



CONSENT ORDER
TANTRA IRON ORE MINES, M/S. KORP RESOURCES PVT. LTD.

BY REGD. POST WITH AD

STATE POLLUTION CONTROL BOARD, ODISHA

[DEPARTMENT OF FOREST, ENVIRONMENT & CLIMATE CHANGE, GOVERNMENT OF ODISHA]

A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012

E-mail: spcbmines@gmail.com, Website: <https://ospcbboard.odisha.gov.in>

CONSENT ORDER

No. 22729 / IND-I-CON-5124 Dt. 23-12-2025 /

CONSENT ORDER NO. 2736

Sub: Consent for discharge of sewage and trade effluent under section 25/26 of Water (PCP) Act, 1974 and for existing / new operation of the plant under section 21 of Air (PCP) Act, 1981.

Ref: Your online application No.6785709, Dated06-09-2025 and No. 6710378, Dated 22-08-2025 and online reply dated 25-11-2025.

Consent to operate is hereby granted under section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of Air (Prevention & Control of Pollution) Act, 1981 and rules framed thereunder to

Name of the Industry: TANTRA IRON ORE MINES, M/S. KORP RESOURCES PVT. LTD.

Name of the Occupier & Designation: SRI PRAHALAD ROY GOENKA,
MANAGING DIRECTOR

Address: AT: TANTRA, PO: TENSA, DIST: SUNDARGARH, PIN-770042.

This consent order is valid for the period upto 31.03.2030.

This consent order supersedes the earlier consent order issued vide letter No.6770, dated 30.03.2025.

Details of Products Manufactured

| Sl. No | Product | Quantity |
|--------|----------|-----------|
| 01. | Iron Ore | 0.24 MTPA |

Details of Mineral Handling Plants/Units

| |
|---|
| 1. <i>Crushing Plant of capacity 1 x 60 TPH</i> |
| 2. <i>Mobile Screening Plant of capacity 1 x 200 TPH</i> |
| 3. <i>Mobile Crushing Plant of capacity 1 x 200 TPH</i> |
| 4. <i>Wet Beneficiation Plant of throughput capacity 1 MTPA</i> |

This consent order is valid for the specified outlets, discharge quantity and quality, specified chimney/stack, emission quantity and quality of emissions as specified below. This consent is granted subject to the general and special conditions stipulated therein.

**CONSENT ORDER**

TANTRA IRON ORE MINES, M/S. KORP RESOURCES PVT. LTD.

A. Discharge permitted through the following outlet subject to the standard

| Out let No. | Description of outlet | Point of discharge | Quantity of discharge KLD or KL/hr | Prescribed Standard | | | | |
|-------------|---|------------------------------------|------------------------------------|---------------------|--------------------|------------|------------|---------------------|
| | | | | pH | TSS (mg/l) | BOD (mg/l) | COD (mg/l) | Oil & Grease (mg/l) |
| 01 | Septic tank outlet (Domestic effluent) | Soak pit | -- | 5.5-9.0 | 200 | 100 | | -- |
| 02 | Mine drainage water/ surface runoff/ other wastewater | On land/In land surface water body | -- | 5.5-9.0 | 100 (Rainy day) | - | | 10 |
| | | | | | 50 (Non-Rainy day) | | | |
| 03 | Workshop effluent | Reuse in vehicle washing | -- | 6.5-8.5 | 50 | - | 250 | 10 |

B. Fugitive Emission Standards

| Particulate Matter | 1200 µg/m ³ |
|---|---|
| Note : Fugitive emission shall be monitored in the predominant downwind direction at a distance 25.0 ± 2.0 metres from the source of fugitive emission as per following : | |
| Area | Monitoring Location |
| Mine face / Benches | Drilling, excavation and loading applicable for operating benches above water table |
| Haul Roads/ Service Roads | Haul roads to ore processing plant, waste dumps and loading areas and service road. |
| Crushing plant | Run-off mine unloading at hopper, crushing areas, screens and transfer points. |
| Screening plant | Screens, conveying and transportation of ore discharge points. |
| Ore storage and loading | Intermediate stock bin / pile areas, ore stock bin / pile areas, wagon / truck loading areas. |
| Waste dump | Active waste / reject dumps |

C. Disposal of solid waste permitted in the following manner

| Sl. No. | Type of Solid waste | Quantity generated (TPD) | Quantity to be reused on site(TPD) | Quantity to be reused off site(TPD) | Quantity disposed off (TPD) | Description of disposal site. |
|---------|-----------------------|-----------------------------|------------------------------------|-------------------------------------|-----------------------------|-------------------------------|
| 01 | Top soil/ over burden | As per approved mining plan | -- | -- | -- | As per approved mining plan |
| 02 | Dried Tailings | As per approved mining plan | -- | -- | -- | As per approved mining plan |

**CONSENT ORDER**TANTRA IRON ORE MINES, M/S. KORP RESOURCES PVT. LTD.**D. GENERAL CONDITIONS FOR ALL UNITS**

1. The consent is given by the Board in consideration of the particulars given in the application. Any change or alternation or deviation made in actual practice from the particulars furnished in the application will also be the ground for liable to review/variation/revocation of the consent order under section 27 of the Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981 and to make such variations as deemed fit for the purpose of the Acts.
 2. The occupier would immediately submit revised application for consent to operate to this Board in the event of any change in the quantity and quality of raw material / products / manufacturing process or quantity /quality of the effluent rate of emission / air pollution control equipment / system etc.
 3. The applicant shall not change or alter either the quality or quantity or the rate of discharge or temperature or the route of discharge without the previous written permission of the Board.
 4. The application shall comply with and carry out the directives/orders issued by the Board in this consent order without any negligence on his/her part. In case of non-compliance of any order/directives issued at any time and/or violation of the terms and conditions of this consent order, the applicant shall be liable for legal action as per the provisions of the Law.
 5. The applicant shall make an application for grant of fresh consent at least 90 days before the date of expiry of this consent order.
 6. The issuance of this consent does not convey any property right in either real or personal property or any exclusive privileges nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Central, State laws or regulation.
 7. This consent does not authorize or approve the construction of any physical structure or facilities or the undertaking of any work in any natural water course.
 8. The applicant shall display this consent granted to him in a prominent place for perusal of the public and inspecting officers of this Board.
 9. An inspection book shall be opened and made available to Board's Officers during the visit to the factory.
 10. The applicant shall furnish to the visiting officer of the Board any information regarding the construction, installation or operation of the plant or of effluent treatment system / air pollution control system / stack monitoring system any other particulars as may be pertinent to preventing and controlling pollution of Water / Air.
 11. The applicant shall display suitable caution board at the place where the effluent is entering into any water-body or any other place to be indicated by the Board, indicating therein that the area into which the effluents are being discharged is not fit for the domestic use/bathing.
 12. Storm water shall not be allowed to mix with the trade and/or domestic effluent on the upstream of the terminal manholes where the flow measuring devices will be installed.
 13. The applicant shall maintain good house-keeping both within the factory and the premises. All pipes, valves, sewers and drains shall be leak-proof. Floor washing shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas.
 14. The applicant shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems install or used by him to achieve with the term(s) and conditions of the consent.
 15. Care should be taken to keep the anaerobic lagoons, if any, biologically active and not utilized as mere stagnation ponds. The anaerobic lagoons should be fed with the required nutrients for effective digestion. Lagoons should be constructed impervious.
 16. The utilization of treated effluent on factory's own land, if any, should be completed and there should be no possibility of the effluent gaining access into any drainage channel or other water courses either directly or by overflow.
 17. The effluent disposal on land, if any, should be done without creating any nuisance to the surroundings or inundation of the lands at any time.
 18. If at any time the disposal of treated effluent on land becomes incomplete or unsatisfactory or create any problem or becomes a matter of dispute, the occupier must adopt alternate satisfactory treatment and disposal measures.
 19. The sludge from treatment units shall be dried in sludge drying beds and the drained liquid shall be taken to equalization tank.
 20. The effluent treatment units and disposal measures shall become operative at the time of commencement of production.
 23. The applicant shall not change or alter either the quality or quantity or rate of emission or install, replace or alter the air pollution control equipment or change the raw material or manufacturing process resulting in any change in quality and/or quantity of emissions, without the previous written permission of the Board.
 24. No control equipments or chimney shall be altered or replaced or as the case may be erected or re-erected except with the previous approval of the Board.
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25. The liquid effluent arising out of the operation of the air pollution control equipment shall be treated in the manner so as to meet the standards prescribed by the Board in accordance with the provisions of Water (Prevention and Control of Pollution) Act, 1974 (as amended).
 26. The stack monitoring system employed by the applicant shall be opened for inspection to this Board at any time.
 27. There shall not be any fugitive or episodal discharge from the premises.
 28. In case of such episodal discharge/emissions the occupier shall take immediate action to bring down the emission within the limits prescribed by the Board and stop the operation of the plant if required. Report of such accidental discharge /emission shall be brought to the notice of the Board within 24 hours of occurrence.
 29. The applicant shall keep the premises and air pollution control equipments clean and make all hoods, pipes, valves, stacks/chimneys leak proof. The air pollution control equipments, location, inspection chambers, sampling port holes shall be made easily accessible at all times.
 30. Any upset condition in any of the plant/plants of the factory which is likely to result in increased effluent discharge/emission of air pollutants and / or result in violation of the standards mentioned shall be reported to the Headquarters and Regional Office of the Board by E-mail within 2 hours of its occurrence.
 31. The occupier has to ensure that minimum three varieties of trees are planted at the density of not less than 1000 trees per acre. The trees may be planted along boundaries of the premises. This plantation is stipulated over and above the bulk plantation of trees in that area.
 32. The solid waste such as sweeping, wastage packages, empty containers residues, sludge including that from air pollution control equipments collected within the premises of the shall be disposed off scientifically to the satisfaction of the Board.
 33. All solid wastes arising in the premises shall be properly classified and disposed off to the satisfaction of the Board by :
 - i) Land fill in case of inert material, care being taken to ensure that the material does not give rise to leachate which may percolate into ground water or carried away with storm run-off.
 - ii) Controlled incineration, wherever possible in case of combustible organic material.
 - iii) Composting, in case of bio-degradable material.
 34. Any toxic material shall be detoxicated if possible, otherwise be sealed in steel drums and buried in protected areas after obtaining approval of this Board in writing. The detoxication or sealing and burying shall be carried out in the presence of Board's authorized persons only. Letter of authorization shall be obtained for handling and disposal of hazardous wastes.
 35. If due to any technological improvement or otherwise this Board is of opinion that all or any of the conditions referred to above requires variation (including the change of any control equipment either in whole or in part) this Board shall after giving the applicant an opportunity of being heard, vary all or any of such condition and thereupon the applicant shall be bound to comply with the conditions so varied.
 36. The applicant, his/heirs/legal representatives or assignees shall have no claim whatsoever to the condition or renewal of this consent after the expiry period of this consent.
 37. The Board reserves the right to review, impose additional conditions or condition, revoke change or alter the terms and conditions of this consent.
 38. Notwithstanding anything contained in this conditional letter of consent, the Board hereby reserves to it the right and power under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 to review any and/or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Act by the Board.
 39. The conditions imposed as above shall continue to be in force until revoked under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 and section 21 A of Air (Prevention & Control of Pollution) Act, 1981.
 40. The occupier shall comply to the conditions stipulated in CTE order issued by Odisha State Pollution Control Board and conditions stipulated in Environmental Clearances issued by MoEF&CC, Govt. of India.
 41. The occupier shall abide by E(P) Act, 1986 and Rules framed there-under.
 42. In case the consent fee is revised upward during this period, the industry shall pay the differential fees to the Board (for the remaining years) to keep the consent order in force. If they fail to pay the amount within the period stipulated by the Board the consent order will be revoked without prior notice.
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1. This consent order is subject to compliance of final orders of the Hon'ble Supreme Court of India in the matter of W. P. (Civil) 114/2014 and permission from Steel and Mines Department, Government of Odisha for continuing of mining operation.
 2. Mining operation is subject to availability of all other statutory clearances.
 3. Wet drilling or drilling with dust extraction shall be carried out to minimize dust generation in the work environment.
 4. Controlled blasting shall be practiced to minimize generation of dust and fly rocks.
 5. Dust suppression measures (preferably dry fog system) shall be maintained properly and operated at all the potential dust generating points of the Crushing and Screening plants and Dry material handling areas of the Beneficiation plant including the Feed hoppers, charging chutes, crushers, screens, and all transfer points. No fugitive emission from any of the material transfer points shall be visible. These crushing and screening plants shall not be operated in case, the dust suppression systems are not operated due to failure or during maintenance.
 6. All the areas of the mine where heavy or light vehicles are allowed to move including the haulage roads, stock piles, loading and unloading areas and the areas surrounding the crushing and screening plants shall be devoid of ruts and potholes and shall be cleaned on regular basis. Water sprinkling with fog canons/ fixed sprinklers/ water tankers as required/ recommended, shall be carried out over all such areas so that fugitive dust is not generated during plying of vehicles and during any other material handling.
 7. Mechanized wheel washing facility shall be provided at the entrance/exit point of the mine and all the vehicles plying out of the mine shall be mandatorily wheel-washed before exit from the mine. The wheel washing facility shall be integrated with complete recirculation system.
 8. There shall not be any overloading of vehicles carrying iron ore inside or outside of the mine. The vehicles shall be leak proof and shall not be allowed for any material spillage and all the vehicles carrying ore outside the mine shall have proper tarpaulin cover. These vehicles shall not spill any material on any road or any area outside the lease of the mine. In case any vehicle dumps material on the road due to accident or any other maintenance problems, the same spilled material shall be lifted within 24 hours with intimation to the Board.
 9. Trucks/ tippers/ dumpers and other vehicles shall not be parked here and there inside or outside of the mine. A truck parking plaza shall be developed inside mine lease area with adequate surface runoff management facilities and all the vehicles shall be parked there.
 10. Iron ore transporting vehicles shall move on suitable roads bypassing roads passing through habitational areas. In case, there is no other road and the vehicle
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is bound to move through habitational areas, the mine shall take adequate steps in consultation with respective Gram Panchayat, Road authorities and mining department to maintain the road and to carry out water sprinkling on the road.

11. In case the iron ore transportation vehicles move on National and State highways (NH/SH), the stretches of NH/SH shall be cleaned with mechanical road sweepers jointly by min lessees using those stretches of roads in consultation with district administration and Regional Officer of the Board.
 12. Ambient air quality monitoring shall be carried out at three strategic locations inside the mine lease (24 hour monitoring twice a week) and results of monitoring shall be submitted to the Board. Additionally one continuous ambient air quality monitoring station (CAAQMS) shall be installed and operated on continuous basis. The locations of ambient air quality monitoring shall be decided in consultation with the Regional Officer of the Board. Results of CAAQMS shall be transmitted to RTDAS server of SPCB.
 13. Fugitive dust emission monitoring shall be carried out at the places as stated in Part-B of this CTO order and consolidate report on the results shall be submitted to the Board once in every year.
 14. The overburden (OB) generated during the course of mining shall be stacked at earmarked dump site(s) with proper dosing and stabilization of dumps and slopes so that washing will be minimum during rain. Top soil stored inside the mine if any shall be spread over the dumps/slopes and the stabilized portions shall be covered with plantation.
 15. The mine shall conduct a surface runoff study and design its surface runoff management based on the terrain and maximum rainfall of the area. Garland drains, retention walls, check dams, and settling pits shall have adequate dimensions so as to settle all the wash outs during rains and surface runoff with pollutants is not discharged outside. The stored water from the settling pits shall be used in dust suppression / plantation / wheel washing / workshop / wetting of ground, for preventing fugitive dust generation. In case of heavy rains beyond daily maximum average of previous years and beyond the storage capacity, it shall be discharged to outside after meeting the prescribed standards as depicted at Part-A of this CTO order.
 16. The project proponent shall ensure that no natural watercourse and / or water resources are obstructed due to any mining operations. In case of diversion of natural watercourse, this shall be done with prior permission of the competent authority.
 17. The slime generated from beneficiation plant shall be treated in adequately sized concrete slime ponds/settling tanks and decanted water shall be reused in process. In no case, the decanted water shall be discharged to outside. The smile
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- shall be adequately dried and then dumped with the OB. The seepage / overflow from slime pond/ settling tanks if any, shall be collected through garland drains and be treated another settling tank reused for dust suppression.
18. The proponent shall adopt mechanized slime handling by installing thickener and filter press within two years from the date of issue of this CTO order.
 19. Domestic effluents shall be treated in septic tanks and soak pits constructed as BIS specification.
 20. Workshop effluent shall be treated in adequately designed ETP and the treated wastewater shall be reused in vehicle washing. The treated water quality shall comply to the standards prescribe at Part-A of this CTO order.
 21. Monitoring of surface and ground water quality shall be conducted within 2 km surrounding the mine lease area and a consolidated monitoring reprt shall be submitted to the Board once in a year.
 22. Noise barriers shall be provided around the crushing and screening plants so that noise remains within 75 dB(A) during day time (6.00 AM to 9.00 PM) and 70 dB(A) during night time (9.00 PM to 6.00 AM).
 23. Data on Ambient air quality, Water quality and Noise shall be electronically displayed at the entry point of the mine for public view.
 24. The following actions shall be taken for better environmental management in the beneficiation plant in consultation with Regional Officer, SPCB, Rourkela.
 - i) Parking area provided near mine entrance shall be provided with fixed type water sprinkling facility.
 - ii) Truck mounted fog cannon shall be deployed for dust suppression during mineral handling in stack yards, water sprinkling on roads, etc.
 - iii) Fixed type water sprinklers/fog canon shall be installed at mineral stackyard and handling areas.
 - iv) A separate settling pit shall be provided at mineral stackyard near beneficiation plant to collect and reuse surface runoff from both areas.
 - v) The tailing/slime dewatering process shall be upgraded by installing filter press.
 25. All DG sets installed before 1.7.2004 shall be scrapped. DG sets complying with either Stage-I or Stage-II emission norms shall reduce Particulate Matter Emission by 70% by installing RECD without affecting any other emission parameters as per the CPCB guidelines and Board's letter vide No.17927, dated 14.11.2023 and letter No.7146, dated 10.05.2024, in this regard. All such DG sets shall be retrofitted with proper air pollution control devices within six months from the issue of this CTO order.
 26. Stack height of the DG sets shall be as per the following Table.
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| Less than 1000 KVA (800 watts) | More than 1000 KVA (800 watts) |
|--|--|
| i) $14Q^{0.3}$, Q = Total SO ₂ emission from the plant in kg/hr. | H = $h+0.2\sqrt{KVA}$ in m Where, |
| ii) Minimum 6m. above the building where generator set is installed | h= Height of the building where it is installed in meter |
| iii) 30 m. | KVA = Capacity of DG set |
| (Whichever is maximum) | H = Height of the stack in meter above ground level. |

27. Plantation of trees shall be undertaken in the colony/ township, over top soil dumps, OB dumps, along the side of haul road and in other areas of the mines not being utilized for mining activities. The mine shall take up avenue plantation and plantation in nearby village areas in consultation with DFO/Horticulture Department. The plantation details shall be submitted to the Board before end of April every year.
28. A copy of the annual return (annual return submitted to IBM, Govt. of India/ Directorate of Mines, Govt. of Odisha) shall be submitted to this Board every year.
29. The environmental statement report for the financial year ending 31st March shall be submitted to the Board in Form-V on or before 30th September every year.


MEMBER SECRETARY**STATE POLLUTION CONTROL BOARD, ODISHA**

TO,

**THE MANAGING DIRECTOR,
TANTRA IRON ORE MINES OFM/S. KORP RESOURCES PVT. LTD.,
161, RABINDRA SARANI,
KOLKATA-700007**

Memo No. _____ /Dt. _____ /

Copy forwarded to :

- i) Regional Officer, State Pollution Control Board, **Rourkela**
- ii) District Collector, **Sundargarh**
- iii) Director of Mines, Govt. of Odisha, Bhubaneswar
- iv) Director, Environment-cum-Special Secretary, F, E& CC Deptt., Govt. of Odisha, Bhubaneswar.
- v) D.F.O., **Bonai**
- vi) Deputy Director of Mines, **Koira**
- vii) Chief Env. Scientist, Central Lab. SPCB, Bhubaneswar
- viii) Guard File


CHIEF ENV. ENGINEER (M)**STATE POLLUTION CONTROL BOARD, ODISHA**



CONSENT ORDER
TANTRA IRON ORE MINES, M/S. KORP RESOURCES PVT. LTD.

GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENTAL POLLUTANTS

GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENTAL POLLUTANTS PART – A : EFFLUENTS

| Sl. No. | Parameters | Prescribed Standards | | | |
|---------|---|--|---------------|---------------------|--|
| | | Inland surface | Public sewers | Land for irrigation | Marine Costal Areas |
| | | (a) | (b) | (c) | (d) |
| 1. | Colour&odour | Colourless/ Odourless as far as practicable | -- | See 6 of Annex-1 | See 6 of Annex-1 |
| 2. | Suspended Solids (mg/l) | 100 | 600 | 200 | a. For process wastewater – 100 b. For cooling water effluent 10% above total suspended matter of influent. |
| 3. | Particular size of SS | Shall pass 850 | -- | -- | -- |
| 5. | pH value | 5.5 to 9.0 | 5.5 to 9.0 | 5.5 to 9.0 | 5.5 to 9.0 |
| 6. | Temperature | Shall not exceed 5°C above the receiving water temperature | -- | -- | Shall not exceed 5°C above the receiving water temperature |
| 7. | Oil & Grease mg/l max. | 10 | 20 | 10 | 20 |
| 8. | Total residual chlorine | 1.0 | -- | -- | 1.0 |
| 9. | Ammonical nitrogen (as N) mg/l max. | 50 | 50 | -- | 50 |
| 10. | Total Kjeldahl nitrogen (as NH ₃) mg/1 max. | 100 | -- | -- | 100 |
| 11. | Free ammonia (as NH ₃) mg/1 max. | 5.0 | -- | -- | 5.0 |
| 12. | Biochemical Oxygen Demand (5 days at (20°C) mg/1 max. | 30 | 350 | 100 | 100 |
| 13. | Chemical Oxygen Demand, mg/1 max. | 250 | -- | -- | 250 |
| 14. | Arsenic (as As) mg/1 max. | 0.2 | 0.2 | 0.2 | 0.2 |

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| Sl. No. | Parameters | Prescribed Standards | | | |
|---------|---|--|--|--|--|
| | | Inland surface | Public sewers | Land for irrigation | Marine Costal Areas |
| | | (a) | (b) | (c) | (d) |
| 15. | Mercury (as Hg) mg/1 max. | 0.01 | 0.01 | -- | 0.001 |
| 16. | Lead (as pb) mg/1 max. | 1.0 | 1.0 | -- | 2.0 |
| 17. | Cardmium (as Cd) mg/1 max. | 2.0 | 1.0 | -- | 2.0 |
| 18. | Hexavalent Chromium (as Cr + 6) mg/l max. | 0.1 | 2.0 | -- | 1.0 |
| 19. | Total Chromium (as Cr) mg/l max. | 2.0 | 2.0 | -- | 2.0 |
| 20. | Copper (as Cu) mg/l max. | 3.0 | 3.0 | -- | 3.0 |
| 21. | Zinc (as Zn) mg/l max. | 5.0 | 15 | -- | 15 |
| 22. | Selenium (as Sc) mg/l max. | 0.05 | 0.05 | -- | 0.05 |
| 23. | Nickel (as Nil) mg/l max. | 3.0 | 3.0 | -- | 5.0 |
| 24. | Cyanide (as CN) mg/l max. | 0.2 | 2.0 | 0.2 | 0.02 |
| 25. | Fluoride (as F) mg/l max. | 2.0 | 15 | -- | 15 |
| 26. | Dissolved Phosphates (as P) mg/l max. | 5.0 | -- | -- | -- |
| 27. | Sulphide (as S) mg/l max. | 2.0 | -- | -- | 5.0 |
| 28. | Phennolic compounds as (C ₆ H ₅ OH) mg/l max. | 1.0 | 5.0 | -- | 5.0 |
| 29. | Radioactive materials | | | | |
| | a. Alpha emitter micro curle/ml. | 10 ⁷ | 10 ⁷ | 10 ⁸ | 10 ⁷ |
| | b. Beta emitter micro curle/ml. | 10 ⁶ | 10 ⁶ | 10 ⁷ | 10 ⁶ |
| 30. | Bio-assay test | 90% survival of fish after 96 hours in 100% effluent | 90% survival of fish after 96 hours in 100% effluent | 90% survival of fish after 96 hours in 100% effluent | 90% survival of fish after 96 hours in 100% effluent |
| 31 | Manganese (as Mn) | 2 mg/l | 2 mg/l | -- | 2 mg/l |
| 32. | Iron (Fe) | 3 mg/l | 3 mg/l | -- | 3 mg/l |
| 33. | Vanadium (as V) | 0.2 mg/l | 0.2 mg/l | -- | 0.2 mg/l |
| 34. | Nitrate Nitrogen | 10 mg/l | -- | -- | 20 mg/l |



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NATIONAL AMBIENT AIR QUALITY STANDARDS

| Sl. No. | Pollutants | Time Weighed Average | Concentrate of Ambient Air | | |
|---------|--|--------------------------|--|--|--|
| | | | Industrial Residential, Rural and other Area | Ecologically Sensitive Area (notified by Central Government) | Methods of Measurement |
| (1) | (2) | (3) | (4) | (5) | (6) |
| 1. | Sulphur Dioxide (SO ₂), µg/m ³ | Annual * 24 Hours ** | 50 80 | 20 80 | -Improved west and Gaeke - Ultraviolet fluorescence |
| 2. | Nitrogen Dioxide (NO ₂), µg/m ³ | Annual * 24 Hours ** | 40 80 | 30 80 | - Modified Jacob & Hochheiser (Na-Arsenite) - Chemiluminescence |
| 3. | Particulate Matter (size less than 10µm) or PM ₁₀ µg/m ³ | Annual * 24 Hours ** | 60 100 | 60 100 | -Gravimetric - TOEM - Beta Attenuation |
| 4. | Particulate Matter (size less than 2.5µm) or PM _{2.5} µg/m ³ | Annual * 24 Hours ** | 40 60 | 40 60 | -Gravimetric - TOEM - Beta Attenuation |
| 5. | Ozone (O ₃) µg/m ³ | 8 Hours ** 1 Hours ** | 100 180 | 100 180 | - UV Photometric - Chemiluminescence - Chemical Method |
| 6. | Lead (Pb) µg/m ³ | Annual * 24 Hours ** | 0.50 1.0 | 0.50 1.0 | -AAS/ICP method after sampling on EMP 2000 or equivalent filter paper. - ED-XRF using Teflon filter |
| 7. | Carbon Monoxide (CO) mg/m ³ | 8 Hours ** 1 Hours ** | 02 04 | 02 04 | - Non Dispersive Infra Red (NDIR) Spectroscopy |
| 8. | Ammonia (NH ₃) µg/m ³ | Annual* 24 Hours** | 100 400 | 100 400 | -Chemiluminescence - Indophenol Blue Method |
| 9. | Benzene (C ₆ H ₆) µg/m ³ | Annul * | 05 | 05 | -Gas Chromatography based continuous analyzer - Adsorption and Desorption followed by GC analysis |
| 10. | Benzo (a) Pyrene (BaP)-Particulate phase only, ng/m ³ | Annual* | 01 | 01 | -Solvent extraction followed by HPLC/GC analysis |
| 11. | Arsenic (As), ng/m ³ | Annual* | 06 | 06 | -AAS/ICP method after sampling on EPM 2000 or equivalent filter paper |
| 12. | Nickel (Ni),ng/m ³ | Annual* | 20 | 20 | -AAS/ICP method after sampling on EPM 2000 or equivalent filter paper |

* Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

** 24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year, 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.