

MAHARASHTRA POLLUTION CONTROL BOARD

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Kalpataru Point, 3rd & 4th floor, Sion- Matunga
Scheme Road No. 8, Opp. Cine Planet Cinema, Near
Sion Circle, Sion (E),
Mumbai - 400 022

Consent order No :- BO/ EIC No.MU-4777-13/CAC-CELL/CC/CA-2196 Date-07/03/2014

To,

M/s. Tata Power Co. Ltd.

(Trombay Thermal Power Station
including Coal Handling Jetty)
Mahul Road, Chembur,
Mumbai - 400 074.

Sub : Consent to Establish for proposed Modernization of Existing Electricity
Generation unit No. 6 (500 MW) by change of fuel as coal & Augmentation of
Jetty for handling of coal under RED category.

Ref : 1) Consent granted vide No. BO/JD(APC)/EIC No. MU-2855-11-CAC-233,
dated 03.02.2012
2) Minutes of CAC meeting held on 08.01.2014

Your application: CE1303000173

Dated: 20.02.2013

For: Consent to Establish for proposed Modernization of Existing Electricity
Generation unit No. 6 (500 MW) by change of fuel as coal & Augmentation of Jetty for handling of
coal.

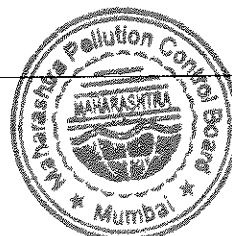
Under section 25 of the water (Prevention & Control of Pollution) Act, 1974 & under
section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and authorization
under Rule 5 of the Hazardous wastes (M, H & T M) Rules 2008 is considered and the
consent hereby granted subject to the following terms and conditions and as detailed in
the Schedule I, II, III & IV annexed to this order:

1. The Consent to Establish is granted for a period upto - Commissioning of the unit
or five years period whichever is earlier.

**“Consent to Establish will be operational only after obtaining
Environmental Clearance/ CRZ Clearance / Locational Clearance from
Competent Authority by the applicant and subject to the compliance
of conditions stipulated in Environmental Clearance / CRZ Clearance /
Locational Clearance including conditions which may be more
stringent, if stipulated by / in the Environmental Clearance /CRZ
Clearance / Locational Clearance.”**

2. The actual capital investment of the existing project is Rs. 3125.26/- Crs. and the
capital investment for proposed Modernization of Existing Electricity Generation
unit No. 6 (500 MW) by change of fuel is Rs. 1174/- Crs. (As per C.A. certificate
submitted by company)

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3. The consent is valid for the manufacture of –

Sr.No	Product/By product name	Maximum Quantity
1.	Modernization of exiting Unit no. 6 (Capacity- 500 MW) by using imported coal as a fuel for Electricity Generation.	
2.	Augmentation of existing Captive berthing jetty for handling of thermal coal (required for power generation)	20,00,000 MT/Year

4. Condition under Water (P&CP), 1974 Act for discharge of effluent:

Sr. No.	Description	Permitted quantity of discharge (CMD)	Standards to be achieved	Disposal
1.	Trade effluent (FGD water + Bottom Ash Water)	7,22,000 (7,21,000 + 1000)	As per schedule -1	In the exiting discharge channel after treatment
2.	Domestic effluent	NA	---	---

Note: The additional water required for FGD shall be reused from condenser outlet of unit #6. The discharge of treated effluent for total plant unit #4, 5, 6, 7 & 8 shall be as below

Sr. No.	Source	Condition	Existing discharge Qty	Proposed discharge qty	UoM
01	DM Plant	Not to exceed	2760	2760	CMD
02	Bottom Ash Water + FGD water	Not to exceed	1,84,800	9,06,800	CMD
03	Condenser Cooling water	Not to exceed	48,69,600	41,47,600	CMD
04	Boiler Blow Down	Not to exceed	1000	1000	CMD
Total			50,58,160	50,58,160	CMD

5. Conditions under Air (P & CP) Act, 1981 for air emissions:

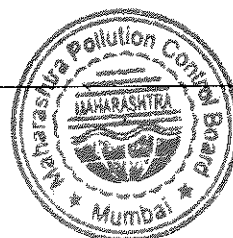
Sr. No.	Description of stack/source	Number of Stack	Standards to be achieved
1.	Existing 275 m stack attached to Unit no. 6	1	As per schedule -II

6. Conditions about Non hazardous waste:

Sr. No.	Type of Waste	Quantity & UoM	Treatment	Disposal
1.	Fly ash	216 TPD	Storage in silo's	As per Fly Ash Notification, 1999 of MoEF Gol and Amendment thereof.
2.	Bottom Ash	54 TPD	Storage in pond	Use for brick manufacturing / land or

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				query filling.
3.	Coal Rejects	20 TPD	Storage in pond	To be recycled internally or sold to external agency for reuse.

7. Conditions under Hazardous waste (MH & TM) Rules, 2008 for treatment and disposal of hazardous waste:

Sr.No.	Type of waste	Category	Quantity	UOM	Treatment	Disposal
-Nil-						

8. The Board reserves the right to review, amend, suspend, revoke etc. this consent and the same shall be binding on the industry.
9. This consent should not be construed as exemption from obtaining necessary NOC/permissions from any other government authorities.
10. The applicant should not take any effective steps for implementation of the project before obtaining Environmental Clearance as per EIA Notification 2006 and amendments thereto. As per Para 2 of EIA notification dated-14/09/2006, the effective steps include starting of any construction work or preparation of land by the project management. However as clarified by the MoEF vide office memorandum no. J-1103/41/2006-IA.II(I); Dated-19/8/2010, fencing of the site to protect it from getting encroached & construction of temporary shed(s) for the guard(s) & acquisition of land shall not be treated as an effective steps.
11. There will not be any change in the total power generation capacity of the unit after modernization.



For and On Behalf of the
Maharashtra Pollution Control Board,

(Rajeev Kumar Mital, IAS)
Member Secretary

Sr No	Amount	DD No.	Date	Drawn On
1	23,48,000	117098	05/12/2012	HDFC Bank

Copy to:

- 1) Regional Officer, MPCB, Mumbai / Sub-Regional Officer, MPCB Mumbai- III- They are directed to ensure compliances of consent conditions and submit the report within month to this office.
- 2) Chief Accounts Officer, MPCB, Mumbai.
- 3) CAC desk- for record & website updation purposes.

Schedule I

Terms and conditions for compliance of Water Pollution Control

1. A] As per your application, you have provided the Effluent Treatment Plant (ETP)

B] The Applicant shall operate the effluent treatment plant (ETP) to treat the trade effluent so as to achieve the following standards prescribed by the Board or under EP Act, 1986 and Rules made there under from time to time, whichever is stringent.

- (i) Daily quantity of trade effluent from coal handling jetty shall be nil.
- (ii) The daily quantity of sewage effluent from the power station shall be nil.
- (iii) Trade Effluent:

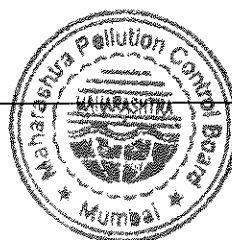
(a) Trade Effluent Treatment: The applicant shall provide comprehensive treatment system consisting primary/secondary and/or tertiary treatment as is warranted with reference to influent quality and operate and maintain the same continuously. Treatment can be given either collective or individually as the site condition permits so that the quality of final effluent shall achieve following standards.

1. DM Plant

Sr No	Parameter	Condition	Value	UoM
(1)	pH	Between	5.5-9.0	
(2)	BOD 3 days 27° C	Not to exceed	100	mg/l
(3)	COD	Not to exceed	250	mg/l
(4)	Suspended Solid	Not to exceed	100	mg/l
(5)	Oil & Grease	Not to exceed	10	mg/l

2. Condenser Cooling Water

Sr No	Parameter	Condition	Value	UoM
(1)	pH	Between	6.5-8.5	
(2)	Temperature (higher than intake sea water temperature in case Unit # 8 and Unit # 6)	Not to exceed	7	Deg C
(3)	Temperature (higher than intake sea water temperature for units 4,5, & 7)	Not to exceed	10	Deg C
(4)	Total residual chlorine	Not to exceed	1.0	mg/l



Note:

1) Applicant shall install and operate continuous monitoring for measurement of temperature of condenser cooling water at exit of the property (Bund Outlet). In case of failure of this continuous monitoring system industry shall measure temperature manually once during low tide and once in a high tide.

3. Boiler Blow Down Effluent:

Sr No	Parameter	Condition	Value	UoM
(1)	Copper (Total)	Not to Exceed	1.0	mg/l
(2)	Iron (Total)	Not to Exceed	1.0	mg/l
(3)	Suspended Solids	Not to Exceed	100	mg/l
(4)	Oil & Grease	Not to Exceed	10	mg/l

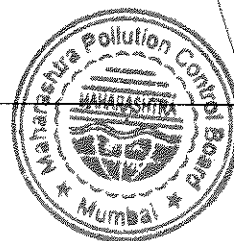
4. Ash Pond Effluent:

Sr No	Parameter	Condition	Value	UoM
(1)	pH	Between	6.5-8.5	
(2)	Suspended Solids	Not to Exceed	100	mg/l
(3)	Oil & Grease	Not to Exceed	10	mg/l

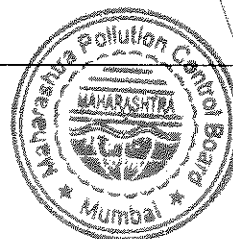
5. Flue Gas Desulphurization Effluent

Sr No	Parameter	Condition	Value	UoM
(1)	pH	Between	6.5-8.5	
(2)	DO		5.0	mg/l
(3)	Temperature (higher than intake water temperature)	Not to exceed	7.0	Deg C
(4)	Suspended Solids (SS) (above intake water SS concentration)	Not to Exceed	10	%

C] Trade Effluent Disposal: Applicant shall provide arrangement to recycle treated effluent to maximum effluent and rest shall be disposed off into sea (Thane Creek) through well designed outfall. Applicant can make use of existing CW outfall channel for disposal of trade effluent so as to keep single discharge/outlet point for all the trade effluents. Provision for sample collection shall be made at individual source as well as at final discharge point.



- (a) The applicant shall provide treatment for the FGD water so as to achieve the standards prescribed above.
- (b) Applicant shall monitor the quality of trade effluent regularly as per the consent to operate granted for the station.
- 2) A] As per your consent application, you have provided the sewage treatment systems.
- B] The Applicant shall operate the sewage treatment system to treat the sewage so as to achieve the following standards/ prescribed under EP Act, 1986 and Rules made there under from time to time, whichever is stringent.
- | | | | |
|-----------------------|---------------|-----|-------|
| (1) Suspended Solids. | Not to exceed | 100 | mg/l. |
| (2) BOD 3 days 27°C. | Not to exceed | 100 | mg/l. |
- C] Sewage Effluent Disposal: The treated effluent shall be disposed on land for irrigation/any other use within the plant premises to the maximum extent possible and remaining quantity shall be disposed of into sea (Thane Creek) through the existing outfall channel. Provision for sample collection shall be made at outlet of STP.
- D] Applicant shall monitor the quality of treated sewage regularly as per the consent to operate granted for the station.
- 4) The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or and extension or addition thereto.
- 5) The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.



- 6) The Applicant shall comply with the provisions of the Water (Prevention & Control of Pollution) Cess Act, 1977 and as amended, by installing water meters, filing water cess returns in Form-I and other provisions as contained in the said act.

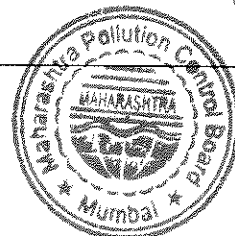
Sr.No	Usage	Quantity	UoM
(1)	Domestic	0.0	CMD
(2)	Industrial Cooling	0.0	CMD
(3)	Boiler Makeup	0.0	CMD
(4)	Industrial Processing FGD Scrubbing	0.0	CMD
	Bottom Ash	0.0	CMD

The applicant shall regularly submit to the board the returns of water consumption in the prescribe form and pay the cess as specified under section 3 of the said Act.

Note: Consumption of water for condenser cooling, FGD & Bottom Ash disposal shall be calculated on the basis of pump capacity and pump running hours.

- 7) The applicant shall provide Specific water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time / Environment clearance /CREP guidelines.
- 8) The industry shall ensure replacement of pollution control system or its expected life s defined by the manufacturer o as to ensure the compliance of standards and safety of the operation thereof.

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Schedule – II

Terms and conditions for compliance of Air pollution control:

1. As per your application, you have proposed to modernize the Air pollution control (APC) system and also have erected following stack (s) and to observe the following fuel pattern-

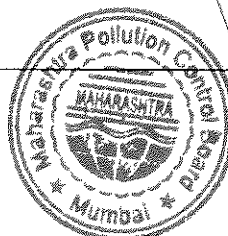
Sr. No.	Stack Attached To	APC System	Height in Mtrs.	Type of Fuel	Quantity & UoM	S %	SO ₂ T/Day
1	Unit # 6	ESP FGD	275	Coal	6000 TPD (20,00,000 T/A)	0.28	24

Note:

- SO₂ emission (From the station including units 4,5,6,7 & 8) shall not exceed 24 TPD
 - The applicant shall use the existing the chimney of 275 m height attached to Unit # 6. The applicant shall provide ports in the chimney(s) and facility such as ladder, platform etc for monitoring of 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 designed by numbers such as S-1, S-2 etc. and these shall be painted/displayed to facilities identification.
 - Coal used on Unit 6 shall be low ash and low sulphur imported coal. In case of non-availability of coal or natural gas, LSHS/ LSWR can be used subject to condition that the total generation of electricity does not exceed 34.32 million units per day and fuel mix shall be used in such a way that station SO₂ emission does not exceed 24 TPD.
2. The Applicant shall provide Specific Air Pollution control equipments as per the conditions of EP Act, 1986 and rule made there under from time to time / Environmental Clearance / CREP guidelines. (Concern section shall mention specific control equipments)
3. The applicant shall operate and maintain above mentioned air pollution control system, so as to achieve the level of pollutants to the following standards:
- | | | |
|--------------------|---------------|-------------------------|
| Particulate matter | Not to exceed | 50 mg/Nm ³ . |
|--------------------|---------------|-------------------------|
- The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
 - The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).
6. Control equipment :
- The coal used by the industry shall have ash content less than 5%.

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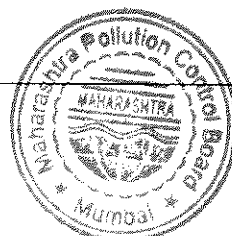
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- ii. Electrostatic Precipitator of sufficient capacity shall be provided to boiler using coal as fuel so as to meet the standards of SPM emission prescribed in the consent. ESP efficiency test shall be carried out once in a quarter and results of the efficiency test shall be submitted to MPC board.
- iii. Flue gas desulphurization (FGD) system shall be installed on Unit # 6 and operated and maintained to ensure that total SO₂ emission from the station remains within the limit of 24 TPD.
- iv. Low NO_x burners shall be installed and operated & maintained to meet prescribed emission norms for NO_x.
- v. Continuous stack emission monitoring system shall be installed on Unit no. 6 for measurement of sulphur dioxide (SO₂), suspended particulate matter (SPM) & oxides of nitrogen (NO_x). In case non availability of online measurement device, monitoring shall be carried out as per CPCB guidelines for that day. Daily monitoring results of entire month shall be submitted to MPC board on or before 15th day of next month.
- vi. The coal handling system shall be covered with proper hooding and ventilation arrangement to suppress dust and automatic water sprinkler system shall be provided so as not to allow fugitive emissions during handling/transportation of coal. Water meters shall be installed on water lines used for coal dust suppression. Monthly records of the water used for coal dust suppression shall be maintained by coal handling plant.
- vii. Trucks if used for internal movement of coal shall be mechanically closed type. Open trucks shall not be used for internal coal movement.

7. Other Conditions:

- i. Fly ash shall be collected and evacuated in dry form. Fly ash collected below ESP Hooper shall not be dumped in ash pond. Storage/dumping of fly ash in ash pond is allowed only in case of emergencies when disposal of fly ash in dry form is not possible.
- ii. ESP Hooper area shall be enclosed from three sides to avoid fugitive emission during evacuation/dumping of fly ash from ESP hoppers and only one side shall be kept open for access.
- iii. Bottom ash shall be collected/stored in wet form in ash pond. Ash pond shall be evacuated on regular basis only through MPCB authorised contractor. The vendor should renew the authorization on yearly basis.
- iv. Ambient Air Quality Monitoring shall be carried out within the premises at alternate day basis. AAQ monitoring outside Trombay shall be carried out as per the EMP provided in EIA through MoEF approved laboratory. Monthly monitoring results shall be submitted to MPC board on regular basis.
- v. All the barges used for transportations of coal shall be as per the approved criteria laid down by the MMD or IRS as the case may be.
- vi. The coal jetty shall be provided with adequate mechanized equipments like screw unloaders, stacker reclaimer etc. for unloading and handling of coal to achieve desired capacity and closed pipe conveying system for transportation of coal upto Unit # 6 to avoid fugitive emissions and operate and maintain them properly.
- vii. Onshore facility for transit storage of 2 lakh MT of coal near coal jetty shall be provided with adequate water sprinkling facility to avoid fugitive emission of particulate matter.
- viii. Adequate water sprinkling facility shall be provided at coal jetty as well as at coal yard to control fugitive emission from the coal stock.
- ix. Industry shall submit to the board %Ash & %S in imported coal on regular basis.
- x. Air quality monitoring shall be carried out around the coal Jetty on regular basis at appropriate locations on alternate day basis.



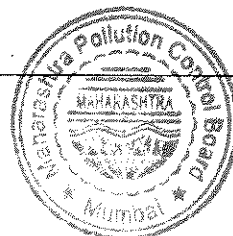
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Schedule -III

Details of Bank Guarantees

Sr. No.	Consent (C to E/O/R)	Amt of BG Imposed	Submission Period	Purpose of BG	Compliance Period	Validity Date
1	C to E	10/- Lakhs	15 days	For compliance of EC condition for not to take any effective steps for implementation of the project before obtaining Environmental Clearance as per EIA Notification 2006 and amendments thereto. As per Para 2 of EIA notification dated-14/09/2006, the effective steps include starting of any construction work or preparation of land by the project management. However as clarified by the MoEF vide office memorandum no. J-1103/41/2006-IA.II(I); Dated-19/8/2010, fencing of the site to protect it from getting encroached & construction of temporary shed(s) for the guard(s) & acquisition of land shall not be treated as an effective steps.		

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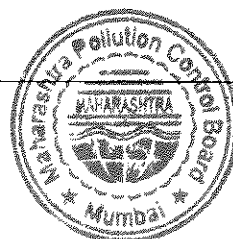
Schedule IV

General Conditions:

- 1) The applicant shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.
- 2) Industry should monitor effluent quality, stack emissions and ambient air quality monthly/quarterly.
- 3) 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.
- 4) 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.
- 5) The applicant shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.
- 6) The firm shall submit to this office, the 30th day of September every year , the Environmental Statement Report for the financial year ending 31st March in the prescribed Form-V as per the provisions of rule 14 of the Environment (Protection) (Second Amendment) Rules, 1992.
- 7) The industry shall send used oil to reprocess/re refiners authorized by MPCB & the Hazardous Waste to CHWTSDF Butibori Nagpur as per the provision contain in the HW(MH&TM) Rules 2008.
- 8) The industry should comply with the Hazardous Waste (M,H & TM) Rules, 2008 and submit the Annual Returns as per Rule 5(6) & 22(2) of Hazarsous Waste (M,H & TM) Rules, 2008 for the preceding year April to March in Form-IV by 30th June of every year.
- 9) An inspection book shall be opened and made available to the Board's officers during their visit to the applicant.
- 10) **The applicant shall obtain Consent to Operate from Maharashtra Pollution Control Board before actual commencement of the Unit/ Activity.**
- 11) Industry shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act,1981 and Environmental Protection Act,1986 and industry specific standard under EP Rules 1986 which are available on MPCB website(www.mpcb.gov.in).
- 12) The industry shall constitute an Environmental cell with qualified staff/personnel/agency to see the day to day compliance of consent condition towards Environment Protection.
- 13) Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.
- 14) Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.

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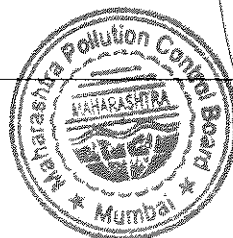
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- 15) The applicant shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
- 16) 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.
 - 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.
 - Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
 - 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
 - D.G. Set shall be operated only in case of power failure.
 - The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
 - The applicant shall comply with the notification of MoEF dated 17.05.2002 regarding noise limit for generator sets run with diesel
- 17) The industry should not cause any nuisance in surrounding area.
- 18) 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.
- 19) The applicant shall maintain good housekeeping.
- 20) The applicant shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a statement on available open plot area, number of trees surviving as on 31st March of the year and number of trees planted by September end, with the Environment Statement.
- 21) The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.
- 22) The applicant shall not change or alter the 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. The industry will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.
- 23) 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.
- 24) The industry shall submit official e-mail address and any change will be duly informed to the MPCB.
- 25) The industry shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification dt. 16.11.2009 as amended.
- 26) The industry shall comply with the notification issued by MoEF for utilization of fly ash from coal or lignite based thermal power plants dated 14th September, 1999 and as amended on 3rd November, 2009.

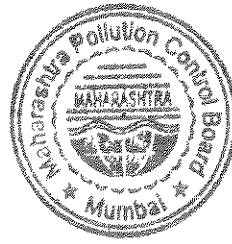
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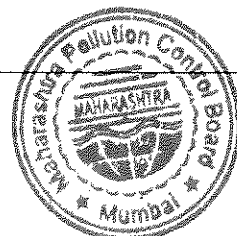


- 27) Industry shall provide dry fly ash handling & collection system and utilize the fly ash as per the fly ash notification of the Govt. of India
28) They shall promote adoption of clean coal and clean power generation technologies.

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