

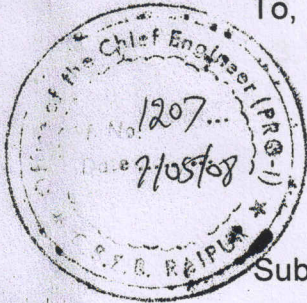


CHHATTISGARH ENVIRONMENT CONSERVATION BOARD
1-Tilak Nagar, Shiv Mandir Chowk, Main Road,
Awanti Vihar, Raipur (C.G.) 492 006

No. 2230 /TS/CECB/2008Raipur, dated: 05/5/2008

To,

✓ Chief Engineer (PRG-1)
 M/s Chhattisgarh State Electricity Board,
 Office of the Chief Engineer (PRG-1),
 Shed N.-03, Dangania,
Raipur (C.G.) 492 013



- Sub: - Permission to establish for Thermal Power Plant - 2 x 500 Megawatt.
- Ref.: - 1- Environmental Clearance from MoEF given vide letter No. J-13011/13/2007-IA-II (T), dated: 05/02/2008.
- 2- Your Application Letter No. 03-05/165-F/1302, dated: 27/06/2006 and subsequent corresponding ending dated: 03/04/2008.

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Without prejudice to the powers of this Board under the Water (Prevention and Control of Pollution) Act, 1974, and the Air (Prevention and Control of Pollution) Act, 1981 and without reducing your responsibilities under the said Acts and after going through your proposal for achieving the effluent and gaseous emission standards, it is to inform you that this Board grants you permission only for establishment of 2 x 500 Megawatt Marwa Thermal Power Plant of M/s Chhattisgarh State Electricity Board at Village-Marwa, District - Janjgir-Champa (C.G.) subject to the fulfillment of the following terms and conditions.

Terms & Conditions: -

- The industry shall comply with all the terms and conditions of Environmental Clearance given by Ministry of Environment and Forests, Government of India vide letter no. J-13011/13/2007-IA-II (T), dated: 05/02/2008.
- Adequate facility for proper treatment of industrial and domestic effluent shall be provided before commissioning of the plant. In case of any failure of effluent treatment plant, it shall be immediately rectified or some alternate arrangement shall be provided by the industry. Industry shall ensure the treated effluent quality within standard prescribed by Chhattisgarh Environment Conservation Board published in Gazette notification Dated 25.03.1988. The major parameters of treated effluent shall be ensured within the limits as follows: -

165-F

SE/SC

a	pH	5.5 - 9.0
b	BOD	30 mg/L
c	COD	250 mg/L
d	Oil and Grease	10 mg/L
e	Suspended Solids	100 mg/L

Chhattisgarh Environment Conservation Board may further stipulate stringent limit depending upon environmental conditions. Industry shall also ensure the treated effluent quality within standards prescribed by Ministry of Environment and Forests, Government of India/ Central Pollution Control Board.

3. Industry shall not discharge any liquid effluent what so ever generated from ash dyke in to the river or any surface water bodies, and it shall be reused wholly in the process. As per undertaking submitted at-least 86% of the effluent generated shall be re-circulated/reused after proper treatment. The un-treated/treated domestic effluent shall not be discharge into the river or any surface water bodies. The treated domestic effluent shall be used for plantation purpose. Industry shall provide suitable arrangement of drains/pipe networks to ensure adequate flow for full utilization of treated effluent inside the premises. The concept of zero discharge shall be adapted to a maximum possible extent.
4. Industry shall provide adequate measuring arrangement for the measurement of water utilized in different categories and effluent generated.
5. Industry shall provide adequate pollution control arrangement at all points and non point sources of emission. Electro Static Precipitators having efficiency of not less then 99.8% with all the boilers, suitable & effective air pollution control equipments for the control of fugitive emissions and for the control of pollution during the handling & transportation of raw materials/fuel and fly ash/bottom ash etc. shall be installed. The concentration of pollutants from point sources shall not exceed the following limits:-

Particulate Matter	50 mg/Nm ³ (Milligram per Normal Cubic Meter)
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Chhattisgarh Environment Conservation Board may further stipulate stringent particulate matter emission limit depending upon environmental conditions.

6. Industry shall provide coal dust extraction and suppression systems for control of fugitive dust emissions within and around the coal handling plant. Dust suppression/dust extraction systems shall be installed at all requisite points of dust emission in coal handling plant and coal stockyard etc. All junction points, transfer points and conveyor belt shall be covered to avoid fugitive emission. Ash shall be collected in the ash dyke in such a fashion that sufficient depth of water over surface of the collected ash shall be maintained all the time to avoid emission of ash. Water sprinklers shall be provided to control the ash emission from dyke area.

7. The ambient air quality within the factory premises shall not exceed the standards prescribed by Board in Gazette Notification dated 25.03.1988. The ambient air quality within the premises shall not exceed the following limits: -

a	Suspended Particulate Matter	500 Micrograms/ m ³
b	Sulphur Dioxide	120 Micrograms/ m ³
c	Oxides of Nitrogen	120 Micrograms/ m ³
d	CO	5000 Micrograms/ m ³

Industry shall ensure the ground level concentration of pollutants within standard prescribed for residential, rural areas in the nearby residential/rural areas due to establishment/commissioning of plant.

8. Industry shall establish ambient air quality monitoring stations in the core zone as well as buffer zone for SPM, RPM, NOx and SO₂. Location and number of the ambient air quality stations shall be decided, based on meteorological data, topographical features, environmentally and ecologically sensitive targets and the frequency of monitoring shall be undertaken in consultation with the Board.
9. Industry shall provide appropriate arrangement to meet the emission standards of SO₂, NOx, mercury and other toxic heavy metals to be developed by MoEF/CPCB. Industry shall follow the emission of SO₂, NOx, mercury and other toxic heavy metals to be developed by MoEF/CPCB.
10. Industry shall adopt clean coal and clean power generation technology to the extent feasible. The quality of coal used shall conform to the standards prescribed by Central Government/Central Pollution Control Board/State Government/Chhattisgarh Environment Conservation Board. Industry shall follow provisions of notification issued by Ministry of Environment & Forests, Government of India regarding use of beneficiated coal.
11. The stack height as per formulae $H=14(Q)^{0.3}$ (Where Q is emission rate of SO₂ in Kg/hr and H is stack height in meters) or as per guidelines of Ministry of Environment & Forests, Gov/Central Pollution Control Board based on micro meteorological data with arrangement of stack monitoring shall be provided. The height of other stacks shall not be less than 30 meters also.
12. Continuous monitoring system and opacity meter shall be installed for monitoring of emissions level both in the ambient and the stack. Industry shall establish permanent ambient air monitoring station on the periphery of plant in at-least all the four directions.
13. Space provision shall be made in the layout for installation of the flue gas desulphurization units. Due to commissioning of the power generation units, if 98 percentile values for SO₂ (based on actual monitored field data) in the ambient air of nearby areas exceed the prescribed permissible limit for respective sensitive areas, rural, residential and other areas; industry shall install flue gas desulphurization units immediately without any delay.

14. Industry shall install separate electric metering arrangements for the running of pollution control devices. These arrangements shall be made in such a fashion that any non-functioning of pollution control devices shall immediately stop the production unit and shall remain tripped till the pollution control device/devices are made functional again.
15. Industry shall adopt dry ash extraction system and medium (35%-40%) ash concentration slurry disposal system or lean phase ash slurry disposal system with 100% ash re-circulation system depending upon site specific environmental situation.
16. Industry shall incorporate total fly ash utilization as integral part of the project. Fly ash and bottom ash generated during the process shall be collected in dry form and it shall be utilized 100% for other beneficial uses such as brick making, road construction, cement making etc. The industry shall follow the guidelines, notification etc. for utilization of fly ash issued by Central / State Govt. from time to time. Industry shall abide by the decisions taken by Central Government / Central Pollution Control Board / State Government / Chhattisgarh Environment Conservation Board from time to time regarding use of fly ash.
17. Industry shall use fly ash bricks, fly ash blocks or fly ash based products for their construction/repairing activities. Industry shall also utilize fly ash/bottom ash for filling low lying within premises as per guideline or Central Government/ Central Pollution Control Board/State Government/Chhattisgarh Environment Conservation Board.
18. Industry shall provide adequate arrangement for proper, safe and scientific storage, handling and disposal etc. of all solid wastes generated. All internal roads shall be made pucca. Good house keeping practices shall be adopted by the industry.
19. The industry shall take proper action to control the noise pollution. The noise level shall not exceed the limits 75 dB(A) during the day time and 70 dB(A) during the night time within the factory premises.
20. Extensive tree plantation shall be carried out in and around the project area. At-least 100 meters wide green belt of local species shall be developed along the premises. Green belt shall be developed along with the periphery of the plant as per Environmental guidelines for Thermal Power Plants published by MoEF, Government of India, New Delhi in 1987. Industry shall abide by the decisions taken by Central Government / Central Pollution Control Board / State Government / Chhattisgarh Environment Conservation Board from time to time in this regard. As far as possible maximum area of open spaces shall be utilized for plantation purposes. Extensive tree plantation shall also be carried out at ash dyke bunds/area.
21. Garland drains with appropriate check dams shall be provided all along the coal storage areas to avoid any possibility of erosion during rain. Garland drain (size, gradient & length) and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the project site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material. Sedimentation pits shall be constructed at

- the corners of the garland drains. The surface run-off shall be de-silted through a series of check dams and drains before final disposal/re-use. Industry shall adopt rain water harvesting technique in the project area and residential area for recharge of ground water.
22. Comprehensive Environmental Impact Assessment (EIA) report covering one year data (4 seasons) shall be submitted to the Board within 15 months from date of commissioning of plant.
 23. The industry shall submit Environmental Management Plan at-least six months prior to commissioning of the plant.
 24. Industry shall establish an environmental management cell to carryout function relating to environmental management under the supervision of senior executive who will directly report to the head of organization.
 25. Industry shall modify the layout so that prime land may not be utilized for plant and ash pond.
 26. Industry shall abide by the direction of guidelines for sitting criteria of industry issued by MoEF, Govt. of India, New Delhi particularly in reference to land use. Industry shall abide by the decisions taken by Central Government/ Central Pollution Control Board/State Government/Chhattisgarh Environment Conservation Board from time to time in this regard.
 27. Industry shall obtain permission from competent authority to cut down trees (if any) prior to any construction.
 28. Industry shall follow the action points mentioned in 'Charter on Corporate Responsibility for Environmental Protection' of Thermal Power Plant issued by ministry of Environment & Forest, Government of India.
 29. Industry shall abide by the commitments given during public hearing dated: 09/11/2006.
 30. Necessary funds shall be provided in the project for implementation of the above-mentioned conditions and for environmental safeguards. The funds earmarked for the environmental protection measures shall be kept in separate account and not diverted for other purposes. Industry shall submit year wise expenditure report to the Board.
 31. Industry shall provide appropriate pollution control measures during construction phase for control of water pollution, air pollution etc.
 32. Industry shall obtain statutory clearances/licenses from concerned Central/State Government Departments, Boards, Bodies and Corporations etc. before starting establishment of the power plant. Industry shall follow direction issued by Central/State Government, Central Pollution Control Board/Chhattisgarh Environment Conservation Board from time to time regarding control of water & air pollution and for environmental conservation.
 33. The issuance of this 'permission to establish' does not convey any property rights 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 or local laws or regulations.

34. Industry shall follow any other conditions given at the time of grant of consent under the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981.
35. Any change in production capacity, process, project profile etc. shall be intimated to the Board and prior permission of the Board shall be obtained for the same.
36. Board reserves the right to amend/cancel any of the above conditions and add new conditions as and when deemed necessary in the interest of environmental protection, change in the project profile or non-satisfactory implementation of the stipulated conditions etc.

The consent (for operation) as required under the Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981 shall be granted to your industry after fulfillment of all the conditions mentioned above. For this purpose you shall have to make an application to this Board in the prescribed Performa at least two months before the expected date of commissioning of the plant. The applicant shall not without valid consent (for operation) of the Board bring into use any out let for the discharge of effluent and particulate matter/gaseous emission.

For & on behalf of
Chhattisgarh Environment Conservation Board

(As approved by the Chairman
vide Note Sheet dispatch No.
498, dated: 29/04/2008).



(K. Subramaniam)
Member Secretary

Chhattisgarh Environment Conservation Board
Raipur (C.G.)

Endt. No. /TS/CECB/2008
Copy to: -

Raipur, dated: ___/___/2008

- 1- Chief Engineer (Commercial), Chhattisgarh State Electricity Board, Bilaspur, for information and necessary action please. The power supply to the unit shall be released only after submission of the copy of "**Consent to Operate**" issued by Chhattisgarh Environment Conservation Board, Raipur (C.G.).
- 2- Regional Officer, Regional Office, Chhattisgarh Environment Conservation Board, Bilaspur (C.G.). Please ensure compliance and report if any condition/conditions are violated by the industry.


(K. Subramaniam)
Member Secretary
Chhattisgarh Environment Conservation Board
Raipur (C.G.)