

MAHARASHTRA POLLUTION CONTROL BOARD

Phone : 24010437/24014701/24020781

Fax : 24024068/24023516

Website: <http://mpcb.gov.in>.

E-Mail: jdair@mpcb.gov.in



KALPATARU POINT, 3rd Floor,
Sion-Matunga Scheme Rd. No.8,
Opp. Sion Circle, Sion (East),
Mumbai-400 022.

RED/LSI

Consent No. BO/JD(APC)/EIC No. NG-8034-12/R/CC/CA-1587 Date: 22/02/13
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, Tal & 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 – 31.12.2013.
2. The Consent is valid for the manufacture of:-

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

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

- (i) The quantity of trade effluent from the factory shall not exceed 15000.0 m³/day.
- (ii) The quantity of sewage effluent from the factory shall not exceed 2400.0 m³/day.
- (iii) 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:

a) Condenser Cooling Water:

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

b) 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.

c) 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.

d) 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.

(iv) **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.

(v) **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.

(vi) **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.

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

Sr.No	Type of waste	Quantity	Treatment	Disposal
1	Fly ash/ Bottom 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.

(viii) **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.

4. 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>

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

(I) 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:

A) Standards for Emissions of Air Pollutants:

(i)	SPM/TPM	Not to exceed	100	mg/Nm ³
(ii)	SO ₂	Not to exceed	80	MT/day
(iii)	NH ₃	Not to exceed	50	ppm
(iv)	NO _x	Not to exceed	150	mg/Nm ³

(v/v at 15% excess oxygen)

B) Conditions for D.G. Set:-

- Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
- 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.

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

Sr. No.	Type of Fuel	Quantity
1	Coal	14400 MT/Month
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)	Boiler of Unit I&II	220
ii)	Boiler of Unit III & IV	220

(IV) Control Equipment:

1. Electrostatic Precipitator of sufficient capacity provided to each 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/Nm³
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 provided to coal crusher and any other sources of SPM shall be operates and maintain continuously.
4. There shall not be any fugitive emission from coal storage yard.
5. The industry shall make necessary provisions for installing FGD with 90 % efficiency in its design and layout ad sufficient floor space so that it can be installed in future, as & when directed by Board.

(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 SO₂, NO_x 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	25 KL/Month	Sale to authorized recycler/re-processor 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	30 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 30th September every year on available open plot area, no. of trees surviving, as on 31st 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 31st March in the prescribed Form-V as pre the provisions of rule 14 of the Environment (Protection) (Second Amendment) Rules, 1992 before 30th 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. The applicant shall comply with the directions issued by Board time to time.
13. The applicant shall comply with the recommendations of the Task Force for implementation of CREP recommendations for Thermal Power Plants.
14. This is issued pursuant to the decision of Consent Appraisal Committee meeting of the Board held on 08.01.2013.
15. The applicant shall submit the irrevocable bank guarantee of Rs.1.0/- crore drawn in favour of Regional Office, MPCB, Nagpur within 15 days valid up to one year period, towards compliance of pollution control system as per time bound programme/recommendations on action plan as under-

Sr No	Unit No	Work to be Done to achieve the consented standards	Details of work to be carried out as per action plan	Deadline for completion of work	Bank Guarantee (BG) imposed
1	Khaperkheda TPS Unit -1	Pollution Control Equipment Revamping	Complete Retrofit of ESP, Booster ID Fan, Gates, Duct, Duct Supports etc.	The work shall be completed by 31 st Dec-2013.	Shall submit the BG of Rs.25.0/- lakhs towards compliance of the sr. No.1 to 4
	Khaperkheda TPS Unit -2		Complete Retrofit of ESP, Booster ID Fan, Gates, Duct, Duct Supports etc.	The work shall be completed by 31st Dec-2013	
2	Khaperkheda TPS Unit -1 To Unit -4	Coal Transportation	Coal transportation is carrying out by means of rail wagons and no up gradation is required.	Adequate air pollution control system shall be provided to coal handling and transportation & operate the same properly so as to maintain the ambient air quality within prescribed standards on or before 31.12.2013.	
3	Khaperkheda TPS Unit -1 To Unit -4	Coal Storage Yard	Coal storage / yard are of open type and not feasible to make it closed by means of dome.	Adequate air pollution control system shall be provided to coal storage yard and transportation & operate the same properly so as to maintain the ambient air quality within prescribed standards on or before 31.12.2013.	
4	Khaperkheda TPS Unit -1 To Unit -4	Water Pollution Issue	Supply & installation of Reverse Osmosis(R.O.) for Soften water plant effluent	The work shall be completed by 30th June-2013.	
5	Khaperkheda TPS Unit -2	By Process Change a. Flue gas conditioning system	AFGC SYSTEM to be installed for U2 ESP	The work shall be completed by 30th June-2013.	
	Khaperkheda TPS Unit -3		AFGC SYSTEM to be installed for U3 ESP	The work shall be completed by 30th June-2013	

	Khaperkheda TPS Unit -4		AFGC SYSTEM to be installed for U4 ESP	The work shall be completed by 30th June-2013	Shall submit the BG of Rs.25.0/- lakhs towards compliance of sr. No. 5 & 6
	Unit 1 to Unit-4	By Process Change Pulverisation	ASH CONTENT OF BUNKERED COAL 36.46%	ASH CONTENT OF Coal feed to all these Power Plants shall be less than 34 %	
6	Khaperkheda TPS Unit -1 To Unit -4	Pollution Control System at Coal Handling Plant	A) Supply & installation of dust extraction system by replacing existing DE No. 1 & 2 of crusher house. B) Rejuvenation of dust extraction system No. 4 to 8 of bunker Unit# 1&2. For Unit# 3 & 4, DE-1 A/B, DE-2A/B and DE-3A/B are in service. No up gradation is required.	Industry shall provide the Dust extraction system to 1 & 2 of crusher house & Dust extraction system to 4 to 8 which are common for unit# 1 & 2 within the period up to 30 th June-2013 Air pollution control system provided to CHP shall operate properly so as to maintain the ambient air quality within prescribed standards on or before 30 th June 2013	Shall submit the BG of Rs.25.0/- lakhs towards compliance of sr. No.7, 8, 9 & 10.
7	Khaperkheda TPS Unit -1 To Unit -4	Zero Discharge Concept	WTP:- Recovery of treated sewage water from colony STP to Power station for CHP & AHP purpose AHP:- new recovery pumps at toe drain of Ash Bund are to be installed. Express feeder for electricity to the AWR pump house	The work shall be completed by 30th June-2013 AHP:- Under Capex Scheme by Civil Maintenance new recovery pumps at the drain of Ash Bund are to be installed to avoid spillages to the river. The work shall be completed by 31 st March-2013	
8	Khaperkheda TPS Unit -1 Khaperkheda TPS Unit -2	Dry Ash Collection System	Construction of silo & evacuation system, compressor house ash pipe line etc. by agency M/s. Ambuja Cement Ltd.	The agreement is done between MAHAGENCO and AMBUJA CEMENTS on dated 30/09/2011 for installation of Dry Ash Collection system. Now Work is in progress and will be completed up to 31st Dec-2012. The work shall be completed by 28 th Feb-2013.	
9	Khaperkheda TPS Unit -1 to 4	Fly ash handling / disposal	Ash Bund Raising	The work Ash bund raising to enhance Bund Capacity shall be completed up to Jan-2013 and The work shall be completed by June-2013	
10	Providing of Metallic Roads		Not provided	All internal coal transport roads shall be done metallic /tarred and The work shall be completed by 30 th June-2013	

11	Khaperkheda TPS Unit -1 to 4	Installation Of CAAQMS	Installation of CAAQMS System (3 nos.) at 3 different locations outside the plant (under Non DPR)	The work shall be completed by 31 st March-2013
	Khaperkheda TPS Unit -1	Installation of Online Stack monitoring	1) New Opacity Meter Erection completed in Unit-1, Commissioning will be carried out in June-12. 2)At present SO2 & NOx meters are not in working condition. Procurement of SO2 & NOx meters are in process. Material will receive within 1 year. Erection and commissioning will be done in unit S/D.	The work shall be completed by 30 th June-2013
12	Khaperkheda TPS Unit -2	Installation of Online Stack monitoring	1) Erection and commissioning new Opacity Meter will be done in June-12 AOH 2)At present SO2 & NOx meters are not in working condition. Procurement of SO2 & NOx meters are in process. Material will receive within 1 year. Erection and commissioning will be done in unit S/D.	The work shall be completed by 30 th June-2013
	Khaperkheda TPS Unit -3	Installation of Online Stack monitoring	1) Erection and commissioning new Opacity Meter will be done in May -13 AOH 2)At present SO2 & NOx meters are not in working condition. Procurement of SO2 & NOx meters are in process. Material will receive within 1 year. Erection and commissioning will be done in unit S/D.	The work shall be completed by 30 th June-2013
	Khaperkheda TPS Unit -4	Installation of Online Stack monitoring	1)Erection and commissioning new Opacity Meter will be done in Feb -13 AOH 2)At present SO2 & NOx meters are not in working condition. Procurement of SO2 & NOx meters are in process. Material will receive within 1 year. Erection and commissioning will be done in unit S/D.	The work shall be completed by 30 th June-2013

Shall submit the BG of Rs.25.0/- lakhs towards compliance of Sr. No. 11 & 12.

16. The applicant shall restore the existing bank guarantee of Rs.50/- Lakhs drawn in favour of Regional Office, MPCB, Nagpur within 15 days valid up to one year period, towards operation & maintenance of pollution control system so as to achieve the consented standards.
17. The Capital Investment of the industry is Rs. 2416/- Crores.

For and on Behalf of the
Maharashtra Pollution Control Board,


(Rajeev Kumar Mital, IAS)
Member Secretary

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

Copy to:

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

They are directed to forfeit the Bank Guarantee of Rs. 10/- Lakhs out of the existing BG of Rs. 50/- Lakhs towards not completing the work in time and shall obtain the bank guarantee of Rs.100/- Lacs & Rs.50/- Lakhs from the industry as per the consent conditions No.15 & 16 and submit the performance report along with the monitoring results and compliance of consent conditions within one month period.

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

Received Consent fee of -

Sr. No.	Amount(Rs.)	DD. No.	Date	Drawn On
1	4833019	114537	29 Oct 2012	Dena Bank

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