

ENVIRONMENTAL STATEMENT REPORT

CEMENT GRINDING UNIT (2.0 MTPA)

Jaypee Nigrie Cement Grinding Unit

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

Village: Nigrie, Tehsil :Sarai

District: Singrauli

2020 - 2021

SUBMITTED

to

M.P. POLLUTION CONTROL BOARD

BHOPAL (M.P.)

Factory/Plant in Operation: Jaypee Nigrie Cement Grinding Unit at Nigrie.

Introduction:

Jaiprakash Associates Ltd. (JAL), the flagship company of the Jaypee Group. JAL was formed due to merger of Jaiprakash Industries (JIL) and Jaiprakash Cement (JCL). JAL is the Engineering and Construction arm of the Jaypee group focused on development of River Valley and Hydro Electric Projects and a leader in Construction of River Valley and Hydropower Projects on turnkey basis for more than four decades. The company is currently executing various projects in Hydropower / Irrigation / other Infrastructure fields.

Jaiprakash Power Ventures Limited (JPVL) earlier known as Jaiprakash Hydro Power (JHPL) is a part of the Jaypee Group. The Company is engaged in the business of Generation of Power (Hydro & Thermal), Cement Grinding and Captive Coal Mining and Transmission of Power. Besides the 400MW Jaypee Vishnuprayag Hydro Power Plant in Uttarakhand; 500MW Phase I (of 1200 MW) Jaypee Bina Thermal Power Plant in Madhya Pradesh & (2X660 MW) 1320MW Jaypee Nigrie Supercritical Thermal Power Plant in Madhya Pradesh and Amelia (North) Coal Mine in Madhya Pradesh is Dedicated Coal Mine to Jaypee Nigrie Super Thermal Power plant. The Company has a Captive Cement Grinding Unit named 'Jaypee Nigrie Cement Grinding Unit' at Nigrie (M.P.) with a capacity of 2 MTPA, which commenced its operations w.e.f. 9th October, 2014 and utilizing generated Fly Ash from Jaypee Nigrie Super Thermal Power Plant.

Jaypee Nigrie Super Thermal Power Project is a Coal Based Super Critical Thermal Power Plant of 1320 MW (660 x 2) at Nigrie Village, Sarai Tehsil in Singrauli district of Madhya Pradesh State. In order to Utilize the Fly Ash produced by Thermal Power Plant, a Cement Grinding Unit has also been set up adjacent to Power Plant. The Cement Grinding Unit consists of the Roller Press and Ball Mill Combo mode with High Efficiency Separators which are supplied by KHD Humboldt Wedag. Cement is produced by Grinding Clinker and Fly Ash with small quantity of Gypsum to regulate the setting time.

Our Cement Division currently Operates Modern, Computerized Process Control Cement Plants. Jaypee Nigrie Cement Grinding Unit produces Special Blend of Portland Pozzolana Cement under the Brand Name 'Jaypee Cement' (PPC).

Clinker from nearby cement plants is transported by trucks and carried to the clinker storage silo. The clinker is then conveyed to mill hopper by belt conveyors. Fly ash from our adjacent Jaypee Nigrie Super Thermal Power Plant is transported to the fly ash silo by pneumatic conveying system and taken to 400 MT fly ash bin in mill building as per requirement, and to be fed to mill in controlled manner through solid flow meter. Gypsum procured from the various suppliers/ JAL cement units is transported to the gypsum yard is fed to mill gypsum hopper with the help of grab crane through crusher.

Controlled and weighed quantity of raw materials (clinker, fly ash and gypsum) through electronic weigh feeder is fed to roller press through feed belts and is ground to the desired fineness, regulated by separator RPM. After grinding, the cement is conveyed to separator for separating fines and coarse material. Coarse material is sent back to ball mill for regrinding and fine material collected in bag house, sent to silo by air slides and belt bucket elevator. From the cement silos, the cement is extracted via air slide to control bin and packed in 50 kg bags by electronic rotary packers. The packed bags are loaded in trucks by truck loading machines and in wagons by wagon loading machine and dispatched to the destinations. The plant is fully computerized and operated through Centralized Control Room (CCR), equipped with latest and most modern pollution control and monitoring devices to maintain emission levels within the prescribed limits.

Environment

Efforts are made to Conserve Ecological Balance without any harm done to the local flora & Fauna. JPVL has also taken Green Initiatives, afforestation, Resources Conservation, Water Conservation, and Air Quality Control & Noise Pollution Control.

“FORM - V”

(See rule 14)

ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR ENDING THE

31st MARCH 2021

PART - A

(I)	Name & Address of the Owner / Occupier of the Industry Operation or Process	Jaypee Nigrie Cement Grinding Unit, (A 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 Scale (Namely Cement Manufacturing), Major
(III)	Production Capacity	Total Capacity is 4.0 MTPA out of which 2.0 MTPA is in operation
(IV)	Year of Establishment	Year 2014
(V)	Date of last Environmental Statement Submitted	May, 2020

PART - B

Water & Raw Material Consumption

A. Water Consumption - m³/d

(i)	Process	-	Nil
	Cooling	-	43.70
	Domestic	-	10.00

Name of the Product	Process Water Consumption per unit of Product Output (m ³ /MT)	
	During the Previous Financial Year (2019-2020)	During the Current Financial Year (2020-2021)
Portland Pozzolona Cement (PPC)	PPC is produced by dry grinding of Clinker and Fly Ash with small quantity of Gypsum; hence no process water is consumed.	

(ii). Raw Material Consumption

Name of the Raw Material	Name of Product	Consumption of Raw Material per Unit Product Output (MT/MT of Cement)	
		During the Previous Financial Year (2019-2020)	During the Current Financial Year (2020-2021)
• Clinker	Portland	0.0	0.735373
• Fly ash	Pozzolona	0.0	0.231582
• Gypsum	Cement (PPC)	0.0	0.033045

Total Cement Generation

Name of Product	During the Previous Financial Year (2019-2020)	During the Current Financial Year (2020-2021)
Portland Pozzolona Cement (PPC)	Nil	43306.50

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/Nm ³)	Percentage of variation from prescribed standard with reasons
(a)	Water			
(i)	Domestic	Zero discharge is maintained. Treated domestic waste water is being used in Horticulture & Green Belt Development.		
(ii)	Industrial	PPC is produced by dry grinding of Clinker and Fly Ash with Small quantity of Gypsum, hence no water pollutant is discharged.		
(b)	Air			
Monitoring of Ambient Air Quality parameters within limits and report attached as Annexure- I				
	Stack emission			
	(a) Bag houses			
	Stack-I (Cement Mill/ Ball Mill)	0.001	1.41	NA
	Stack-II(Roll Press Mill)	0.001	2.09	

PART - D

Hazardous Wastes

(As specified under] Hazardous and Other Waste (Management & Transboundary Movement)

Rules, 2016

Hazardous Waste		Total Quantity (Kg)			
		During the Previous Financial Year (2019-2020)		During the Current Financial Year (2020-2021)	
		Used oil	Waste oil	Used oil	Waste oil
(a)	From Process	Nil		Nil	
(b)	From Pollution Control Facilities.	Nil		Nil	

PART - E
Solid Wastes

Solid Waste		Total Quantity	
		During the Previous Financial Year (2019-2020)	During the Current Financial Year (2020-2021)
(a)	From Process	Nil	Nil
(b)	From Pollution Control facilities	All the collected material will be recycled in the process.	All the collected material will be recycled in the process.
(c)	(i) Qty. recycled or reutilised within the unit.	All the collected Solid waste will be reused in the process	All the collected Solid waste will be reused in the process
	(ii) Sold	Nil	Nil
	(iii) Disposed	Nil	Nil

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: Generated Haz. Waste is being stored under covered shed at an isolated covered place; the floor is concreted & persons working at site have been provided with all required PPEs. From there the stored hazardous waste will be sold out to authorized recyclers.

Solid waste: No Solid Waste is being generated from the plant during 2020-2021 Financial Year. All the collected material will be recycled in the process.

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 fly ash 1.477 MTPA (Fly ash = 1.177 MTPA & Bottom Ash 0.30 MTPA). The Fly ash is consumed in Jaypee Nigrie Cement Grinding Unit for manufacturing of PPC and also supplied to other cement plants (Jaypee Rewa, PCL Satna, Birla Corp Satna, KJS Maihar, VTC Maihar, UTCL, Bhagwar & UTCL, Bela) & Brick manufacturers, thereby conserving naturally occurring non-renewable mineral resources limestone and coal. - **This has resulted into Top Soil Conservation.**

b) Installation of Sewage Treatment Plant:-

Sewage Treatment Plant of 1000 KLD has been installed for treatment of domestic waste water and treated water is used for horticulture & development of green belt. There is no discharge of water from the premises to any surface drain, hence zero discharge is maintained. - **This has resulted into Water Conservation.**



c). Installation of APCDs at various sources:-

High Efficiency Bag Houses (2Nos.) are attached to (Ball & Roll Press Mills) with guaranteed emission level of $<30 \text{ mg/Nm}^3$ at full load. Each Bag House has 1180 & 780 bags respectively. We have installed 34 no. of Bag Filters at various source points to control the fugitive emission. Details of Air Pollution Control Devices are given in **Annexure - II**



Photograph of Bag House

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.



CAAQMS Photographs

e). Installation of Water Sprinkling Systems:- Water spraying arrangements are made for control of fugitive emission from dusty area like Fly Ash Silo and transfer points and other dust generation areas of the plant.

f).Noise Pollution Abatement Measures:- Acoustics enclosures are provided to reduce Noise levels in noise-making rotating machines area. Personal protective equipment like ear plug/ear muffs are provided to the workmen working in high noise area such as Compressor area.

g). Good housekeeping practices adopted:

Following measures have been taken for good house keeping

- a. Raw materials are being stored in silos and the covered shed.
- b. The conveyor belts are fully covered.
- c. Schedule maintenance of PCDs.

Further the Company has obtained IMS - Integrated Management System Certificate covering ISO 9001:2015 (QMS - Quality Management System), ISO 14001:2015 (EMS - Environmental Management Systems) & ISO 45001:2007 (OHSAS - Occupational Health and Safety Assessment Series).

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. More than 33% of the area in and around the Grinding Unit has been developed with green belt as per the CPCB guidelines. Total number of Plants Planted up to 31.03.2021 is approximately 4.705 lakhs in 144.21 ha. (which includes cement Grinding Unit also). During this FY (April, 2020 - March, 2021) total of 0.5 lakhs of Trees have been planted.

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 plants.
3. Dedicated manpower is provided for regular watering & care 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 constructed 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 instruments.



Environment Cell

Concreting of Roads:

All internal roads in plant & township area are made Pucca.



CSR works:

- A separate budget earmarked for CSR activities. CSR study report already submitted to the ministry vide letter no. - JPVL/JNSTPP/MOEF/2010 dated 20.01.2011 and 29.06.2011.
- For CSR activities capital outlay of more than Rs. 24 crores has been made.
- The company is carrying out CSR activities in the vicinity of the Project as per the directions and guidance of the District Administration.
- Providing drinking water facility benefitting to the nearby villages (Nigrie, Niwas, katai & Hardi & Mahua Ganv and Chamrach and Joba).
- Unit is also investing on CSR Activities on Rural Development Projects like conducting Medical camps in villages (Nigrie, Niwas, katai & Hardi & Mahua Ganv and Chamrach), Plantation programs (Nigrie, Niwas, katai & Hardi & Mahua Ganv and Joba), Road development activities (Nigrie), women empowerment & providing furniture/building material to local offices (Aanganbari Kendr, Nigrie, Niwas & police Department, Thane: Sarai), Promotion of Safety/Cultural/ sports in Rural Areas/villages (Nigrie, Niwas) & providing Medicine Distributed to nearby Villagers Construction of Temples in Papal Gaon, katai, Niwas & Restoration of Ponds in Katai, Niwas, Nigrie & Contribution of Diasaster Management and Promoting Education through Sardar Patel School under Jaiprakash Sewa Sansthan & Jay Jyoti School under Jaiprakash Sewa Sansthan & Gopad Viklang Sikasha Vikas Samiti, Village-Katai.
- Total expenditure incurred up to March, 2021 is Rs 4.967 Crores.
- Based on Need Base Assessment Study for development of nearby villages, an action plan was worked out for income generating projects for up-liftment of poor section of society.

The following activities were undertaken:

- Sardar Patel Uchchar Madhyamik Vidyalaya started for up to class five w.e.f. July, 2011 and subsequently upgraded up to 10th class in July'2016 session.
- Free Education & Free Mid Day Meals provided to the children of affected village Nigrie & Sardar patel School, Nigrie.
- Free Health Check Up & Health cards provided to the 245 students.

- Roads have been laid down in Nigrie Village & free electricity supply to the Street Lights is provided in R & R Colony.
- Restoration & Refurbishment of water reservoirs & ponds taken place in nearby villages (Gambhira Talab & Bandhwatara Talab, Katai).
- Providing Mobile Hospital & Ambulance Service to affected villages (Nigrie, Niwas, katai & Hardi & Mahua Ganv and Chamrach and Joba).
- An Average of 3376 patients are being benefited every month by the Primary Health Center.
- A Dispensary was also setup in R & R colony. An Average of 643 patients are being benefited every month.

“Trasform Singrauli” Project under Indian government and MP Government:

- Provided Free Medical Checkup facility & Free Medicines in Nigrie, Niwas, katai & Hardi & Mahua Ganv and Chamrach Villages.
- Continual supply of Protein Powder, Iron Syrups & Jaggery and Horse Gram to about 224 Pregnant Women in above mentioned 6 villages.
- Multi Vitamin Drops & Zinc Drops have been provided to Malnourished Babies in the villages.
- Expenditure incurred on “Trasform Singrauli” in FY 2020 - 21 is 7.42 Lakhs.

Swatch Bharath Mission:-

- 2500 Fruit Yielding plants have been planted through Gram Panachayath in 6 villages.
- Provided Utensil (Bartan) for Gopad Viklang Samiti.

Hindi Medium School - Free Education for nearby villagers:



Free Medical Camps:



Free Medicines to all nearby Villagers:

A 10 bed hospital is functional for medical check-up and treatment to the local habitats for the surrounding 10 villages. Almost 200 people avail the Medical facilities daily.



**For Jaypee Nigrie Cement Grinding Unit
(A Unit of Jaiprakash Power Ventures Ltd.)**

(Signature)
(Vikram Singh Gaharwal)
General Manager

