suspended particulate matter (measured between three meters and ten meters from any process equipment of stone crushing unit shall not exceed 600 micrograms per cubic meter) from a controlled isolated as well as from a unit located in a cluster should be less than 600 $\mu\text{g}/\text{m}^3$.
2. The crushers may be encouraged to establish nearby quarry site so as to avoid transportation and to reduce air pollution.

3.1.1. APC Measures - Unloading of raw material for storage

1. The units shall provide Dust suppression system as recommended by the National Productivity Council (Annexure I).
2. The unit shall cover the material transfer point such as hopper bottom / product unloading conveyor suitably to prevent dust release into the atmosphere.
3. The unit shall provide telescopic chutes at product unloading conveyor to prevent dust release into the atmosphere during free fall off material from height. These chutes shall be adjustable in length according to the size of the heap.

3.1.2. APC Measures - Unloading of raw material into hopper

1. The unit shall cover the material transfer point such as hopper bottom / product unloading conveyor suitably to prevent dust release into the atmosphere.
2. The units shall provide Dust suppression system as recommended by the National Productivity Council (Annexure I)

3.1.3. APC Measures – Primary Crusher / Jaw Crusher, Secondary Crushers, Screens & Tertiary Crushing

1. The unit shall provide Dust Containment system as recommended by the National Productivity Council (Annexure I).

2. The unit shall construct enclosures of G.I. sheets and supported on angle structures so that it can withstand strong wind.
3. The unit shall cover the locations where complete enclosures are not possible such as openings in jaw crushers side and bottom, suitably (GI sheets / rubber flap or any other material) to prevent dust release into the atmosphere.
4. The units shall provide Dust suppression system as recommended by the National Productivity Council (Annexure I)
5. Dry extraction cum bag filter followed by cyclone to be provided for control of emissions.
6. The unit shall install flexible covers at entries and exits of conveyors to screen house.
7. The unit shall provide gradual slope / curvature to the roofs so as to prevent accumulation of water.

3.1.4. APC Measures – Conveyors Belts

1. The unit shall cover the conveyor belts properly from node to node with a thick sheet of suitable material and shall provide water sprinkling system as recommended by the National Productivity Council (Annexure I)
2. The unit shall cover the openings in the enclosures over shafter motor driver conveyor belts etc., with rubber flaps (wherever possible) to prevent release of dust.
3. The unit shall provide openings fitted with doors for inspection and access in the enclosures.
4. The unit shall maintain minimum drop height for conveyor operations.

3.1.5. APC Measures – Discharge Points

1. The unit shall provide flexible telescopic chute for the conveyors from the top of discharge point to the ground level.
2. The units shall provide Dust suppression system as recommended by the National Productivity Council (Annexure I)

3.1.6. APC Measures – Product storage

1. The unit shall provide properly designed telescopic chute of adequate length of suitable material at ends of conveyor so that dust generated from this section is contained at source.



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2. The unit shall keep all open stockpiles of aggregates of size above 5 mm sufficiently wet by water spraying.
3. The storage area shall be completely enclosed by GI / MS sheets on top and at least three sides completely from the ground level. One side should have provision of movable sheet / door for access

3.2. General conditions / Measures

1. The unit shall provide wind breaking wall: GI/MS/brick wall along the periphery of crusher. The height of the wind breaking wall - compound wall / wind net arrestor shall be of 20 feet height (10 feet compound wall + 10 feet GI Sheet combination shall be adopted) from ground level all around the premises or 3-ft more than the highest node of the crusher, whichever is greater.
2. The unit shall provide metalled /concrete roads for the vehicular movement area within the unit/cluster premises, including ramps and other transport areas to avoid re-entrainment of dust into atmosphere.
3. The unit shall provide bilane road system to the crusher approach roads.
4. All the stone crushers shall provide dry dust collection system such as cyclones and dust hoppers or any other suitable measures in addition to sprinkler systems.
5. The unit shall maintain a minimum distance of 20 meters for roads, within the crushers.
6. The unit shall maintain good house-keeping by spraying water at the vulnerable points/locations to arrest the spread of dust particles should be practiced.
7. The unit shall dispose of the fine powder periodically.
8. The unit shall carry out periodical cleaning of water spray nozzles to avoid choking.
9. The unit shall plant develop green belt all along the boundary of their premises as per the norms fixed below:

Small / Medium quarry or crushers	:	Plant <i>Casuarina equisetifolia</i> seedlings in three rows with 0.50-meter interval in zigzag method.
Large quarry or crushers	:	Plant <i>Casuarina equisetifolia</i> seedlings in three rows with 0.50-meter interval in zigzag method. (inner side) Plant <i>Swietenia mahagoni</i> taller seedlings in two rows with 2.00-meter interval in zigzag method.

	(Outer side)
General	: Plant the following native taller tree species in the vacant space available in the premises: • Pungan – Pongamia pinnata • Poovarasu – Thespesia populnea • Arasu – Ficus benghalensis • Neem – Azadirachta indica • Ayan – Holoptelea integrifolia

Classification of Stone Crushing Units as per CPCB Environmental Guidelines for Stone Crushing Units, July 2023

10. The unit shall take necessary action for increasing the green cover along the approach roads, in the residential area as well as in and around the public buildings in coordination with the Forest Department or other appropriate agencies with the unit's fund.
11. The unit shall cover the locations where complete enclosures are not possible such as openings in jaw crushers side and bottom, suitably (GI sheets / rubber flap or any other material) to prevent dust release into the atmosphere.
12. The unit shall display the name of the unit, contact details of the owner and address of the unit, plant capacity and date of issue of CTE/CTO from SPCBs/PCCs on the display board at the entrance
13. The unit shall ensure that the transportation vehicles carrying any kind of material should be completely covered.
14. The unit shall ensure that the approach roads are properly laid with tar and concrete and should be sprayed with water.
15. The unit shall maintain the approach roads to individual crusher in good condition and watered.
16. The unit shall conduct Ambient air quality monitoring with respect to PM₁₀ and PM_{2.5} in both the downwind and upwind directions during summer, by the Board's laboratory / any other NABL accredited once in 2 years
17. The unit shall provide occupational safety measures to all the workers with nose masks to avoid dust entering the respiratory system.



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18. Periodical medical health surveillance for the workers shall be carried out once in 6 months and for the village people once in a year by the Health & Family Welfare Department
19. TNPCB will take stringent action including revocation of consent order, levy of environmental compensation etc., for non-compliance with the above said conditions in respect of green cover.

This Board Proceedings shall be taken with immediate effect.

07/05/25

For Chairperson

07/05/25

To

1. All the HoDs in Corporate Office,
Tamil Nadu Pollution Control Board
2. All the Joint Chief Environmental Engineers (M),
Tamil Nadu Pollution Control Board
3. All the District Environmental Engineers,
Tamil Nadu Pollution Control Board

Copy to

1. PS to Chairman
2. PS to Member Secretary
3. BMS
4. File copy

ANNEXURE – I

RECOMMENDED DUST CONTAINMENT AND DUST SUPPRESSION SYSTEM BY NATIONAL PRODUCTIVITY COUNCIL

DUST CONTAINMENT SYSTEM

Dust containment system comprise of building enclosures over the major dust emission sources so as to contain the dust emission sources so as to contain the dust within the housing. Only rotary screen is considered for dust containment enclosures. It is not recommended to enclose the jaw crusher as frequent manual intervention and attention is required.

SALIENT FEATURES OF DUST CONTAINMENT SYSTEM

- 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.
- 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.
- 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.

DUST SUPPRESSION SYSTEM

Effective housing at location such as material transfer points cannot be constructed because of resultant obstruction to material flow. Since dust generation from these points are quite substantial, dust suppression system, comprising of spraying of fine water mist through special nozzles, should be carried out over the dust generation sources to suppress the dust cloud.

There are two types of water spray systems (a) water spray on the generated dust cloud and (b) water spray directly on the material. The quantity of water spray should be sufficient to suppress dust without affecting the quality of the product. Too much water spray on the material will wetten dust completely and result in zero emission but the wet material is difficult to screen and has not market acceptance.

A water pump is required to spray the water at a minimum pressure of 2 to 4 kg/cm². The water consumption depends on type of nozzle chosen for application.

The various application points are :

- At raw stones unloading site (optional)
- At feed point of raw stones into jaw crusher
- At discharge of the screened stone fractions from rotary screens into respective conveyor belief.
- Stone dust discharge from conveyor on stock pile (optional).

ANNEXURE – II

RECOMMENDATIONS IN NERRI'S FINAL REPORT ON "ASSESSMENT OF DUST EMISSION FROM STONE CRUSHING INDUSTRY" IN JUNE 1998

1. Periodical cleaning of water spray nozzles should be carried out to avoid choking.
2. Fine dust accumulated in the crushing area should be periodically cleaned and the dumps should be covered with tarpaulins to arrest erosion by wind.
3. The drop height of the processed material should be kept at a minimum during loading and unloading.
4. Conveyor chutes should be provided at the discharge points.
5. There should be bilane road system to approach the crushers.
6. 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.
7. Within the crusher, a minimum distance of 20 metres should be made for roads.
8. The green belt will restrict the spread of particulate matter and trees should be evergreen high foliage type like neem, tarmarind, 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.
9. If two or more crushers are located within 100 metres, they may be considered to have a common green belt if they are border cases. The graph prepared from NEERI Reports if furnished in Annexure – III to fix the distance and green belt for any number of crushers in a cluster, limited to a maximum of 50 (Ex. For 5 crushers in a cluster, total area 100 m, green belt 20 m).
10. 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.
11. As an occupational safety, all the workers should be provided with nose masks.

