

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, JPVL is operating 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 a 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 2.00 MTPA, which is 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 "BUNIYAD 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 cyclones 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 2022

## PART - A

(I)	Name & Address of the	Jaypee Nigrie Cement Grinding Unit,
	Owner / Occupier of the Industry	(A Unit of Jaiprakash Power Ventures Limited)
	Operation or Process	P.O- Nigrie, Tehsil-Sarai, Distt. Singrauli-486669
		(Madhya Pradesh)
(II)	Industry category	'RED' Category and Large Scale
	Primary- (STC Code)	(Namely Cement Manufacturing), Major
	Secondary-(SIC Code)	
(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	May, 2021
	Statement Submitted	

## PART - B

## Water & Raw Material Consumption

## A. Water Consumption - m³/day

(i) Process - Nil
Cooling - 70.23
Domestic - 10.00

Process Water Consumption per unit of		• •	
	Product Output (m³/MT)		
Name of the Product	During the Previous	During the Current	
	Financial Year (2020-2021)	Financial Year (2021-2022)	
Portland Pozzolona	PPC is produced by dry grinding of Clinker and Fly Ash with sr		
Cement (PPC)	quantity of Gypsum; hence no process water is consumed.		

## (ii). Raw Material Consumption

		Consumption of Raw Material per Unit		
		Product	Output	
Name of the	Name of	(MT/MT of	Γ of Cement)	
Raw Material	Product	<b>During the Previous</b>	During the Current	
		Financial Year (2020-2021)	Financial Year (2021-2022)	
• Clinker	Portland	0.735373	0.736902	
• Fly ash	Pozzolona	0.231582	0.228305	
• Gypsum	Cement (PPC)	0.033045	0.034793	

## **Total Cement Generation**

	During the Previous	<b>During the Current</b>	
Name of Product	Financial Year (2020-2021), in MT	Financial Year (2021-2022), in MT	
Portland Pozzolona Cement (PPC)	43306.50	24660.00	

## <u>PART - C</u> <u>Pollutant Discharged To Environment / Unit of Output</u>

(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		intained. Treated dom alture & Green Belt De	
(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 Ambien	t Air Quality paramet	ers within limits and r	eport attached as
		Annexur	e- I	
	Stack emission			
	(a) Bag houses			
	Stack-I (Cement Mill/ Ball Mill)	0.0012	1.82	NA
	Stack-II(Roll Press Mill)	0.0008	1.38	

## <u>PART - D</u> <u>Hazardous Wastes</u>

(As specified under Hazardous and Other Waste (Management & Transboundary Movement)  ${\rm Rules,\,2016}$ 

		Total Quantity (Kg)				
Haz	ardous Waste	During the Previous Financial Year (2020-2021)		During the Current Financial Year (2021-2022)		
		Used oil	Waste oil	Used oil	Waste oil	
(a)	From Process	N	Jil	Ni	1	
(b)	From Pollution					
	Control	Nil		Nil		
	Facilities.					

<u>PART - E</u> <u>Solid Wastes</u>

		Total Quantity			
Solid	l Waste	During the Previous	During the Current		
		Financial Year (2020-2021)	Financial Year (2021-2022)		
(a)	From Process	Nil	Nil		
(b)	From Pollution Control facilities	All the collected material recycled in the process.	All the collected material recycled in the process.		
(c)	(i) Qty. recycled or reutilised within the unit.	All the collected Solid waste reused in the process	All the collected Solid waste reused in the process		
	(ii) Sold	Nil	Nil		
	(iii) Disposed	Nil	Nil		

### <u>PART - F</u> CTERISATIONS (IN TERMS

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.

<u>Hazardous waste</u>: 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. However No Hazardous Waste generated from the grinding unit during Financial Year 2021 - 2022.

**Solid waste:** No Solid Waste generated from the plant during 2021-2022 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 2 x 660 MW has the potential to generate 1.579 MTPA (Fly ash - 1.263 MTPA & Bottom Ash - 0.316 MTPA). Ash utilisation by the JNSTPP, Nigrie for the FY 2021-22 is 89.55%. Generated Fly ash is consumed in adjacent Jaypee Nigrie Cement Grinding Unit & rest is transported to nearby Cement Plants (Jaypee Rewa, PCL Satna, Birla Corp Satna, KJS Maihar, VTC Maihar & Other Brick manufacturing Unit) for manufacturing of PPC and manufacturing of fly ash bricks. **- 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 from the same is used for horticulture & green belt development. There is no discharge of water from the premises to any surface drain, hence zero liquid discharge is maintained. – This has resulted into Water Conservation.

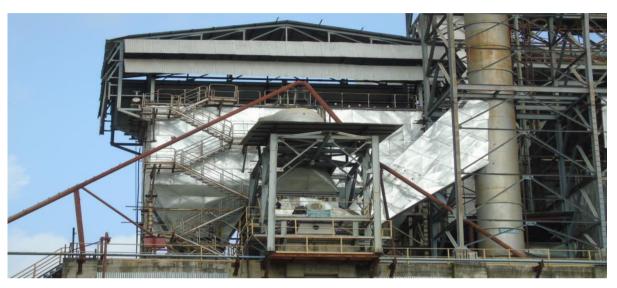
#### 1000 KLD Sewage Treatment Plant





#### 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 mg/Nm³ 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:- Continuous Ambient Air Quality Monitoring Stations (Online/Real Time) are provided at four location considering the wind rose/wind directions for parameters PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub> & CO and the total data of the CAAQMS are connected with MPPCB server at Bhopal & CPCB server at Delhi.





**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 45001:2018 (OHSAS - Occupational Health and Safety Assessment Series).

#### **PART-H**

ADDITONAL 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. 33% of the plant area in and around the Power plant boundary has been developed with green belt as per the CPCB guidelines.

Total number of Plants Planted up to 31.03.2022 is approximately 5.23 lakhs in 144.21 ha. (also including cement Grinding Unit). During this FY (April, 2021 – March, 2022) total no. of 0.525 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.

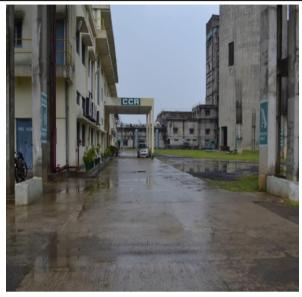


**Environment Cell** 

#### **Concreting of Roads:**

All internal roads in grinding unit & 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. 24.00 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, Chamrach and Joba).
- ➤ Unit is also investing on CSR Activities on Rural Development Projects like Plantation programs (Nigrie, Niwas, and Chamrach), Road development activities in villages Nigrie, Hardi-Papal, Women empowerment & providing furniture/building material to Police Department, Nigrie, Development of Toilets for students at Anganwadi Centre, Niwas & Girls School, Niwas, Construction of Kitchen shed at Viklang Vidyalaya, Village Katai.
- Promotion of Safety/Cultural/sports activities in Rural Areas/villages (Nigrie, Niwas & Katai), Providing water via water tankers to the nearby villagers as per requirement, Development of water pass structure & repairing of pond located in village Niwas & 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, 2022 is Rs 5.627Crores.
- ➤ 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 Uchchtar Madhyamik Vidyalaya started for up to class five w.e.f. July, 2011 and subsequently upgraded up to 10<sup>th</sup> 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 150 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 (Niwas).
- ➤ Providing Mobile Hospital & Ambulance Service to affected villages (Nigrie, Niwas, katai & Hardi & Mahua Ganv and Chamrach and Joba).
- ➤ A Dispensary was also setup in R & R colony. An Average of 578 patients is being benefited every month.

#### "Trasform Singrauli" Project under Indian government and MP Government:-

- ➤ Provided Free Medical Checkup facility, Ambulance facility, Free Medicines in Nigrie, Niwas, katai & Hardi & Mahua Ganv and Chamrach Villages.
- ➤ Multi Vitamin Drops & Zinc Drops have been provided to Malnourished Babies in the villages.
- Established/Started Kuteer Udyog, Training Centre for Stitching and honey bee keeping.
- > Groceries, Nose maks have been distributed in the villages nearby project area to protect villagers from COVID-19 Pandemic Disease.
- Expenditure incurred on "Trasform Singrauli" in FY 2021 22 is 3.00 Lakhs.

#### Swatch Bharath Mission:-

- ➤ 1620 Fruit Yielding plants have been planted through Gram Panachayath in 3 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 70 people avail the Medical facilities daily.



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

(Vikram Singh Gaharwar)

General Manager

## JAYPEE NIGRIE CEMENT GRINDING UNIT (A Unit of Jaiprakash Power Ventures Limited)

AMBIENT AIR QUALITY MONITORING REPORT Period: April, 2021 - March 2022

Near STP - Colony Area						
Month	Particulars	PM <sub>2.5</sub> (μg/m <sup>3</sup> )	PM <sub>10</sub> (μg/m <sup>3</sup> )	SO <sub>2</sub> (μg/m <sup>3</sup> )	NO2 (μg/m³)	CO (mg/m³)
Apr-21		25.8	52.4	5.7	11.8	0.400
May-21		15.3	35.2	4.4	11.1	0.324
Jun-21		14.0	29.8	3.7	10.0	0.303
Jul-21		14.8	29.6	3.4	9.5	0.290
Aug-21		13.6	27.1	5.7	9.8	0.267
Sep-21	Monthly Average	17.9	35.8	5.3	11.1	0.342
Oct-21		19.5	41.9	6.1	11.2	0.347
Nov-21		23.8	52.2	6.3	11.7	0.391
Dec-21		24.2	48.9	6.2	11.5	0.395
Jan-22	_	18.2	40.3	6.3	11.9	0.374
Feb-22	_	21.1	43.9	5.8	11.6	0.352
Mar-22	_	23.1	47.9 I <sub>2</sub> Gas Cylinde	6.2	11.6	0.373
	1					
Month	Particulars	PM <sub>2.5</sub> (μg/m <sup>3</sup> )	PM <sub>10</sub> (μg/m <sup>3</sup> )	SO <sub>2</sub> (μg/m <sup>3</sup> )	NO2 (μg/m³)	CO (mg/m³)
Apr-21		28.7	61.4	7.9	12.7	0.526
May-21		22.3	48.1	7.0	11.8	0.500
Jun-21	4	17.3	40.8	6.4	12.1	0.429
Jul-21	_	17.5	36.3	4.7	11.1	0.403
Aug-21		15.3	31.9	5.6	11.2	0.364
Sep-21	Monthly Average	21.9	40.8	6.6	12.2	0.403
Oct-21		23.7	58.6	7.2	13.2	0.498
Nov-21		27.3	60.7	7.0	12.6	0.522
Dec-21	_	30.2	61.0	7.6	13.1	0.529
Jan-22	_	23.6	50.6	7.0	13.0	0.468
Feb-22	_	25.6	51.7	6.7	12.7	0.515
Mar-22	1	26.9	59.4	7.5	12.4	0.501
	Ne	ear Watch Tow	,	Grinding Unit	·)	
Month	Particulars	PM <sub>2.5</sub> (μg/m <sup>3</sup> )	PM <sub>10</sub> (μg/m <sup>3</sup> )	SO <sub>2</sub> (μg/m <sup>3</sup> )	NO2 (μg/m³)	CO (mg/m³)
Apr-21		30.1	62.8	7.6	15.0	0.548
May-21		19.8	42.6	6.7	12.2	0.504
Jun-21		17.8	44.8	6.9	12.3	0.442
Jul-21		17.1	37.3	5.2	12.2	0.420
Aug-21		17.6	34.4	5.6	12.7	0.391
Sep-21	Monthly Average	23.3	47.0	6.3	12.8	0.477
Oct-21		24.1	56.9	6.5	12.2	0.518
Nov-21	4	30.4	64.9	7.3	13.4	0.578
Dec-21	4	27.3	56.2	5.8	12.7	0.473
Jan-22	+	22.6	48.2	6.1	12.4	0.409
Feb-22	+	24.9	51.3	6.5	13.2	0.462
Mar-22		30.6 <b>Near</b>	66.1 Fuel Storage T	7.8 Tank	13.7	0.503
Month	Particulars	PM <sub>2.5</sub> (μg/m <sup>3</sup> )	PM <sub>10</sub> (μg/m <sup>3</sup> )	SO <sub>2</sub> (μg/m <sup>3</sup> )	NO2 (μg/m³)	CO (mg/m³)
Apr-21		38.4	73.0	7.6	15.9	0.630
May-21		23.5	50.7	6.0	15.3	0.578
Jun-21		20.2	43.5	5.3	12.6	0.497
	†	19.1	39.2	5.2	12.8	0.444
Jul-21						0.430
	+	18.0	36.6	5.7	13.0	0.100
Jul-21	Monthly Assess		36.6 53.2	6.8	13.2	0.626
Jul-21 Aug-21	Monthly Average	18.0				
Jul-21 Aug-21 Sep-21	Monthly Average	18.0 28.1	53.2	6.8	13.2	0.626
Jul-21 Aug-21 Sep-21 Oct-21	Monthly Average	18.0 28.1 27.6	53.2 58.5	6.8 6.6	13.2 13.3	0.626 0.557
Jul-21 Aug-21 Sep-21 Oct-21 Nov-21	Monthly Average	18.0 28.1 27.6 34.7	53.2 58.5 69.8	6.8 6.6 7.6	13.2 13.3 13.9	0.626 0.557 0.632
Jul-21 Aug-21 Sep-21 Oct-21 Nov-21 Dec-21	Monthly Average	18.0 28.1 27.6 34.7 28.3	53.2 58.5 69.8 62.0	6.8 6.6 7.6 6.6	13.2 13.3 13.9 12.5	0.626 0.557 0.632 0.537

## JAYPEE NIGRIE CEMENT GRINDING UNIT (A Division of Jaiprakash Power Ventures Ltd.)

#### **Details of Air Pollution Control Devices**

## Major Pollution control devices installed:

2 nos. of Bag Houses attached to cement mills (Ball & Roll Press Mill) with guaranteed emission level of <30 mg/Nm3 at full load. Each Bag House has 780 & 1188 bags respectively.

Sr. No	Location	<b>Equipment Name</b>	Attached to
1	Mill Building	Bag House	Cement Mill-I
2	Mill Building	Bag House	Roll Press-I

#### **Bag Filter Details:**

Sr. No	Location	Equipment Name	Attached to
1	Hopper building	Bag Filter	Clinker +Gypsum feeding belt 531 BC1 &531 BC1A
2	Mill building	Bag Filter	Reject Bin 531 BI-1
3	Mill building	Bag Filter	Reject Bin 531 BI-2 & 531 BC-3/4
4	Hopper building	Bag Filter	Connected to Gypsum Hopper ( Flush Mounted)
5	Hopper building	Bag Filter	Connected to Clinker Hopper ( Flush Mounted)
6	Mill building	Bag Filter	Bucket Elevator 541BE -1, 531 BC-4, 541 BC- 1 & BIN 541 BI-1
7	Mill building	Bag Filter	Air Slides 571 AS-1/2 , 571 BE-1 & Air Slides 561 AS-1/3
8	Mill building	Bag Filter	Air Slides 591 AS-1 /2/3 & Roll Press 541 RP-1
9	Mill building	Bag Filter	Air Slides 591 AS-3/4 , 581 AS-3/4& Bucket Elevator ( Feed ) 591 BE-1
10	Mill building	Bag Filter	Aie Slides K21 AS-2 , 581 AS-2 & 581 FM-1
11	Clinker silo	Bag Filter	Clinker Silo ( Flush Mounted)
12	Cement silo1	Bag Filter	Cement Silo (Flush Mounted )
13	Cement silo2	Bag Filter	Cement Silo (Flush Mounted )

14	Control bin	Bag Filter	Control Bin
15	Packer1	Bag Filter	Packing Machine and Elevator & Hoppers
16	Packer2	Bag Filter	Packing Machine and Elevator & Hoppers
17	Packer3	Bag Filter	Packing Machine and Elevator & Hoppers
18	Packer4	Bag Filter	Packing Machine and Elevator & Hoppers
19	Packer1	Bag Filter	Bag Cleaning Devise & Air Slides
20	Packer2	Bag Filter	Bag Cleaning Devise & Air Slides
21	Packer3	Bag Filter	Bag Cleaning Devise & Air Slides
22	Packer4	Bag Filter	Bag Cleaning Devise & Air Slides
23	Clinker Unloading hopper	Bag Filter	Connected to Truck Tripler
24	Clinker Unloading hopper	Bag Filter	Connected to Truck Tippler
25	Clinker Unloading hopper	Bag Filter	Appron Feeder 511 AF-1 & Connected Belt Conveyor 511 BC-1
26	Clinker Transfer Tower (TT1)	Bag Filter	Between Clinker discharge Belt 511 BC-1 To 511 BC-2
27	Clinker Transfer Tower (TT2)	Bag Filter	Between Clinker Discharge Belt 511 BC-2 To 511 BC-3
28	Clinker Transfer Tower (TT3)	Bag Filter	Between Clinker Discharge Belt 511 BC-3 To 511 BC-4
29	Clinker Transfer Tower (TT4)	Bag Filter	Between Clinker Discharge Belt 511 BC-5 To 511 BC-7
30	Clinker Transfer Tower (TT4)	Bag Filter	Between Clinker Discharge Belt 511 BC-6 To 511 BC-7
31	Clinker Transfer Tower (TT6)	Bag Filter	Between Clinker Discharge Belt 511 BC-3 To 511 BC-4
32	Mill building (Fly Ash Bin)	Bag Filter	400 MT Fly Ash Bin
33	Fly Ash Silo	Bag Filter	Fly ash silo Top(Flush Mounted)
34	Fly Ash Silo	Bag Filter	Fly ash silo Top (Flush Mounted)