

JAYPEE BELA PLANT

**JAIPRAKASH**  
**ASSOCIATES LIMITED**  
Cement Division

JAL/EC/ES/ A- 19/2013-14/ 5502

September 24, 2013

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 Bela Plant (A Unit of Jaiprakash Associates Limited) Jaypeepuram, Rewa (M.P.).

Dear Sir


We are pleased to enclose herewith Environment Statement for the year 2012 – 2013 for our following plants,

- Jaypee Bela Plant
- Captive Power Plant – II (25 MW)
- DG Set (Jaypee Bela Plant)
- Jaypee Lime Stone Mine

This is for your kind information and needful please.

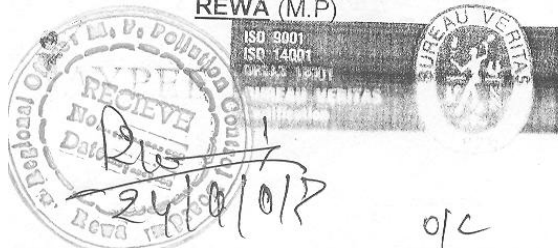
Thanking you.

Yours Faithfully,  
(For Jaypee Bela Plant)

  
(Dr LB Singh)  
Sr. V.P. (P & QC)

Encl: As Above.

C.C.: The Regional Officer  
M.P. Pollution Control Board  
HIG: 190-191, Nehru Nagar,  
REWA (M.P.)



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Regd. Office: Sector-128, Noida - 201 304, Uttar Pradesh (India)

o/c

**Jaypee Bela Plant**  
**(A Unit of Jaiprakash Associates Limited)**

**Introduction:** Jaypee Group is the 3<sup>rd</sup> largest cement producer in the country. The Groups cement facilities are located in various states viz. M.P., U.P., H.P., A.P., Gujrat etc. Oldest plants of the Group are in Satna Cluster (M.P.), which is the highest cement production capacity at a single location.

The group produces Ordinary Portland Cement and Portland Pozzolona Cement under brand name “Jaypee Cement”. Rewa cement complex has three modern, computerized process control cement plants namely “Jaypee Rewa Cement Plant (02 Nos. Kiln)” & “Jaypee Bela Cement Plant (01 No. Kiln)” with an aggregate production capacity of 6.0 MTPA cement.

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**’. Both Jaypee Rewa & Jaypee Bela Plants of Jaiprakash Associates Limited at Jaypee Nagar and Jaypeepuram respectively were awarded Five Star Rating & subsequently prestigious Sword of Honour by the British Safety Council, U.K. for Safety and Health Management System.

Jaypee Bela Cement Plant (JBP) is a division of Jaiprakash Associates Limited (JAL) groups of Companies 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 Bela Plant is located near Madhepur village in Huzur Tehsil, Rewa district of Madhya Pradesh state at an aerial distance of about 15 km North-West of Rewa Town. Geographically, it is located at latitude 24<sup>0</sup>33’47” North and longitude 81<sup>0</sup>11’41” East.

Jaypee Bela Plant has come into operation in the year 1996. The cement production process is based on dry process. Present production capacity of plant is 2.5 million tonne Cement per Annum.

**“FORM – V”**

(See rule 14)

ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR ENDING THE  
31<sup>ST</sup> MARCH 2013

**PART – A**

(I)	Name & Address of the Owner / Occupier of the Industry Operation or Process	Jaypee Bela Plant (A Unit of Jaiprakash Associates Limited) Jaypee Puram - 486 450 Rewa (M.P.)
(II)	Industry category Primary ( STC CODE ) Secondary ( SIC CODE )	Red category and large Industry
(III)	Production capacity	2.5 Million TPA (Cement)
(IV)	Year of establishment	Year 1996
(V)	Date of last environmental statement submitted	24 <sup>th</sup> September, 2012

**PART – B**

**Water & Raw Material Consumption**

**A. Water consumption m<sup>3</sup>/d**

Process	-	826
Cooling	-	480
Domestic	-	446

Name of the product	Process water consumption per unit of product output (m <sup>3</sup> /MT of Cement)	
	During the previous financial year (2011-12)	During the current financial year (2012-13)
Cement	0.1275	0.1283

**B. 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 (2011-12)	During the current financial year (2012-13)
Limestone	Cement	1.1423	1.144
Laterite+ High Grade		0.0272	0.017
Laterite		0.0070	0.013
Iron-ore		0.1149	0.095
Coal		0.0278	0.025
Gypsum		0.1877	0.192
Fly ash			

**Total Cement Production (MT)**

Name of product	During previous financial year (2011-12)	During current financial year (2012-13)
Cement	2131460	2123781

**PART - C**

**Pollutant Discharged To Environment / Unit of Output**

<b>S. No.</b>	<b>Pollutants</b>	<b>Quantity of pollutants discharged (Mass / day) (Tons/day)</b>	<b>Concentrations of pollutants in discharged (Mass / Volume) (mg/Nm<sup>3</sup>)</b>	<b>Percentage of variation from prescribed standard with reasons</b>
(a)	<b>Water</b>			
(i)	<b>Domestic</b>	Zero discharge is maintained. Treated domestic water is being used in horticulture and plant process		
(ii)	<b>Industrial</b>	Zero discharge		
(b)	<b>Air</b>			
Ambient SPM parameter within limit and report attached as <b>Annexure- I</b>				
<b>(a) Bag Filters</b>				
	Crusher Bag Filter	0.02788	27.7	Within the permissible limit (Permissible Limit-50 mg/Nm <sup>3</sup> )
	Raw Mill Bag House	0.44386	31.9	
<b>(b) ESPs</b>				
	Coal Mill ESP	0.1952	76.0	Within the permissible limit (Permissible Limit-100 mg/Nm <sup>3</sup> )
	Cooler ESP	0.6572	77.9	
	Cement Mill-I ESP	0.0935	72.6	
	Cement Mill-II ESP	0.0959	77.3	
	Flyash Dryer ESP	0.20942	76.9	

**PART – D**

**Hazardous Waste**

As specified under Hazardous waste( Management, Handling & Transboundary Movement) Rules,  
2008

Hazardous waste		Total quantity (Kgs)			
		During the previous financial year (2011-12)		During the current financial year (2012-13)	
(a)	From process	Used oil	Waste oil	Used oil	Waste oil
		Used oil – 5.1 Waste oil – 5.2	21784	Nil	25789
(b)	From pollution control facilities.	Nil		Nil	

**PART - E**

**Solid Wastes**

Solid waste		Total quantity	
		During the previous financial year (2011-12)	During the current financial year (2012-13)
(a)	From process	No solid waste is generated from the cement manufacturing process.	No solid waste is generated from the cement manufacturing process.
(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 reused within the unit.	All the collected swept waste is reused in the process.	All the collected swept waste is reused in the process.
	(ii) Sold	Nil	Nil
	(iii) Disposed		

**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 :** All the used oil, waste oil, burnt grease generated from the different sections of plant is being collected in empty drums and barrels and then sent to store department for proper handling and storage. The store department stores all collected hazardous waste at specified location as per Hazardous Waste Management, Handling & Transboundary Movement Rule, 2008, from where the stored hazardous waste is being sold out to authorized recyclers. Total quantity of hazardous waste generation is as under:-

**Characteristic:**

**1. Used Oil**

S.No.	Parameters	Units	Result	Limit	Quantity in ( Kg)
1	Arsenic	ppm	<1	5.00 Max	25789
2	Cadmium+ Chromium+ Nickel	ppm	<1	500.00 Max	
3	Lead	ppm	<1	100.00 Max	
4	PAH	%	ND	6.00 Max	
5	PCB	---	BDL	----	

**Solid waste:** The solid waste is generated in the form of MS scrap (grinding media, grate plate, wrappers & bearing scrap) from different sections like crusher, raw mill, coal mill, cooler, cement mill & packing plant. Used refractory bricks, used tyres, rejected rubber belts, filter bags, welding bits are generated during cement manufacturing process & these solid wastes are being sold to authorized party.

## 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:-

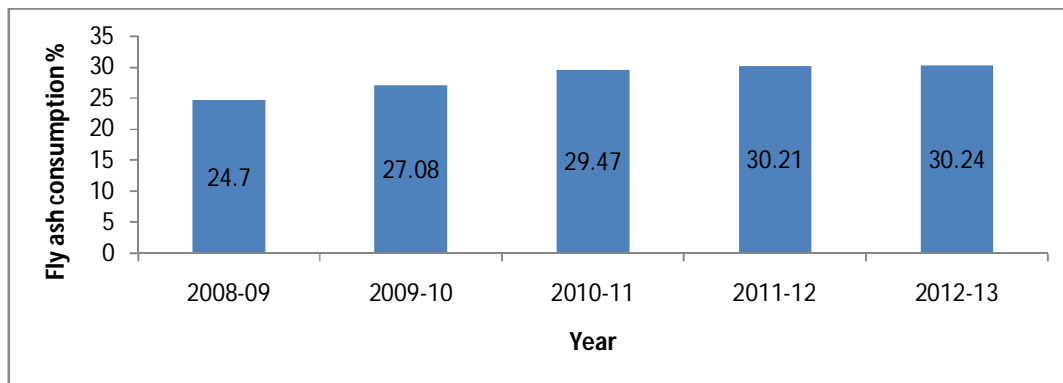
#### **1. Conservation of limestone**

##### **a) Utilization of shale**

The raw mix design is being prepared in such a way that it reduces the limestone stone saturation factor by which substantial quality of limestone has been conserved. Almost 8.97 % Shale (225696 MT) Waste quarried material has been used in place of Lime Stone for the cement manufacturing.

##### **b) Utilization of Flyash for the Manufacturing of Cement**

We have used flyash upto 30.24% (408585 MT) of total Portland Pozzolona Cement manufactured, which directly reduces the raising of limestone from mines.



**Fig.:** Year Wise Percentage of Fly Ash Consumption

#### **2. Conservation of Mineral Gypsum**

##### **Utilization of Chemical Gypsum**

We have used fertilizer industry byproduct which is waste in nature and its chemical properties are as good as gypsum. 44.31% Chemical gypsum (23584 MT) was used for cement manufacturing process.

##### **Conservation of Fossil Fuel**

##### **Utilization of Plastic waste as AFR**



Recently from the month of January- 2013, we have started incineration of plastic bags (torn & tear) into the kiln as AFR.



**Utilization of Plastic waste as AFR**

### **PART – H**

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

Additional measures taken for environmental protection are as under.

##### **Plantation in and around the plant area**

We have a dedicated team of skilled horticulturists for the afforestation and greenery development program at our plant and mines under the supervision of senior experienced person. In addition to the horticulture department, Environment Cell also does the plantation activity.

<b>Particulars</b>	<b>Plantation during the year 2012-13</b>	<b>Plantation upto 31.03.2013</b>
Township area	100	21198
Plant area	1550	31644
<b>Total</b>	<b>1650</b>	<b>52842</b>



**Photo:** Newly developed plants at Jaypee Bela Plant

## **PART – I**

### **OTHER PARTICULARS FOR IMPROVING THE QUALITY OF THE ENVIRONMENT**

Following measures have been taken to maintain good housekeeping at Jaypee Bela Plant in the year 2012-13

#### **Cement bulk loading area**

For eco-friendly loading of bulk cement, new bulk loading system comprising of integral dust collector, pulsejet flush mounted bag filter, weigh bridge with electronic display, pneumatic gates and telescopic chute as its important component of the complete system was commissioned (28<sup>th</sup> May, 2012).



**Automatic Cement Bulk Loading System**

#### **Modification of Laterite sheds.**

We have reconstructed and modified storage shed covered from three sides for proper storage of laterite.

#### **Concreting of kachcha roads**

The remaining internal kachcha roads of plant has been concreted during the Financial Year 2012-13. Now complete plant roads are concreted. The new concreted roads are:

- I. Fly ash Yard to Gypsum Yard
- II. Near Raw Mill
- III. Near Vermicomposting Site

#### **Vermicomposting Site :**

Recently in the year March -2013, we have developed a Vermicomposting site to produce vermicompost (manure) from waste (leaf litter etc).



**Vermicomposting site (WIP) Near FH- I**

### **Installation of online AAQMS & CEMS**

Recently we have installed two nos. of on line AAQMS & two nos. of on line CEMS for continuous monitoring of ambient air quality and stack emission. Online Opacity meters are already in place for monitoring of particulate matter in all stacks.



**Inauguration of Real time AAQMS**

**AAQMS**

**For Jaypee Bela Plant,  
(A Unit of Jaiprakash Associates Limited)  
Jaypee Puram, REWA (M.P.)**

**(Dr LB Singh)  
Sr. Vice President (P & QC)**

**JAYPEE BELA PLANT**  
**(Unit of Jaiprakash Associates Limited)**  
**YEARLY AMBIENT AIR QUALITY MONITORING REPORT**

Period : April , 2012 - March, 2013

**LOCATION 1 : NEAR TIME OFFICE**

MONTH	PARTICULARS	PM2.5 ( $\mu\text{g}/\text{m}^3$ )	PM 10 ( $\mu\text{g}/\text{m}^3$ )	SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )	NO <sub>x</sub> ( $\mu\text{g}/\text{m}^3$ )	CO ( $\mu\text{g}/\text{m}^3$ )
April	Monthly Average	36	58	6.0	16.0	118
May		45	57	6.1	13.8	122
June		31	49	6.7	13.9	131
July		20	37	6.0	14.4	114
August		25	32	6.7	15.6	134
September		30	42	6.9	13.4	135
October		33	50	6.2	14.5	121
November		31	47	6.3	14.7	124
December		31	46	6.4	14.5	126
January		31	46	6.4	14.5	125
February		31	45	6.4	14.4	126
March		25	46	7.9	16.4	172

**LOCATION 2 : NEAR DESPATCH OFFICE**

April	Monthly Average	37	61	5.7	15.4	118
May		41	59	6.3	14.4	126
June		29	47	6.3	15.7	122
July		18	37	6.6	14.9	118
August		25	34	6.8	15.1	130
September		30	40	7.1	14.4	129
October		31	51	6.2	15.1	121
November		30	47	6.3	15.1	123
December		30	46	6.5	15.0	124
January		30	47	6.4	15.0	123
February		29	45	6.5	15.0	124
March		26	45	7.0	16.7	168

**LOCATION 3 : NEAR DM PLANT (CPP-II)**

April	Monthly Average	34	59	6.0	14.6	114
May		40	58	6.2	13.9	128
June		31	47	7.2	15.9	123
July		20	35	6.4	16.6	114
August		25	35	6.6	15.8	130
September		31	41	7.3	14.2	131
October		31	50	6.4	15.3	120
November		30	47	6.5	15.4	122

December		30	46	6.6	15.2	123
January		30	46	6.6	15.2	123
February		30	45	6.6	15.3	124
March		25	46	7.9	15.8	170.6

**LOCATION 4 : NEAR SARASWATI GATE**

April	Monthly Average	38	53	5.9	16.4	115
May		43	58	6.1	13.7	125
June		30	52	6.9	15.3	123
July		19	36	6.4	14.9	113
August		24	35	6.6	15.6	130
September		30	44	7.0	13.5	136
October		33	50	6.3	15.1	119
November		31	47	6.4	15.2	121
December		31	46	6.5	14.9	124
January		31	47	6.4	15.0	123
February		30	46	6.5	14.8	124
March		26	44	8.0	17.9	164