


MAHARASHTRA POLLUTION CONTROL BOARD

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Red/L.S.I

Consent No. BO/JD(APC)/EIC No. KP-100001-12/R/CC/CAC-987 Date: 4/1/2012

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 & Transboundary Movement) Rules 2008

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

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CONSENT is hereby granted to

M/s. JSW Energy Ltd.
At-Nandivade, Po-Jaigad, Tal-Ratnagiri
Ratnagiri, Maharashtra
Ratanagri-415614
India

located in the area declared under the provisions of the Water Act, Air act and Authorization under the provisions of HW(M&H) Rules and amendments thereto 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: 30/06/2013.
2. The Consent is valid for the manufacture of -

Sr. No.	Product Name	Maximum Quantity	UOM
1	Electricity Generation	1200 (4x300)	MW

3. **CONDITIONS UNDER WATER ACT:**

- (i) The daily quantity of trade effluent from the factory shall not exceed as:-

Unit-I	78920 M ³
Unit-II	78920 M ³
Unit-III	78920 M ³
Unit-IV	78920 M ³

(ii) The daily quantity of sewage effluent from the factory shall not exceed **47.00M³**.

(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 treated so 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 ⁰ C higher than 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. Effluent

1	pH	Between	5.5 to 9.0
2	BOD 3 days 27° 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 used 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 27o C. | Not to exceed | 100 | mg/l. |

(vi) **Sewage Effluent Disposal:** The treated domestic effluent shall be soaked in a soak pit, which shall be got cleaned periodically. Overflow, if any, shall be used on land for gardening / plantation only.

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

Sr. No.	Type Of Waste	Quantit	UOM	Disposal
1	Coal Ash	3448.00 (862×4)	MT/Day	Shall Send to Cement Manufacturers and comply with notification SO 763(E) dated 14.9.1999 For Ash disposal.

(viii) **Other Conditions:**

- i) The industry should monitor effluent quality regularly.
- ii) Green Belt a forestation shall be done up to 33% on available open space land.
- iii) The factory authority shall install as separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants. The quarterly returns of the energy consumption shall be submitted to Board Office under intimation to respective Regional and Sub Regional Officer on each 10th of January, April, July & October.
- iv) The firm shall provide continuous flow meter for the measurement of the flow of the effluent.
- v) Industry shall adopt clean technology like ozonisation for cooling water treatment.
- vi) Transportation of coal & fly ash shall be by closed system, conveyor system wherever possible shall be used.
- vii) Shall comply with the with the provision of utilization of ash generated from their activity as stipulated in the Notification issued by Ministry Environment & Forest, Government of India Vide Notification No. So. 763 (E), dated 14-09-1999 and its timely amendments.

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 amendment Rules, 2003 there under

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

Sr. No	Water uses for	Unit-I	Unit-II	Unit-III	Unit-IV
1	Domestic	60 CMD	Nil	Nil	Nil
2	Industrial Process	895.25 CMD	895.25 CMD	895.25 CMD	895.25 CMD
3	Cooling	93600 CMD	93600 CMD	93600 CMD	93600 CMD
4	Boiler	780 CMD	780 CMD	780 CMD	780 CMD
5	Gardening /Plantation	260 CMD	Nil	Nil	Nil

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.

5. **CONDITIONS UNDER AIR ACT :**

- (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:

(ii) **Standards for Stack Emissions:**

- a) TPM Not to exceed 50 mg /Nm³
 b) SO₂ Not to exceed 115MT/day (28.75×4)
 c) NO_x Not to exceed 150 ppm

(v/v at 15% excess oxygen)

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

Sr. No.	Type Of Fuel	Quantity	UOM
1	Coal	11500.00	MT /day (2875×4)
2	Furnace Oil	35.00	MT/day (8.75×4)
3	HSD for DG set	180.00	Ltrs/Hr

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

Sr. No.	Chimney Attached To	Height in Mtrs.
1	Boiler 1 ,2,3,4	220.00(Bi flue stack)
2	D G Set (4×750 KVA)	5.5 above the roof top in which it is installed

(v) Control Equipment:

- a) Electrostatic Precipitators provided to Boilers to limit the particulate matter should be operated & maintained properly so as keep total particulate matter emission below the prescribed standards.
 - b) Dust collection system and automatic water sprinkler system provided to Coal Handling section should be operate and maintained properly.
 - c) Dust collector of sufficient capacity should be provided to coal crusher and any other sources of particulate emissions shall be operate and maintain properly.
 - d) There shall not be any fugitive emission from coal storage yard.
- (VI) 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.
- (VII) 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.

(VIII) 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. 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.
- d. 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.
- e. Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
- f. 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
- g. D.G. Set shall be operated only in case of power failure
- h. The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set

(ix) **Other Conditions:**

- 1) Industry shall operate online continuous monitoring system for stack emission analysis & same shall be directly connected to MPCB website <http://mpcb.gov.in>.
- 2) The applicant shall operate 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 to measure SO₂, NO_x and particular matter. These CAAQMS shall have also necessary provision of networking to Air Quality Monitoring network of MPCB.
- 3) 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.
- 4) A green belt with tree plantation shall be maintained upto a distance not less than 100 meters periphery of Thermal Power Station towards Dahanu and not less than 50 meters periphery on their three sides.
- 5) There shall not be any fugitive emissions.
- 6) The firm shall provide continuous flow meters for measurement of the flow of the Air.
- 7) The factory authority shall install a separate meter showing consumption of energy for operation of domestic and industrial effluent treatment plant.
- 8) The applicant shall close down or de-rate the plant if concentration of emission is found to be exceeding the prescribed limit.
- 9) The industry should not cause any nuisance in surrounding.
- 10) If due to any technological improvement 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.
- 11) Industry shall submit the daily monitoring results of stack air & ambient air monitoring in first week of every month to the respective Sub Regional & Regional office with copy to head office.
- 12) All the time industry shall make use of Coal containing Ash percentage below 34%.
- 13) Industry shall dispose maximum quantity of Ash through the companies having contract with TPS.
- 14) Industry shall comply with fly Ash notification & shall achieve 100% utilisation.

6. **CONDITIONS UNDER HAZARDOUS WASTE (MANAGEMENT, HANDLING & TRANSBOUNDRY MOVEMENT) RULES, 2008:**

(i) The Industry shall handle hazardous wastes as specified below.

Sr. No.	Type Of Waste	Quantity	UOM	Disposal
1	5.1 Used /spent oil	140	Kgs/Day	Sale to Authorized processor
2	Used Batteries	100	Nos./annum	Sale to Authorized processor

(ii) Treatment: - NIL

1. The authorization is hereby granted to operate a facility for collection, storage, transport & disposal of hazardous waste.
2. The industry should comply with the Hazardous Waste (M&H) Rules, 2003.

- a. The unit has to display and maintain the data online outside the factory main gate in Marathi & English both on a 6'x4' display board in the manner and the report of the compliance along with photograph shall be submitted to this office & concerned Regional Office/ Sub Regional Office.
- b. It shall be ensured that the Hazardous waste is handled, managed & disposed of strictly in accordance with the Hazardous Waste (Management & Handling) Rules, 1989 as amended on 2003 and shown & submitted to the Board as & when asked for.

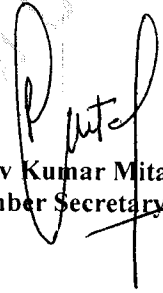
7. **Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate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

8. **Industry shall comply with following additional conditions:**

- i. The applicant shall maintain good housekeeping and take adequate measures for control of pollution from all sources so as not to cause nuisance to surrounding area / inhabitants.
- ii. The applicant shall bring minimum 33% of the available open land under green coverage/ tree plantation.
- iii. Solid waste – 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 to dumping ground.
- iv. The applicant shall provide for an alternate electric power source sufficient to operate all pollution control facilities installed by he applicant 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 & conditions of this consent regarding pollution levels.
- v. 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.
 - 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.
 - vii. The applicant shall make an application for renewal of the consent at least 60 days before the date of the expiry of the consent.
 - viii. 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.
 - ix. An inspection book shall be opened and made available to the Board's officers during their visit to the applicant.
 - x. The applicant shall install a separate electric 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.
 - xi. 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.
 - xii. Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.
9. Industry shall ensure to implement mitigation measures mentioned in Environment Management Plan.
 10. This Board reserves the right to amend, revoke or add any conditions in this consent and same shall be binding on the applicant.
 11. Industry shall comply with all the conditions stipulated in the Environmental Clearance granted by MoEF GoI vide letter no. J-13012/52/2006-IA_II (T) dated 16.04.2010.

12. Industry shall comply with the conditions mentioned in the letter for installation of FGD issued by MoEF GoI vide no. J-13011/52/2006-IA-II(T) dated 28.06.2010 and revised letter vide no. J-13011/52/2006-IA-II(T) dated 09/07/2012. (The FGD units 1, 2, 3 and 4 shall be installed by December 2012, November 2012, January 2013 and February 2013 respectively).
13. Industry shall submit the monthly progress report of installation of FGD to Respective Sub Regional & Regional Office with copy to Head Office before 5th of every month.
14. The Bank Guarantee of Rs. 52.7 crores shall continue to be in force as directed by MoEF vide letter no. J-13011/52/2006-IA-II(T) dated 09/07/2012.
15. This is issued pursuant to the decision of Consent Appraisal Committee meeting of the Board held on 26/11/2012.
15. The Capital investment of the industry is **Rs. 4698.0** crores.


 (Rajeev Kumar Mital, IAS)
 Member Secretary

To,
M/s. JSW Energy Ltd.,
At-Nandivade, Po-Jaigad, Tal-Ratnagiri,
Ratnagiri, Maharashtra,
Ratanagiri -415614,
India.
Copy to: RO- MPCB Kolhapur /SRO- Ratnagiri.

They are directed to ensure the compliance of consent conditions & the specific conditions for installation of FGD and submit the compliance report of the same on regular basis.
 CAO/Cess Branch/Master File

Received Consent fee of -

Sr. No.	Amount(Rs.)	DD. No.	Date	Drawn On
1	8414000/-	609940 to 609948	16/04/2012	Bank of India