

# MAHARASHTRA POLLUTION CONTROL BOARD

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Mumbai-400 022.

RED/LSI

Consent No. BO/JD(APC)/EIC No. NG-6089-11/R/CC-CA-267

Date: 07/02/2012

Consent to **Operate** under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization / Renewal of Authorization under Rule 5 of the Hazardous Wastes (Management, Handling & Trans Boundary Movement) Rules 2008.

[To be referred as Water Act, Air Act and H W (M, H & TM) Rules respectively].

CONSENT is hereby granted to

**M/s Maharashtra State Power Generation Co.Ltd.,  
Khaperkheda Thermal Power Station,  
At Khaperkheda, Dist-Nagpur.**

located in the area declared under the provisions of the Water Act, Air act and Authorization under the provisions of H W (M, H & TM) Rules subject to the provisions of the Act and the Rules and the Orders that may be made further and subject to the following terms and conditions:

1. **The Consent to Operate is granted for a period up to – 31.12.2012.**

2. **The Consent is valid for the manufacture of:-**

Sr. No.	Product	Maximum Quantity
1)	Electricity Generation	840 MW (4x 210MW)

6. **CONDITIONS UNDER WATER (Prevention and Control of Pollution) ACT, 1974:**

- (ix) The quantity of trade effluent from the factory shall not exceed **14500.0 m<sup>3</sup>/day**.
- (x) The quantity of sewage effluent from the factory shall not exceed **2400.0 m<sup>3</sup>/day**.
- (xi) **Trade Effluent Treatment:** The applicant shall provide comprehensive treatment system consisting of primary / secondary and/or tertiary treatment as is warranted with reference to influent quality and operate and maintain the same continuously so as to achieve the quality of the treated effluent to the following standards:

The industrial effluent arising from various sections of Power Plant shall be given such treatment either collective or individually as the site condition permits that the final quality of effluent shall have following character standards:

m) **Condenser Cooling Water:**

- |    |                         |               |  |
|----|-------------------------|---------------|--|
| 1) | pH                      | Between       | 6.5 to 8.5   |
| 2) | Temperature             | Not to exceed | 5 Degree C.<br>Higher than the intake water temperature. |
| 3) | Free available Chlorine | Not to exceed | 0.5 mg/l   |

n) **Boiler Blow down:**

- |    |                  |               |           |
|----|------------------|---------------|-----------|
| 1) | Suspended Solids | Not to exceed | 100 mg/l. |
| 2) | Oil & Grease     | Not to exceed | 20 mg/l.  |
| 3) | Copper (Total)   | Not to exceed | 1 mg/l.   |
| 4) | Iron (Total)     | Not to exceed | 1 mg/l.   |

o) **Cooling Tower Blow down:**

- |    |                         |               |           |
|----|-------------------------|---------------|-----------|
| 1) | Free available Chlorine | Not to exceed | 0.5 mg/l. |
| 2) | Zinc                    | Not to exceed | 1 mg/l.   |
| 3) | Chromium (Total)        | Not to exceed | 0.2 mg/l. |
| 4) | Phosphate               | Not to exceed | 5 mg/l.   |

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p) **D.M. Plant Effluent:**

1)	PH	Between	5.5 to 9
2)	BOD 3 days 27 Deg. C.	Not to exceed	30 mg/l.
3)	COD	Not to exceed	250 mg/l.
4)	Suspended Solids	Not to exceed	100 mg/l.
5)	Oil & Grease	Not to exceed	10 mg/l.
6)	TDS	Not to exceed	2100 mg/l.

(xii) **Trade Effluent Disposal:** The total treated effluent shall be recycled/ reused for ash handling, Coal handling, dust suppression etc to the maximum extent and remaining shall be utilized for plantation/gardening.

(xiii) **Sewage Effluent Treatment:** The applicant shall provide comprehensive treatment system as is warranted with reference to influent quality and operate and maintain the same continuously so as to achieve the quality of treated effluent to the following standards.

(1)	Suspended Solids	Not to exceed	100 mg/l.
(2)	BOD 3 days 27 C.	Not to exceed	100 mg/l.

(xiv) **Sewage Effluent Disposal:** The treated domestic effluent shall be recycled/ reused for ash handling, Coal handling, dust suppression etc to the maximum extent and remaining shall be utilized for plantation/gardening.

(xv) **Non-Hazardous Solid Wastes:-**

Sr.No	Type of waste	Quantity	Treatment	Disposal
1	Ash	4253 MT/day	....	Shall be send to Cement Manufacturer. Dispose as per Govt. of India Guidelines Notification vide no.SO 763(E)dated 14.9.1999.

(xvi) **Other conditions:**

- The industry should monitor effluent quality regularly.
- Green Belt a forestation shall be done up to 33% on available open space land.
- The firm shall provide continuous flow meter for the measurement of the flow of the effluent.
- Industry shall adopt clean technology like ozonization for cooling water treatment.
- Industry shall provide dry fly ash handling & collection system and utilize the fly ash as per the fly ash notification of the Govt. of India.
- Transportation of coal & fly ash shall be by closed system, Conveyor system wherever possible.
- Fly ash shall be 100% utilized as per fly ash Notification.

7. The applicant shall comply with the provisions of the Water (Prevention Control of Pollution) Cess Act, 1977 (to be referred as Cess Act) and Rules there under:

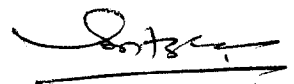
The daily water consumption for the following categories is as under:

(i)	Domestic	...	6000.0	CMD.
(ii)	Industrial Process	...}	11000.0	CMD
(iii)	Cooling water Boiler,	...}	62000.0	CMD

The applicant shall regularly submit to the Board the returns of water consumption in the prescribed form and pay the Cess as specified under Section 3 of the said Act which is also available on MPCB website at <http://mpcb.gov.in/images/cessform1.pdf>

8. **CONDITIONS UNDER AIR (Prevention & Control of Pollution) ACT, 1981:**

(III) The applicant shall install a comprehensive control system consisting of control equipments as is warranted with reference to generation of Emission and operate and maintain the same continuously so as to achieve the level of pollutants to the following standards:



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**A) Standards for Emissions of Air Pollutants:**

(i)	SPM/TPM	Not to exceed	100 mg/Nm <sup>3</sup>
(ii)	SO <sub>2</sub>	Not to exceed	80 MT/day
(iii)	NH <sub>3</sub>	Not to exceed	50 ppm
(iv)	NO <sub>x</sub>	Not to exceed	150 mg/Nm <sup>3</sup>
		(v/v at 15% excess oxygen)	

**B) Conditions for D.G. Set:-**

- 1] Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically. 2] Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/acoustic treatment of the room should be designed for minimum 25 dB(A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
- 3] The industry shall take adequate measures for control of noise levels from its own sources within the premises in respect of noise to less than 55 dB(A) during day time and 45 dB(A) during the night time. Day time is reckoned between 6 a.m. to 10 p.m and night time is reckoned between 10 p.m to 6 a.m. 4] Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper siting and control measures. 5] Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer. 6] A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use. 7] D.G. Set shall be operated only in case of power failure. 8] The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.

**(IV) The applicant shall observe the following fuel pattern :-**

Sr. No.	Type of Fuel	Quantity
1	Coal	14400 MT/day
2	Furnace Oil	25 KL/day

(Coal should have max.34% ash & 0.5% sulphur content and attempt shall be made to reduce ash content to 29%).

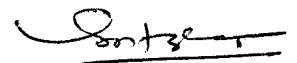
**(III) The applicant shall erect the chimney(s) of the following specifications:-**

Sr. No.	Chimney attached to	Height in Mtrs.
i)	Unit I & II	220
ii)	Unit III & IV	220

**(IV) Control Equipment:**

1. Electrostatic Precipitator of sufficient capacity provided to Boiler and any other sources of particulate matter shall be operate and maintain so as to ensure that TPM emission do not exceed 100 mg/Nm<sup>3</sup>
2. Dust collection system and automatic water sprinkler system provided to Coal Handling Plant shall be operate and maintain continuously.
3. Dust collector of sufficient capacity shall be provided to coal crusher and any other sources of SPM.
4. There shall not be any fugitive emission from coal storage yard.

- (V) The applicant shall provide ports in the chimney/(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted / displayed to facilitate identification.



(VI) The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB(A) during day time and 70 dB(A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.

(VII) **Other Conditions:**

1. The coal handling system shall be covered with proper hooding and ventilation arrangements connected to dust suppress agent so as not to allow any fugitive emissions.
2. A separate environment monitoring cell with suitable qualified staff should be set up for implementation of the stipulated environmental safeguards.
3. The industry shall not cause any nuisance in surrounding area.
4. The industry shall monitor stack emissions & ambient air quality regularly.
5. **The applicant shall install online continuous monitoring system for process stack emission analysis & same shall be directly connected to MPCB website <http://mpcb.gov.in> as well as to the respective Regional Office within 3 months period and operate the same regularly.**
6. **The applicant shall install three continuous automatic ambient air and micrometeorological monitoring station at location indicated by State Board to be set up and operate at its own cost measure SO<sub>2</sub>, NO<sub>x</sub> and particulate matter. These CAAQMS shall also have necessary provision of networking to the Air Quality Monitoring network of MPCB.**
7. If due to any technological improvements or otherwise this Board is of opinion that all or any of the conditions referred above require 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 very all or any of such conditions and thereupon the applicant shall be bound to comply with the conditions so varied.

6. **CONDITIONS UNDER HW (M & H) RULES, 1989 & AMENDMENT RULES, 2003:**

(i) The applicant shall handle hazardous wastes as specified below:

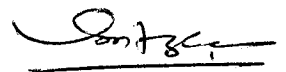
Sr. No.	Item No. of Process generating HW as per Schedule-I	Type of Waste	Quantity	Disposal
1	5.1	Used/spent oil	18.65 KL/Month	CHWTSD Butibori
2	5.2	Waste/residues containing oi(contaminated cotton waste	1.0 KL/Month	
3	34.3	Chemical sludge from waste water treatment	59.98 MT/month	
4	34.4	Oil & grease skimming residues		

(ii) The authorization is hereby granted to operate a facility for collection, storage, transport and disposal of hazardous waste.

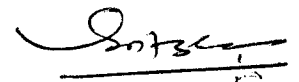
7. Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of factories and Local Body. In case of failure of pollution control equipments, the Production process connected to it shall be stopped.

8. **General conditions:**

(i) The applicant shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a yearly statement by 30<sup>th</sup> September every year on available open plot area, no. of trees surviving as on 31<sup>st</sup> March of the year and no. of trees planted by September end.



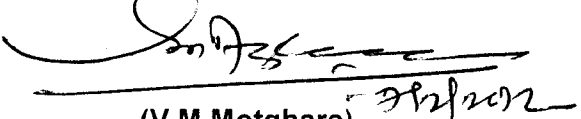
- (ii) The applicant shall provide for an alternate electric power source sufficient to operate all pollution control facilities installed by he applicant and operate the same in case of power failure to maintain compliance with the terms and conditions of the consent. In the absence of same, the applicant shall stop, reduce or otherwise, control production to abide by terms & conditions of this consent regarding pollution levels.
  - (iii) The firm shall submit MPCB, the Environmental Statement Report for the financial year ending 31<sup>st</sup> March in the prescribed Form-V as pre the provisions of rule 14 of the Environment (Protection) (Second Amendment) Rules, 1992 before 30<sup>th</sup> September every year.
  - (iv) The applicant shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained. The applicant shall also submit a comparative statement of designed power and chemical consumptions vis-a vis actual power and chemical consumption along with Environmental statement.
  - (v) Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers down- stream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system. Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.
  - (vi) The applicant shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous wastes to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf. An inspection book shall be opened and made available to the Board's officers during their visit to the applicant.
  - (vii) The industry shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises.
9. Applicant shall ensure to implement mitigation measures mentioned in Environment Management Plan.
10. **The applicant shall make an application for renewal of the consent at least 60 days before the date of the expiry of the consent.** The applicant shall not change or alter quantity, quality, the rate of discharge, temperature or the mode of the effluent/ emissions or hazardous wastes or control equipments provided for without previous written permission of the Board.
11. This Board reserves the right to amend or add any conditions in this consent and the same shall be binding on the Applicant.
12. This is issued pursuant to the decision of **Consent Appraisal Committee meeting** of the Board held on 31<sup>st</sup> January, 2012.
13. **The applicant shall comply with the directions given in the Minutes of Meeting on Environmental compliance of M/s Khaperkheda Thermal Power Station ,Khaperkheda, Nagpur meeting held on 12.5.2011 at Mantralaya, Mumbai under the Chairmanship of Hon'ble Minister(Environment),GoM.**



14. The applicant shall comply with the directions issued by Board time to time.
15. The applicant shall comply with the recommendations of the Task Force for implementation of CREP recommendations for Thermal Power Plants.
16. The applicant shall implement mechanical close type transportation system for coal & mineral metal transporting trucks w.e.f. 1.4.2012 and submit the action plan for the same within one month period.
17. The applicant shall submit the irrevocable fresh bank guarantee of Rs. 50.0/- lakhs to achieve TPM standards as 100 mg/Nm<sup>3</sup> within six month period and Bank guarantee of Rs.10.0/- lakhs to complete the remaining work as per the interim direction No.MPC/NRO/Direction-194/2223/2011 dated 7.7.2011.  
The above BG shall be drawn in favor of RO,MPCB, Nagpur & submit within 15 days to RO,MPCB, Nagpur, valid for one year period.
18. The Capital Investment of the industry is Rs. 2408.49/- Crores.

This consent is issued as the Office Note dated 2.2.2012 approved by Hon'ble Chairman of the Board.

For and on Behalf of the  
Maharashtra Pollution Control Board,

  
(V.M.Motghare)  
Joint Director (Air Pollution Control)

To,  
M/s Maharashtra State Power Generation Co.Ltd.,  
Khaperkheda Thermal Power Station,  
At Khaperkheda, Dist-Nagpur.

Copy to:

- 1) Regional Officer MPC Board, Nagpur / Sub Regional Officer, MPC Board, Nagpur.

They are directed to submit the performance report along with the results and compliance of directions issued by Board within one month period. As per the decision taken in the CAC meeting held on 31.1.2012, forfeit the existing bank guarantee of Rs. 5.0 Lakhs for non compliance of the directions issued by the Board and obtain fresh bank guarantee of Rs. 50.0/- lakhs to achieve TPM standards as 100 mg/Nm<sup>3</sup> within six month period and Bank guarantee of Rs.10.0/- lakhs to complete the remaining work as per the interim direction No.MPC/NRO/Direction-194/2223/2011 dated 7.7.2011 and submit the compliance report within 7 days.

- 2) Chief Accounts Officer, MPC Board, Mumbai.

Received Consent fee of –

<u>Amount</u>	<u>D. D. No.</u>	<u>Date</u>	<u>Drawn on</u>
48,16,994/-	114525	16.11.2011	Dena Bank

Consent Fees received as per revised consent fee GR of Env Deptt, GoM, dated 25.8.2011.

- 4) Cess Branch, MPC Board, Mumbai.
- 5) Master file.