

# MAHARASHTRA POLLUTION CONTROL BOARD

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Consent order No: - BO/EIC No.KP-17164-15/CAC-CELL/CAC-14009  
Date- 03/10/2015

To,  
M/s. JSW Energy Ltd.,  
At:Nandiwade Post:Jaigad  
Tal:Ratnagiri Dist:Ratnagiri

Subject: Renewal of consent with increase in Capital Investment under RED category.

- Ref : 1. Earlier Consent granted vide no. BO/EIC No.KP-15687-14/CAC-CELL/CAC- 630 Date 19/01/2015 Valid upto 31/08/2015  
2. Minutes of CAC meeting held on 09.10.2015

Your application: CR1506000156

Dated: 14.06.2015

For: Renewal of consent with increase in Capital Investment 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 under Rule 5 of the Hazardous Wastes (M, H & T M) Rules 2008 is considered and the consent is hereby granted subject to the following terms and conditions and as detailed in the schedule I, II, III & IV annexed to this order:

- The consent is granted for a period from 01/09/2015 to 31/08/2016
- The actual capital investment of the industry is Rs. 5441.64/- Crs. (As per C. A. Certificate submitted by industry)
- The Consent is valid for the manufacture of -

Sr. No.	Product / By-Product Name	Maximum Quantity in MT/A
1	Electricity generation	1200 MW (4X300 MW)

4. Conditions 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	313381	As per Schedule -I	1381 CMD reused for cooling & remaining for CHP, dust supression, bed ash quenching, ash slurry water make up , silo dust conditioning, sprinkling on roads & gardening & remaining discharged as sea water low down
2.	Domestic effluent	47	As per Schedule -I	On land for plantation/gardening

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.	Boiler No 1 & 2	01	As per Schedule -II
2.	Boiler No 3 & 4	01	As per Schedule -II
3.	DG Set (4 X750 KVA)	04 no's	As per Schedule -II

6. Conditions about Non Hazardous Wastes:


Sr. no.	Type Of Waste	Quantity & UoM	Treatment	Disposal
1	Fly Ash/Bottom Ash	1400 T/D	-----	Cement Manufacturer, Ash Pond system/Back filing of mines/quarries, manufacturing building blocks, light weight aggregates, road sub-base etc.

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
1	Used Oil/Spent Oil	5.1	140	liters/day	---	To be disposed to authorized oil reproprocessors
2	Used Batteries	Sch - II Part B	100	Nos/A	---	To be disposed to authorized Battery recyclers

8. The Board reserves the right to review, amend, suspend, revoke etc. this consent and the same shall be binding on the industry.
9. Industry to provide STP of adequate capacity within 03 months i.e., on or before 31.01.2016
10. Industry to submit design details of APC within 1 month.
11. This consent should not be construed as exemption from obtaining necessary NOC/permission from any other Government authorities.

For and on behalf of the  
Maharashtra Pollution Control Board

  
(Dr. P. Anbalagan, IAS)  
Member Secretary

Received Consent fee of -

Sr. No.	Amount(Rs.)	DD. No.	Date	Drawn On
1	1,09,05,120	00112 to 00123	25.05.2015	Bank of India
2	27,260	691928	17.10.2015	ICICI Bank

Copy to:

1. Regional Officer – Kolhapur. He is directed to release BG of Rs. 4/- Lakhs & 4/- Lakhs obtained against conducting air modelling study & ground water profiling in the vicinity as SRO reported compliance of the same
2. Sub-Regional Officer- MPCB, Ratnagiri, They are directed to ensure the compliance of the consent conditions.
3. Chief Accounts Officer, MPCB, Mumbai.
4. CC/CAC desk- for record & website updation purposes.



Maharashtra Pollution Control Board

### Schedule-I

#### Terms & conditions for compliance of Water Pollution Control:

1) A] As per your application, you have provided the Effluent Treatment Plant (ETP) with the design capacity of 6000 CMD.

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.

Sr No.	Parameters	Standards prescribed by Board (If any)
		Limiting Concentration in mg/l, except for pH
<b>I</b>	<b>Condenser Cooling Water</b>	
01	pH	Between 6.5 to 8.5
02	Temperature	Not to exceed 5°C than that of intake water temp.
03	Free available Chlorine	Not to exceed 0.5 mg/l
<b>II</b>	<b>BOILER BLOW DOWN</b>	
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
<b>III</b>	<b>COOLING TOWER BLOW DOWN</b>	
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
<b>IV</b>	<b>DM PLANT EFFLUENT</b>	
1	pH	Between 5.5 to 9.0
2	BOD	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

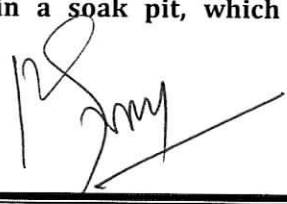
C] The treated effluent shall be utilized for CHP dust suppression, bed ash quenching, ash slurry water make up, silo dust conditioning, water sprinkling on roads, horticulture & green belt development.

2) A] As per your consent application, you have provided the septic tank followed by soak pit & reed bed system.

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] The treated sewage shall be soaked in a soak pit, which shall be got cleaned periodically.



- 3) 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.
- 4) 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.
- 5) 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.	Purpose for water consumed	Water consumption quantity (CMD)
1.	Industrial Cooling, spraying in mine pits or boiler feed	235320
2.	Domestic purpose	60
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	2640
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	----

- 6) 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/ Environmental Clearance / CREP guidelines.



**Schedule-II**

**Terms & conditions for compliance of Air Pollution Control:**

1. As per your application, you have provided the Air pollution control (APC) system and also 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 <sub>2</sub> Kg/Day
1	Boiler, 1 & 2	ESP & FGD	220	Coal	11500 MT/D	(90% efficiency FGD provided)	
2	Boiler, 3 & 4	ESP & FGD	220	FO	35 KL/D	4.5%	315 Kg/D
	D.G. Set	Acoustic enclosure	0.5 above the bldg. roof	HSD	180 Litr/hr	1%	0.08 MT/D

- D.G. Set installed for emergency power supply.

- 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)
- The industry shall provide & operate adequate APC's to coal handling plant.
- The industry shall provide concrete roads & mist type sprinklers/dust suppression system in raw material storage & handling area.
- The coal transfer points should be provided suction head & adequate APC system.
- 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 <sup>3</sup> .
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- 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).
- The applicant shall operate online continuous monitoring system for process stack emission analysis & same shall be directly connected to MPCB website <http://mpcb.gov.in> as well as submit the reports to the respective Sub Regional & Regional Office regularly.
- The applicant shall operate 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.
- The coal handling system shall be covered with the proper hooding and ventilation arrangement connected to dust suppress agent, so as not to allow any fugitive emissions.
- There shall not be any fugitive emissions.



13. The firm shall provide continuous flow meters for measurement of the flow of the Air.
14. The applicant shall close down or de-rate the plant if concentration of emissions is found to be exceeding the prescribed limit.
15. The industry should not cause any nuisance in surrounding area.
16. The industry shall submit the daily monitoring results of stack air & ambient air monitoring of first week of every month to the respective Su Regional & Regional Office with copy to Head Office.
17. All the time industry shall make use of Coal containing Ash percentage below 34%.
18. The industry shall dispose maximum quantity of Ash through the companies having contract with TPS.
19. The industry shall comply with Fly Ash Notification & shall achieve 100% utilization.
20. The industry shall operate the FGD minimum 90% efficiency and considering that the FGD in power plant is a new concept in Indian Scenario the minimum overall availability of FGD shall not be less than 85%. This relaxation is applicable only for mechanical or otherwise failure of FGD to operate and in no case construed as relaxation for not operating the FGD. During the time of FGD in not operation of industry shall carry out extensive ambient air monitoring to monitor the SO2 concentration in the surrounding. In case SO2 concentration are on found be exceeding the ambient air quality standards for sensitive area, the industry shall stop the production. The SO2 emission limits during the period of FGD not in operation shall be 50 tones/Day maximum. The industry shall inform the Sub Regional office and Regional office about any events of FGD not in operation and submit monthly statement of FGD operation data.



**Schedule-III  
Details of Bank Guarantees**

**BG History (Previously Forfeited)**

Sr. No.	Consent (C to E/O/R)	Amt of BG Imposed	Amt of BG to be forfeited from BG imposed	Purpose of BG Forfeiture
1.	C to R (Already forfeited)	Rs. 25/- Lakhs	Rs. 05/- Lakhs	As per non compliance report & exceeding stack monitoring reports submitted by SRO
2	C to R (already forfeited)	Rs. 02/- Lakhs	Rs. 02/- Lakhs	To conduct air modelling study
3	C to R (already forfeited)	Rs. 02/- Lakhs	Rs. 02/- Lakhs	To conduct ground water profiling in the vicinity

**Existing to be extended**

Sr. No.	Consent (C to R)	Amt of BG Imposed	Submission Period	Purpose of BG	Compliance Period	Validity Date
1	C to R	1 Lakh	15 days	Mitigation of seepages from wet fly ash conveying system	Continuous	31.12.2016
2	C to R	1 Lakh	15 days	Scientific operation of ash pond i.e uniform distribution of wet slurry in the pond so as to have minimum depth of water	Continuous	31.12.2016
3	C to R	1 Lakh	15 days	Providing arrangement for reuse of 100 % seepage water arising from ash pond for ash slurry	Continuous	31.12.2016
4	C to R	25 Lakhs	15 days	Towards operation & Maintenance of air pollution control devices to achieve emission standards.	Monthly	31.12.2016
5	C to R	5 Lakhs	15 days	Towards operation & Maintenance of the effluent treatment plant to achieve disposal standards	Monthly	31.12.2016
6	C to R	5 Lakhs	15 days	To switch over to 100% usable dry fly ash collection and storage	Monthly	31.12.2016
7	C to R	1 Lakh	15 days	Towards utilization of flyash as per flyash notification 1999.	Monthly	31.12.2016
	C to R	5 Lakhs	15 days	Towards Scientific closure of abandoned ash pond with soil cover and plantation over it	Monthly	31.12.2016
	C to R	5 Lakhs	15 days	To provide STP	3 months	31.12.2016



#### 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 recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the HW(MH&TM) Rules 2008, which can be recycled/processed/reused/recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/reprocessed etc should sent CHWT/SDF facility for disposal.
- 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 Hazardous Waste (M, H & TM) Rules, 2008 for the preceding year April to March in Form-IV by 30<sup>th</sup> 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 make an application for renewal of the consent at least 60 days before the date of the expiry of the consent.**
- 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](http://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.
- 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
  - a) Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
  - b) 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.
  - c) 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.
  - d) Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
  - e) 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
  - f) D.G. Set shall be operated only in case of power failure.
  - g) The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
  - h) 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 31<sup>st</sup> 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 quarterly statement in respect of industries' obligation towards consent and pollution control compliance's duly supported with documentary evidences (format can be downloaded from MPCB official site).
- 25) The industry shall submit official e-mail address and any change will be duly informed to the MPCB.
- 26) The industry shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification dt. 16.11.2009 as amended.
- 27) The applicant shall comply with the conditions stipulated in Environmental Clearance granted by MoEF/GoI vide No. J-13012/52/2006-IA.II (T) dtd.16/04/2010 and as amended/revised thereof.
- 28) The industry shall comply with the notification issued by MoEF for utilization of fly ash from coal or lignite based thermal power plants dated 14<sup>th</sup> September, 1999 and as amended on 3<sup>rd</sup> November, 2009.

- 29) 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
- 30) Transportation of coal & fly ash shall be by closed system, Conveyor system wherever possible. Fly ash shall be by transported through bunker having closed system, coal carrying, conveyor belt shall be covered from all sides with provision of water sprinkling/spraying system properly.
- 31) The use of beneficiated coal as per GOI Notification shall be implemented. Transportation of coal shall be carried out through Trucks by covering tarpaulin.
- 32) The applicant shall operate online continuous monitoring system for process stack emission analysis & same shall be directly connected to MPCB website <http://mpcb.gov.in> as well as submit the reports to the respective Sub Regional & Regional Office regularly.
- 33) The applicant shall install/operate their three continuous automatic ambient air and micrometeorological monitoring stations 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.
- 34) They should promote/adoption of clean coal clean power generation technology.

35) **General guidelines for handling, storage & safety of Chlorine cylinders & drums.**

- a) Chlorine gas units and cylinders shall be housed in separate rooms, easily accessible, close to the point of application and convenient for truck loading and safe container handling
- b) The floor shall be flat and at least 150 mm above the surrounding ground and drainage shall be adequate. The height of the container room should be at least 4.0 m. Under no circumstances such units shall be housed in basement or below ground level since the chlorine gas is heavy and settles into depressions.
- c) The floor shall be flat and at least 150 mm above the surrounding ground and drainage shall be adequate. The height of the container room should be at least 4.0 m. Under no circumstances such units shall be housed in basement or below ground level since the chlorine gas is heavy and settles into depressions.
- d) The temperature in the installation room shall be within the range of +4 to + 40°C. The chlorine gas containers and chlorine gas pipes shall not be exposed to direct heat radiations and shall be protected from sun rays.
- e) Electrical installations inside the chlorine gas rooms shall be limited to the absolute minimum required. While laying electrical wiring and fixtures adequate safety precautions shall be observed during their installation of ensuring safe use of electricity.
- f) Chlorine gas containers shall not be bumped, dropped or rolled on the ground and no object shall be allowed to strike them with force.
- g) Cylinders shall be stored vertically so that a leaking container, if found, can be removed with the least possible handling of others.
- h) No other objects except chlorine gas storing containers shall be kept in the room.
- i) All operating and storing rooms for chlorine gas appliances and containers shall be fire proof.
- j) First aid box and eye wash fountain shall be provided outside chlorinator room.
- k) Water shall never be applied to the chlorine leak to stop it, as it will only make it worse.
- l) When a chlorine leak occurs, the ventilation system should be operated immediately before any person enters the chlorination room.
- m) In case of fire, the cylinders and drums containing chlorine shall be protected by spraying with water since the containers can burst at temperatures of over 70°C. Source of pressurized water shall be provided adjacent to the chlorination room.
- n) No direct flame should be applied to the chlorine cylinder when heating becomes necessary.

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