

MAHARASHTRA POLLUTION CONTROL BOARD

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Red L.S.I

Consent No. *BO/JD(APC)/EIC No. TN-3446--12/R/CAC-643* Date: *10/10/2012*

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 & Transboundry 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. Reliance Infrastructure
Dahanu Thermal Power Station
Village- Agwan & Asangaon, Tal. Dahanu,
Dist-Thane**

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: 31/03/2015.**
2. **The Consent is valid for the manufacture of -**

Sr. No.	Product Name	Maximum Quantity
1	Electricity	500 MW (2 units of 250 MW each)
2	Grinded Fine Ash	240 T/Day

3. CONDITIONS UNDER WATER ACT:

(i) The daily quantity of trade effluent from the Power Plant shall not exceed i) **81,800 m³ /hr. from condenser cooling.** (ii) **100 m³ /day from D.M.Plant** (iii) **Ash Slurry 1200 m³ /hr.**

(ii) The daily quantity of sewage effluent from the Power Plant shall not exceed **800.0 m³ (Colony STP - 500 m³ & Plant STP - 300 m³)**

(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 effluent 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:

- | | |
|-------------------------------|---|
| (i) pH | Between 6.5 to 8.5 |
| (ii) Temperature | Not to exceed 5 ^o C (higher than the intake water temperature) |
| (iii) Free available chlorine | Not to exceed 0.5 mg/l. |

(b) Ash Pond Effluent:

(i) pH	Between 6.5 to 9.0
(ii) Suspended Solids	Not to exceed 100 mg/l
(iii) Oil & Grease	Not to exceed 20 mg/l

(c) D.M. Plant Effluent :

(i) pH	Between	5.5 to 9
(ii) BOD 3 days 27 Deg. C	Not to exceed	30 mg/l
(iii) COD	Not to exceed	250 mg/l
(iv) Suspended Solids	Not to exceed	100 mg/l
(v) Oil & Grease	Not to exceed	10 mg/l
(vi) TDS	Not to exceed	2100 mg/l

(iv) Trade Effluent Disposal: The treated effluent from D.M. Plant shall be used on land for gardening/immigration plantation to extend possible. The excess along with effluent from cooling system as well ash pond shall be discharged into nearby creek /sea at the point fixed in consultation with Central Water & Power Research Station, Kadakwasla, Pune. The discharge from FGD System should be routed through this channel.

(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 Deg.C	Not to exceed	100	mg/l

(vi) Sewage Effluent Disposal: The treated domestic effluent shall be connected to the sewerage system provided by local body, until such facilities are provided: it may be discharged on land for gardening irrigation purpose to maximum extent. The excess may be discharged into sea creek.

(vi) Non-Hazardous Solid Wastes:

Sr. No.	Type Of Waste	Quantity	UOM	Treatment	Disposal
1	Fly Ash	3000	MT/D	--	Sale to Cement & Brick manufacturer

The factory Authority shall comply 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 amendment.

(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.

4. The applicant shall comply with the provisions of 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	---	1000 CMD
II. Industrial boiler make up & service water	---	1980 CMD
III. Agriculture Gardening	---	1500 CMD
IV. D.M. Plant Softening Plant Washing	---	1000 CMD

Sea Water

I. Cooling water	---	81800 m ³ /hr
II. Ash Slurry	---	1200 m ³ /hr

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:

A) Control Equipment:

- i) Electrostatic Precipitators to Boilers to limit the particulate matter should be operated & maintained properly. So as keep total particulate matter emission below the prescribed standards.
- ii) Dust collection system and automatic water sprinkler system provided to Coal Handling section should be operate and maintain properly.
- iii) Dust collector of sufficient capacity should be provided to coal crusher and any other sources of particulate emissions shall be operate and maintain properly.
- iv) The industry shall operate FGD with 90% efficiency on continuous basis. Refer General condition no. 9 in detail.
- v) There shall not be any fugitive emission from coal storage yard.
- vi) Dust collector of sufficient capacity shall be provided to all the sources of particulate matter emissions arising from the Ash grinding unit and which shall be operated & maintained properly.

B) Standards for Stack Emissions of Air Pollutants:

I - TPM	Not to exceed	150 mg /Nm ³
II - SO ₂	Not to exceed	8.04 T/day
III - NO _x	Not to exceed	150 ppm
(v/v at 15% excess oxygen)		

C) Condition for D.G. Set:-

- 1) Noise from the D.G Set shall be controlled by providing an acoustic enclosure or by treating the room acoustically
- 2) Industry should provide an acoustic enclosure for control of Noise. The acoustic enclosure acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss 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 meter from acoustic enclosure-room and than average

3) Industry should make efforts to bring down noise level due to D.G Set outside industrial premises within ambient noise requirement by proper setting and control measures

4) Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.

5) A proper routine and preventive maintenance procedure for D.G 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 us.

6) D.G Set shall be operated only in case of power failure. The applicant shall make arrangement for regular electrical power

7) The applicant shall not cause any nuisance in the surrounding area due to operation of D.G Set.

8) In case of problems, the D.G Set shall not be operated until it is set back to satisfactory position.

D) Standards for ambient air Inside DTPS premises excluding the plant operational area as defined in factories act

Parameters		Annual Average	24 Hours
(i) SO ₂	Not to exceed	20 µg/m ³	80 µg/m ³
(ii) NO _x	Not to exceed	30 µg/m ³	80 µg/m ³
(iii) PM ₁₀	Not to exceed	60 µg/m ³	100 µg/m ³
(iv) PM-2.5	Not to exceed	40 µg/m ³	60 µg/m ³

ii) The applicant shall observe the following fuel pattern

Sr.No.	Type of Fuel	Quantity
1	Coal	8.040 MT/day
2	Oil	10 MT/day

(iii) The applicant shall erect the chimney(s) of the following specifications

Sr.No.	Chimney attached to	Height in Mtrs
1	Boiler (2 nos.)	275

(iv) 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.

(v) 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.

(vi) Other Condition

1) Continuous on line monitoring system shall be installed for monitoring Sulphur Dioxide, Oxides of Nitrogen, PM 10 and PM 2.5 and results submitted to the Board every fortnight. The results for continuous monitoring done on daily basis shall be submitted after every month to the Regional Officer-Thane with a copy to Member Secretary, Mumbai. In the event

of difficulty in providing the continuous monitoring system monitoring shall be done daily and result be communicated as stated above.

2) The applicant shall install and 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 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 verification arrangements 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 effluent.

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 closed down or de-rate the plant if concentration of emissions is found to be exceeding the prescribed limit.

9) A multi fuel boiler should be installed in which coal or gas may be use in any proportion.

10) The industry should not cause any nuisance in surrounding.

11) 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.

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

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

Sr. No.	Item No. of process generating HW as per Schedule-I	Type of wastes	Quantity	Disposal
1	5.1	Other spent lubricants	240 barrels A	CPCB SPCB authorized preprocessor
2	5.2	Spent Grease	24 barrels A	
3	--	Used batteries	168 nos A	
4	15.1	Asbestos-Containing residues	840 Kg A	CHWTSDF

(ii) Treatment: - NA

(iii) 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. Industry shall comply with following additional 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 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.

(iv) The firm shall submit MPCB the Environment 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 before 30th September every year.

(v) 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 consumption Vis -a Vis actual power and chemical consumption along with Environment statement.

(vi) 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.

(vii) The applicant shall provide facility for collection of Environmental samples of trade and sewage effluent, air emissions and hazardous wastes to the Board staff at the terminal and discharge 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 Boards officers during their visit to the applicant.

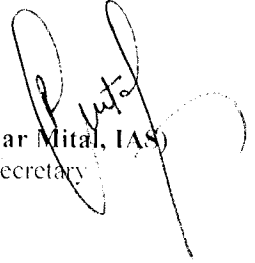
(viii) The industry shall ensure that fugitive emission from the activity are controlled so as to maintain clean and safe environment in and around the factory premises.

(ix) The applicant shall maintain good house keeping and take adequate measures for control of pollution from all sources so as not to cause nuisance to surrounding area / inhabitants.

9. 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.

10. Industry shall comply all the time with condition of 90% efficiency of FGD operation for which industry have submitted the Bank Guarantee of Rs. 5.0 /- laacs.
11. This is issued with approval of **Consent Appraisal Committee** meeting of the Board held on dtd. **26/09/2012**.
12. Capital investment is **Rs. 1853.42 Crores.** (Rs. 1803.42 crore existing and Rs. 50.0 crores Ash grinding unit.)
13. This consent supersedes the earlier consent granted by Board vide no. BO/JD(APC)/EIC No. TH-3446-12/R/CC-CAC-357 dated 27/03/2012.


(Rajeev Kumar Mital, IAS)
Member Secretary

To,

M/s. Reliance Infrastructure
Dahanu Thermal Power Station
Village- Agwan & Asangaon, Tal. Dahanu,
Dist-Thane

Copy to:

1) RO- MPCB Thane -SRO Tarapur-II:- They are directed to conduct regular monitoring at this unit to ensure compliance of consent conditions.

2) CAO/Cess Branch/Master File

Received Consent fee of -

Sr. No.	Amount(Rs.)	DD. No.	Date	Drawn On
1	75000/-	149296	3/8/2012s	ICICI Bank