

JPVL/ES/2016-17
September 05th, 2016

The Member Secretary
M.P. Pollution Control Board,
Paryavaran Parisar,
E-5, Arera Colony
BHOPAL (M.P.) - 462 016.

Sub: Environment Statement under the Environment (Protection) Act, 1986 for Jaypee Nigrie Super Thermal Power Project (A Division of Jaiprakash Power Ventures Limited) at village Nigrie, Dist. Singrauli.

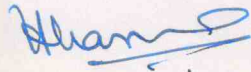
Dear Sir

Please find enclosed herewith Environment Statement for the year 2015 - 2016 of our following Plants.

- Jaypee Nigrie Super Thermal Power Project, EC reference no. J-13012/223/2007-IA-II(T) dated 25.02.2010 and its amendment dated 13.07.2012 for the Jaypee Nigrie Super Thermal Power Plant (2x660 MW) & Jaypee Nigrie Cement Grinding Unit (2.0 MTPA)

Thanking you.

Yours Faithfully
For (Jaypee Nigrie Super Thermal Power Project)
(Division of Jaiprakash Power Ventures Ltd.)



(Vinod Sharma)
President (O & M)

Encl: As Above.

C.C.:

1) The Director
Ministry of Environment, Forest & CC
Govt. of India
Regional Office, Western Region
Bhopal - 462016 (M.P.)

- For information please.

2) Regional Officer
D-3 Russian complex, Vindhya Nagar
NTPC, Vindhyanagar
Madhya Pradesh Pollution Control Board, Singrauli

- For information please.



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Ph. : +91 (120) 4609000, 2470800 Fax : +91 (120) 4609464, 4609496
Head Office : 'JA House', 63, Basant Lok, Vasant Vihar, New Delhi - 110 057 (India)
Ph. : +91 (11) 26141540, 26147411 Fax : +91 (11) 26145389, 26143591
Regd. Office : JET Complex, Wazirpur P.O. Durgam Chauri, Khandaghat-732215, Distt. Solan (H.P.)
Ph. : +91 (1792) 257999, 245367 Fax : +91 (1792) 245362
Website : www.jalindia.co.in CIN : L40101HP1994PLC015483
regd Office : Complex of Jaypee Nigrie Super Thermal Power Project,
Tehsil Sarai District Singrauli 486669 (Madhya Pradesh)

ENVIRONMENTAL STATEMENT REPORT

JAYPEE NIGRIE SUPER THERMAL POWER PLANT

(A Division of M/s Jaiprakash Power Ventures Limited)

Village: Nigrie, Tehsil: Sarai
District: Singrauli

2015 – 2016

**SUBMITTED
M.P. POLLUTION CONTROL BOARD
BHOPAL (M.P.)**

05th September 2016

Jaypee Nigrie Super Thermal Power Plant
(A Division of Jaiprakash Power Ventures Limited)

Introduction:

Jaypee group is the great contributor in Power generation of the country through hydro based & Thermal Power plants, Initially started from the Hydropower sector the Group has initiated its entry into Thermal Power Generation, Power Transmission implementing the power plants at Bina , Nigrie & Bara. The Group is committed towards the safety and health of employees and the public. The motto of the Group is '**Work for Safe, Healthy, Clean & Green Environment**'.

Jaypee Nigrie Super Thermal Power Plant (JNSTPP) is a division of **Jaiprakash Power Ventures Limited** (JPVL) with Head Office and Registered Office both at Noida (U.P.), a leading Business House with its presence in Core Industries like Cement industry, Construction division, Hydropower & Thermal Power, Education, I.T. & a chain of five star hotels in major cities of India, which has been at the vanguard in generating wealth for the Nation.

Jaypee Nigrie Super Thermal Power Plant is a coal based super critical thermal power plant of (660 x 2) 1320 MW at Nigrie Village, Sarai Tehsil in Singrauli district of Madhya Pradesh state having adjacent Cement Grinding Unit of 4.0 MTPA. Geographically, it is located at Latitude 24° 09' 00.0" North and Longitude 81° 54' 23.0" East.

Unit-I of Jaypee Nigrie Super Thermal Power Plant Commissioned in September 2014 and Unit-II got commissioned in March 2015. Two nos. of Boilers based on super critical technologies are installed. The Control & Instrumentation system supports complete remote operation of the plant from the CCR with high degree of automation and providing monitoring feature of all major systems, equipment and related subsystems so that all salient parameters of the plant are made available to the operator at the Central Control Room. C & I system is based on the state of the art smart instrumentation and Distributed Control System (DCS) with functional and part geographical distribution of Inputs and Outputs at different locations of the plant to optimize the use of direct cabling from sensors.

"FORM – V"

(See rule 14)

ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR ENDING THE
31st MARCH 2016

PART – A

(I)	Name & Address of the Owner / Occupier of the Industry Operation or Process	Jaypee Nigrie Super Thermal Power Plant (JNSTPP) (Division of Jaiprakash Power Ventures Limited) PO- Nigrie, Distt. Singrauli-486669 Madhya Pradesh
(II)	Industry Category Primary (STC CODE) Secondary (SIC CODE)	Red Category and Large industry (Primary STC Category)
(III)	Production Capacity Unit-I Unit-II	2 x 660 MW Electricity Generation 660 MW 660 MW
(IV)	Year of Establishment Unit-I Unit-II	Year 2014 Year 2015
(V)	Date of last Environmental Statement Submitted	September, 2015.

PART – B

Water & Raw Material Consumption

A. Water Consumption - m³ / d

(I)	Process	-	918.49
	Cooling	-	28252.00
	Domestic	-	380.00

Name of the Product	Process Water Consumption per unit of Product Output (m ³ /MU) (1 MU=1000000 Kwh)	
	During the Previous Financial Year (2014-15)	During the Current Financial Year (2015-2016)
Electricity	264.38	84.80

Note : In the financial year 2014 -15 plant was under commissioning.

(ii). Raw Material Consumption

Name of the Raw Material	Name of Product	Consumption of Raw Material per Unit Product Output (MT/MU of Electricity) (1 MU=1000000 Kwh)	
		During the Previous Financial Year (2014-15)	During the Current Financial Year (2015-2016)
Coal	Electricity	• 627.26	• 595.00
Fuel Oil (HFO & LDO)		• 5.17	• 1.2686
Chemicals-			
• Hydrochloric acid (HCL)		• 0.395	• 0.3142
• H ₂ SO ₄		• 0.07282	• 0.0535
• NaOH		• 0.196	• 0.0349
• Ammonia		• 0.031	• 0.0085
• Hydrazine		• 0.005	• 0.0025

<ul style="list-style-type: none"> • Alum • NaOCl • Hydrogen Gas • CO₂ Gas 		<ul style="list-style-type: none"> • 0.015 • 0.015 • 1.89 • 0.24 	<ul style="list-style-type: none"> • 0.0047 • 0.0067 • 0.0001 • 0.0002
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Note : Chemical consumption is optimised as per input water quality & system requirement.

Total Electricity Generation Mu (1 MU=1000000 Kwh)

Name of Product	During Previous Financial Year (14-15) MU	During Current Financial Year (15-16) MU
Electricity	1895.04	5343.18

PART - C

Pollutant Discharged To Environment / Unit of Output

(Parameters as specified in the consent issued)

S. No.	Pollutants	Quantity of Pollutants Discharged (Mass / day) (tonne/day)	Concentrations of Pollutants in discharged (Mass / Volume) (mg/Nm3)	Percentage of variation from prescribed standard with reasons
(a)	Water			
(i)	Domestic	Zero discharge is maintained and treated domestic waste water is being used in Horticulture.		
(ii)	Industrial	Zero discharge is maintained. Treated waste water is reused in CHP sprinkling, Ash disposal & in forebay.		
(b)	Air			
	Monitoring of Ambient Air Quality parameter within limit and report attached as Annexure- I			
	Stack emission			
	(a) ESPs			
	Stack-I (Unit-I)	1.973	33.88	Within permissible limit
	Stack-II(Unit-II)	2.212	37.97	

PART – D
Hazardous Wastes

(As specified under [Hazardous Waste (Management, Handling & Transboundary Movement) Rules 2008])

Hazardous Waste		Total Quantity (Kg)					
		During the Previous Financial Year (2014-2015)			During the Current Financial Year (2015-2016)		
(a)	From Process	Used oil	Waste oil	Resins	Used oil	Waste oil	Resins
		Nil	Nil	Nil	Nil	17450 Kg	Nil
(b)	From Pollution Control Facilities.	NA			NA		

PART – E

Solid Wastes

Solid Waste		Total Quantity	
		During the Previous Financial Year (2014-2015)	During the Current Financial Year (2015-2016)
(a)	From Process	Fly Ash (3,60,063 MT) Bottom Ash (90,016 MT)	Fly Ash (8,29,118.55 MT) Bottom Ash (2,11,436.00 MT)
(b)	From Pollution Control facilities	All the collected material is recycled in the process.	All the collected material is recycled in the process.
(c)	(i) Qty. recycled or reutilised within the unit. (ii) Sold (iii) Disposed	Fly Ash (360063 MT) Nil Bottom Ash (90,016 MT) is disposed in Ash Pond	Fly Ash (94,021.00 MT) 6,73,967.91 MT Bottom Ash (2,11,436.00 MT) is disposed in Ash Pond

PART – F

PLEASE SPECIFY THE CHARACTERISATIONS (IN TERMS OF COMPOSITION AND QUANTUM) OF HAZARDOUS AS WELL AS SOLID WASTES AND INDICATE DISPOSAL PRACTICE ADOPTED FOR BOTH THESE CATEGORIES OF WASTES.

Hazardous waste: Waste oil & Used oil are the only Hazardous Waste, which is being collected in empty drums, barrels & stored under covered shed in isolated fenced place as per Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2008 from where the stored hazardous waste will be sold out to authorized recyclers.

Solid waste: Fly Ash & Bottom Ash are two solid wastes being generated from Jaypee Nigrie Super Thermal Power Plant for which suitable provisions are made for its use-

- Fly Ash is being consumed by its adjacent Jaypee Nigrie Cement Grinding Unit & rest is being transported to nearby Cement Plants (Jaypee Rewa, Bela & Sidhi).
- Bottom ash is carried in slurry form to Ash Pond situated inside the plant premises. Ash Pond is lined with fine sand then HDPE (1 mm thickness) lining and over that PCC. Bottom Ash will also be suitably utilized after drying to meet the stipulation of Fly ash Notification.



Ash Dyke Pond

PART – G

IMPACT OF THE POLLUTION ABATEMENT MEASURES TAKEN ON CONSERVATION OF NATURAL RESOURCES AND ON THE COST OF PRODUCTION.

Following measures have been adopted for abatement of pollution, conservation of natural resources:-

a) Utilization of Fly Ash for the manufacturing of cement

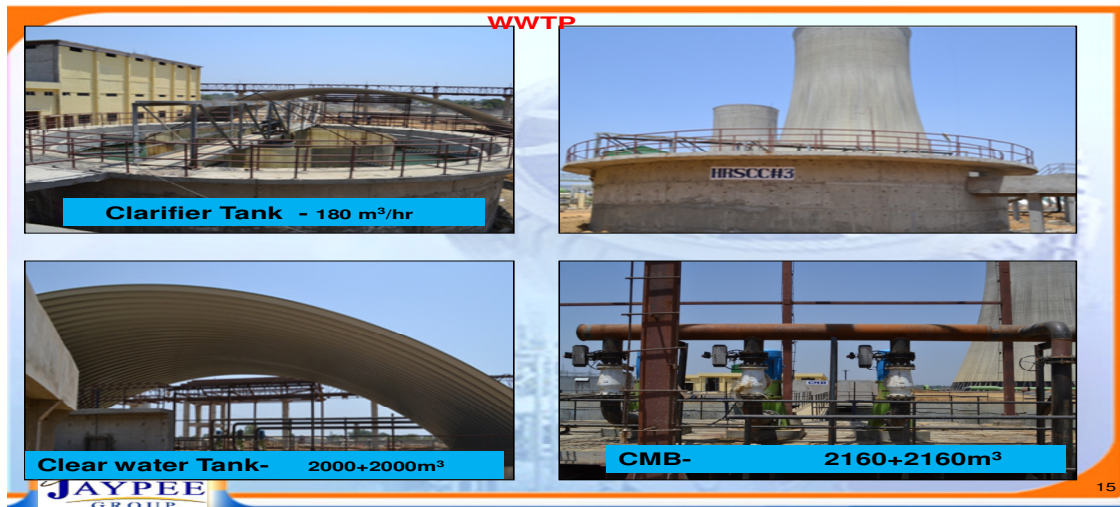
- JNSTPP having capacity of 660 x2 MW has the potential to generate total Ash 1.477 MTPA (Fly ash = 1.177 MTPA & Bottom Ash 0.30 MTPA). Generated Fly ash is consumed in adjacent Jaypee Nigrie Cement Grinding Unit of 2 MTPA capacity and rest will be transported to nearby Cement Plants (Jaypee Rewa, Bela & Sidhi) for manufacturing PPC, thereby conserving non-renewable, naturally occurring minerals limestone and coal.

b) Installation of Sewage Treatment Plant & Effluent Treatment Plant-

Adequate facilities for treatment of industrial waste water including blow down from Cooling Towers. The waste water is treated in the ETP (WWTP) and the quality of treated water confirms to MPPCB standards as notified in Gazette dated 25/03/88. Sewage Treatment Plant of 1000 KLD has been installed for treatment of domestic waste water, the treated water is used for horticulture. There is no discharge of water from the premises to any surface drain. The plant is operating on zero-discharge philosophy.



Waste water Treatment Plant (ETP)



Photograph of WWTP

c). Installation of Air Pollution Control Devices at various sources-

High Efficiency ESPs (2Nos.) are attached to Boiler Stacks. The ESP Engineering, supply and erection work is done by M/s. BHEL (A Govt. of India Undertaking), with guaranteed emission level of 50 mg/Nm³ with one field out of service at full load with worst coal. Each ESP has six passes and each pass is having 16 fields (i.e. total 96 fields). The ESP has the efficiency of about 99.9%. Further we have installed bag filters at Fly ash Handling Plant (ie at Intermediate Silo- 02 No & Coarse Surge Hopper - 02 No) & Coal Handling Plant (ie at Coal Bunker - 02 No & Crusher House- 01 No) to control the fugitive emission.



Photograph of ESP

d) **Online Monitoring system:** Online Continuous ambient air quality monitoring instruments are installed and commissioned for monitoring of PM, SO₂, NO_x & CO in the ambient air. The four locations have been approved for CAAQM stations. The Opacity meters have been installed & Commissioned at stack for monitoring of PM, SO₂ & NO_x & Hg.



Photo of CAAQMs & CEMS

e). Installation of Water Sprinkling Systems- Water spraying arrangements are made for control of fugitive emission from Coal handling plant and other areas by installation of Water Sprinklers.



Photograph of sprinkler at coal stacker

f).Noise Pollution Abatement Measures – Provision of Acoustic Enclosures at Turbines & other Machineries to attenuate Noise Levels. Acoustic Enclosures of Machines to control Noise Levels.

g). Good housekeeping practice adopted

Following measures have been taken for good house keeping

- a. The conveyor belts are fully covered.
- b. Coal Wagon bottom unloading System
- c. Schedule maintenance of Pollution control devices.



CHP and covered conveyer belts



Coal wagon unloading system

PART – H

ADDITIONAL MEASURES / INVESTMENT PROPOSALS FOR ENVIRONMENTAL PROTECTION INCLUDING ABATEMENT POLLUTION, PREVENTION OF POLLUTION.

Additional measures taken for Environmental Protection are as under

Extensive plantation in and around the Plant.

We have a dedicated team of skilled horticulturists for the afforestation and greenery development program at our plant under the supervision of senior experienced person. Till date we have planted around 57000 plants.

Steps taken to protect plantation:

1. Barricading provided for protection of plants.
2. Two numbers of dedicated water tankers are provided for regular watering of plant.
3. Dedicated manpower is provided for regular watering of plants.
4. Tree Guards are provided for protection of the plants.



PART – I

ANY OTHER PARTICULARS FOR IMPROVING THE QUALITY OF ENVIRONMENT.

- Water Harvesting Measures- A surface water body is designed in the township area for rain water harvesting.



- Establishment of Environment Laboratory-

Environment Laboratory has been set up with well equipped facilities such as water & waste water testing instruments as well Air Quality Monitoring machines.



- **Concreting of Roads-** All internal roads are made Pucca.



- **CSR works –**

Adoption of village: Surrounding four villages i.e. (i) NIGRIE (ii) KATAI (iii) NIWAS and (iv) HARDI have been identified for development through COMPREHENSIVE RURAL DEVELOPMENT PROGRAM (CRDP): This Program will comprise of Health care, Education, Vocational Training, provision of drinking water, Sanitation and employment generation particularly in the area of Animal Husbandry

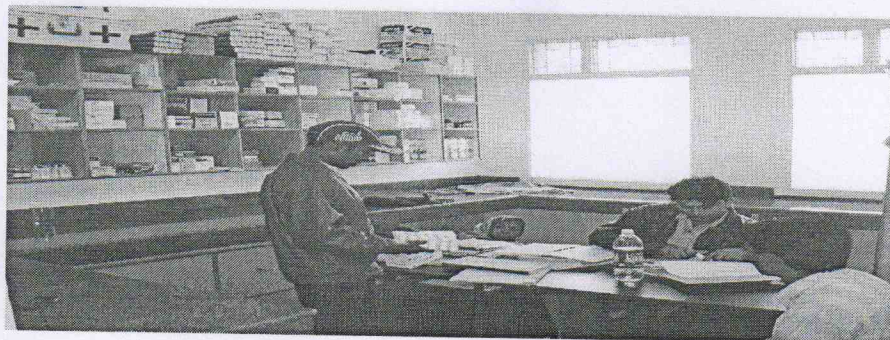
- **Hindi Medium School- Free Education for nearby villagers-**



- **Free Medical Camps –**



- **Free Medicines to all nearby Villagers** - A 12 bed hospital is functional for medical check-up and treatment to the local habitats for the surrounding 10 villages. Almost 250 to 300 people avail the Medical facilities daily



Further as a need based assessment of nearby village District Administration has taken initiative to give training through skill development programme at ITI Waidhan, the company has contributed Rs. 12,000,00 against this programme and 100 people nearby villages has been identified and sent for this training.

**For Jaypee Nigrie Super Thermal Power Plant,
(A Division of Jaiprakash Power Ventures Ltd)**

(Vinod Sharma)

President (O & M)