

SHREE CEMENT LIMITED



(UNIT-SHREE RAIPUR CEMENT PLANT) Village: Khaparadih, Tehsil: Simga, Distt. Baloda Bazar-Bhatapara (C.G) Pin: 493332, Ph.:07727-203101, CIN No.: L26943RJ1979PLC001935

SRCP /BB/ENV/2019-20/221

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Date: 03/09/2019

To, The Member Secretary, Chhattisgarh Environment Conservation Board, Paryavas Bhavan, North Block, Sector-19 Naya Raipur (C.G)

Sub: - Submission of Environment Statement of Cement Plant for the year 2018-19 by Shree Raipur Cement Plant (A unit of Shree Cement Ltd.) Plant located near Village Khapradih in Baloda Bazar - Bhatapara District (Chhattisgarh).

Ref: 1. Consent to Operate (Water)letter No.- 6515/TS/CECB/2018, dated 16/02/2018

2. Consent to Operate (Air) letter No.- 6517/TS/CECB/2018, dated 16/02/2018

Dear Sir,

Kindly referred to above subject matter and reference letter. In this regards, we are submitting herewith the **Environmental Statement in Form-V** for the year **2018-2019** of Shree Raipur Cement Plant (A unit of Shree Cement Ltd.) located near Village Khapradih in Baloda Bazar - Bhatapara District (Chhattisgarh).

Hope you will find this in Order

Thanking you,

Yours faithfully, For Shree Raipur Cement Plant (A unit of Shree Cement Ltd.)

Jt. VP (Operations)





Enclosed: - As above.

CC to:- Regional Officer, Chhattisgarh Environment Conservation Board, Commercial Complex, Chhattisgarh Housing Board Colony Kabir Nagar, Raipur (C.G.) - 492099

Phone : 01462-228101-105, Fax : 01462-228117/119, e-mail : shreebwr@shreecement.com, Website : www.shreecement.com

RAIPUR OFFICE : House No. 31/248, Civil Lines, Near C.M.: House, Raipur-492001, Ph. : 0771-2430007, Fax : 0771-2430007

REGD. OFFICE : Bangur Nagar, Post Box No. 33, Beawar, 305901, Dist. Ajmer (Raj.)

<u>ENVIRONMENTAL STATEMENT</u> <u>FORM – V</u> <u>Shree Raipur Cement Plant</u> (<u>A Unit of Shree Cement ltd</u>) <u>Period from: April 2018 to March 2019</u>

PART – A

1.	Name and address of the Owner / Occupier of the Industry operation or process	M/s Shree Raipur Cement Plant (A Unit of Shree Cement Ltd) Village – Khapradih, Tahsil – Simga, Distt – Baloda Bazar (Bhatapara) Chhattisgarh – 493196
2.	Industry Category Primary (S.T.C. Code) Secondary (S.T.C. Code)	Red Category
3.	Production Capacity	 3.0 Million TPA Cement 5.2 Million TPA Clinker 30 MW Waste Heat Recovery Power Generation 25 MW Captive Power 750 KVA DG sets
4.	Year of Establishment	2015
5.	Date of the last Environmental Statement Submitted	04/09/2018

<u>PART – B</u> WATER AND RAW MATERIAL CONSUMPTION

(I) WATER CONSUMPTION:

Process	:	253.45 KLD (WHRS & CPP)
Cooling and dust Suppression	:	536.58 KLD (Cement plant)
Domestic	:	482.85 KLD (Cement & Power plant)

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	Process Water Consumption per Unit of Product Output			
Name of Product	During Previous Financial Year (2017-18)	During Current Financial Year (2018-19)		
Cement	0.018 KL/MT of cement	0.020 KL/MT of cement		
Clinker	0.026 KL/MT of clinker	0.021 KL/MT of clinker		
WHRB Power	0.481 KL/MW of WHRB power generation	0.258 KL/MW of WHRB power generation		
CPP Power	0. 278 KL/MW of CPP power generation	0. 120 KL/MW of CPP power generation		

(II) RAW MATERIAL CONSUMPTION:

Name of Raw Material	Name of Product	Consumption of Raw Material Per Unit of Output (Cement)/Clinker		
		During Previous Financial Year (2017-18)	During Current Financial Year (2018-19)	
Gypsum		0.0846	0.0822	
Fly Ash	Cement	0.3109	0.3185	
GBFS Slag		0.0565	0.0253	
Clinker		0.5624	0.5807	
Limestone	1	1.4775	1.4898	
Fuel(Pet Coke/Coal)		0.1239	0.1109	
Additives (Iron Ore, Red Mud)	Clinker	0.0211	0.0133	

(III) POWER CONSUMPTION (KWH/T OF PRODUCT):

Product Name	During Previous Financial Year (2017-18)	During Current Financial Year (2018-19)	
Cement	60.44	61.99	
Clinker	62.61	61.58	

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(IV) TOTAL PRODUCTION (MT):

Product Name	During Previous Financial Year (2017-18)	During Current Financial Year (2018-19)
Cement	2441400	2381845
Clinker	2761983	4379792
WHRB	97649824 KWH	172455755 KWH
Power		
CPP Power	118155553 KWH	130221628 KWH

PART – C

DISCHARGED TO ENVIRONMENTAL / UNIT OF OUTPUT

Pollutants	Quantity of Pollutants Discharged (Mass/Day)	Concentration of Pollutants in Discharge (Mass/Value)	Percentage of variation from prescribed standard with reasons
(a)	Water	(Mass/Value) As the plant is being operated on dry process technology, no liquid effluent is generated from cement plant. The Domestic waste water generated from the office toilet and canteen being treated with STP and treated water used in greenery development in the plant premises	
(b)	Air	Please refer Annexure – 1 & 2	

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<u>PART – D</u>

HAZARDOUS WASTE

(As specified under Hazardous & other wastes (Management and Transboundary Movement) Rule, 2016)

Hazardous	Total Quantity (Ltrs.)		
Waste	During Previous Financial Year (2017-18)	During Current Financial Year (2018-19)	
a)From Process (Cement manufacturing is based on "Dry Process" No Hazardous waste is generated from the process except used oil which is drained from Machinery / Equipments)	Nil	Used Oil – 15.20 KL Distillation Residue – 17.78 MT Acid Tar Sludge – 0 MT	
(b) From Pollution Control Facilities	N.A.	N.A.	

<u>PART – E</u> SOLID WASTE

		Total Quantity		
		During Previous Financial Year (2017-18) (MT/Year)	During Current Financial Year (2018-19) (MT/Year)	
(a)	From Process	Nil	Nil	
(b)	From Pollution Control Facility	Dust collected in the ESPs, Bag House and Bag Filters are recycled to the system	Dust collected in the ESPs, Bag House and Bag Filters are recycled to the system	
(c)	1. Quantity rejected or re- utilized within the unit	100%	100%	

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2. Sold (Metal / nonmetal / electrical / plastic scrap /Burst Bags)	918.41	1768.72
3. Disposed	NA	NA

Note: - Scraps sold to scrap dealers/recyclers

PART – F

Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both the categories of wastes:

Battery Wastes:

As specified under Batteries (Management and Handling) Amendment Rules, 2010, we have purchased following new batteries of different categories.

Number of new batteries of different categories purchased from the manufacturer / importer / dealer or any other agency.	During Current Financial Year April,2018 to March,2019	
Category:	No of Batteries	Approximate Weight (In Tons)
(i) Automotive		
a) Four wheeler	63	2.94
b) Two wheeler	Nil	Nil
(ii) Industrial		
a) UPS (Vrla Type)	53	1.07
b) Motive Power	Nil	Nil
c) Stand –by	Nil	Nil
(iii) Others	Nil	Nil
Total	116	4.01

Number of used batteries of different categories sent to manufacturer/dealer/importer/registered recycler/or any other agency	During Current Financial Year April,2018 to March,2019	
Common for Cement plan	t & Mines	
Category:	No of Batteries	Approximate Weight (In Tons)
(i) Automotive		
a) Four wheeler	Nil	Nil

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b) Two wheeler	Nil	Nil
(ii) Industrial		
a) UPS	Nil	Nil
b) Motive Power	Nil	Nil
c) Stand –by	Nil	Nil
(iii) Others	Nil	Nil
Tota	l Nil	Nil

Used battery scrap sold to authorized recycler

Hazardous Wastes

Cement manufacturing is based on "Dry Process". No Hazardous waste is generated from the process except used oil which is drained from Machineries / Equipments. The used oil & Acid Lead will be sold to CPCB authorized recyclers.

E-WASTE

	Total Quantity (MT)								
	During Previous Financial (2017-18)	During Current Financial Year (2018-19)							
April, 2018 to March,2019	Nil	Nil							

Note- E-Waste Will be sold to approved E- Waste Recycler

Bio-Medical Wastes:

Bio-medical waste generated during current financial year April, 2018 to March, 2019 under the Bio-Medical Waste Management Rules, 2016, are as follows.

	Bio-Medical Waste Quantity (Kg)							
	(Cat Yellow)	(Cat-Red)	(Cat White)	(CatBlue)				
April, 2018 to March, 2019	51.51	14.10	7.66	8.16				

PART – G

IMPACT OF THE POLLUTION CONTROL MEASURES ON CONSERVATION OF NATURAL RESOURCES AND CONSEQUENTLY ON THE COST OF PRODUCTION

M/s Shree Raipur Cement Plant (A Unit of Shree Cement Ltd.) is being operated on dry process technology, which is cost effective and environmentally clean technology. The advantage of dry process is also in fuel economy. The stack emissions from the plant are controlled by equipment like ESPs, Reverse Air Bag

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House (RABH) and Bag Filters installed at various material transfer points to clean the process and arrest the fugitive emissions. The particulate matter collected in the pollution control equipment is recycled in process and neutralizing the cost of operation of pollution control equipments and hence no cost impact on the production cost.

<u>PART – H</u> <u>ADDITIONAL MEASURES / INVESTMENTS PROPOSAL FOR</u> <u>ENVIRONMENT PROTECTION INCLUDING ABATEMENT OF</u> <u>POLLUTION</u>

Green belt development and tree plantation is our ongoing process. So far 94,559 plants have been are planted at various locations within the plant area till March 2019.

Under Hariyar Chhattisgarh project.we have planted 15000 trees near School of Bharuwadih, Semradih, Khapradih, Chandi, Karahi & Parkidih villages with about 10 KM of both side of road plantation from Bharuwadih to Chandi village and this year, we have also planted about 15050 trees at Bhatapara. Apart from that, 5000 tree sapling have been also planted in Railway siding, 4600 trees has been planted in colony area. Hariyar Plantation near villages 14524.

PART – I

ANY OTHER PARTICULATES FOR IMPROVING THE QUALITY OF ENVIRONMENT.

- 1. Installed 4 numbers of online Ambient Air Quality Monitoring Stations and Installed Continuous Emission Monitoring System at raw mill, kiln stack. Cooler stack, Cement mill stack.
- 2. Monitoring of stack emission and ambient air and water quality is being done regularly.
- 3. Opacity meters have been installed at the stack of Kiln, Coal mill, clinker cooler and cement mill for continuous online stack emission monitoring.
- 4. On line SO2 & NOx Analyzer have been installed at Kiln stack to measure SO2 & NOx on continuous basis.
- 5. On line CEMS monitoring system has been installed in Raw Mill & Kiln stack.

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- 6. On line SO2 & NOx, O2. Gas emission is being measured through Flue gas Portable analyzer (Testo 340) on regularly basis.
- 7. 72 & 35 numbers of Bag filters have been installed at various material transfer points in unit-1 & unit-2 respectively for control of fugitive emission.
- 8. Cement being manufacturing in dry process and there is no any effluent generated from the process hence maintaining Zero Effluent Discharge Plant.
- Real time on line CEMS data for AAQMS & stacks, are transmitting to State Pollution Control Board or Pollution Control Committees and Central Pollution Control Board on continuous basis.
- 10. Emission level well within the prescribed norms.
- 11. Waste heat recovery system has been installed in unit-I & II.
- 12. Concreting near Raw mill, coal mill, cooler, cement mill, packing plant and TG building has been done.
- 13. Fly ash is being transported in the closed containers and bulkers.
- 14. Constructed three Clinker silo with fully covered tin shed cover shed where stored clinker to avoid dust emission.
- 15. Installed bag filter with fully enclosed tin sheet at all material transfer points to avoid fugitive dust emission
- 16. All Storage Silo installed with Bag filter for controlling dust emission
- 17. Maintenance department is doing regular checking and scheduled maintenance of all the pollution control devices.
- 18. Civil department taking care for of House keeping with the help of three road sweeping machines.
- 19. Domestic waste water generated by unit being treated in Movable Bed Bio reactor (MBBR) based sewage treatment plant (STP). Treated STP water being used for plantation/ greenery development.
- 20. Horticulture Department is taking care of tree plantation and green belt development.

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- 21. Applicable best available control measures have been adopted to minimize the fugitive dust emission from each fugitive dust source type within active operation
- 22. All Belt Conveyor belt fully covered with tin sheet & also installed Bag filter at all material transfer points.
- 23. Constructed two cover sheds where we stored our all raw material including Coal to avoid dust emission.
- 24. Developed 2 Nos of Rain water harvesting Pond capacity about 1 Lakh each in plant premises where mostly rain water from the within the plant premises is being stored & recharging ground water thru recharge pit.

On support of above, we are enclosing herewith following: -

Annexure-1 : - Stack Emission monitoring report.

Annexure-2 : - Ambient Air Quality Monitoring Station Report.

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Annexure-1

Stack Emission Report (PM All values in mg/Nm3)										
S. No.	Month	Cement Mill	Raw Mill & Kiln Stack - I	Raw Mill & Kiln Stack - II	Coal Mill Stack - I	Coal Mill Stack - II	Clinker Cooler Stack - I	Clinker Cooler Stack - II	Captive Power plant Stack	
1	Apr-18	15.08	9.49	10.73	15.64	21.54	12.58	13.24	29.48	
2	May-18	14.64	9.94	11.82	14.59	13.93	12.33	16.07	24.23	
3	Jun-18	13.79	10.01	11.81	15.72	10.22	13.12	12.72	34.73	
4	Jul-18	12.39	9.48	16.96	14.69	13.72	11.86	8.69	20.09	
5	Aug-18	13.69	10.18	14.26	16.78	17.61	12.73	10.45	33.64	
6	Sep-18	12.37	9.04	15.12	17.15	15.35	11.75	7.36	23.69	
7	Oct-18	13.63	9.37	17.83	15.46	14.26	11.88	13.19	34.89	
8	Nov-18	15.09	11.13	18.21	16.82	18.02	13.97	10.11	20.82	
9	Dec-18	14.68	0	19.56	0	14.22	0	10.77	9.33	
10	Jan-19	13.7	8.28	10.12	21.72	20.51	12.62	10.31	37.12	
11	Feb-19	15.11	9.42	15.38	17.06	16.87	11.45	9.58	27.52	
12	Mar-19	14.16	11.22	12.79	16.27	15.85	13.48	10.34	9.48	

Shree Raipur Cement Plant (A Unit of Shree Cement Ltd) tack Emission Report (PM All values in mg/Nm3

Shree Raipur Cement Plant (A Unit of Shree Cement Itd) AMBIENT AIR QUALITY MONITORING STATION DATA

Location	Parameters	Unit	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19
AAQMS 1 (Mines boundary towards village Bharuwadih)	PM 10	-	40.69	47.45	41.92	36.31	35.23	55.93	70.15	54.64	51.11	45.6	58.25	61.22
	PM 2.5		19.29	24.03	17.7	17.09	12.77	19.77	21.51	22.72	25.01	24.48	32.32	38.33
	SO2		2.76	2.96	2.91	2.71	7.29	5.35	3.22	3.83	3.19	5.13	4.65	4.53
	NOx		3.01	2.3	2.33	2.33	2.99	1.87	2.15	3.06	4.85	3.08	2.79	2.72
AAOME 2 /Minor	PM 10		47.62	55.91	43.44	35.42	41.9	49.56	44.24	47.54	55.09	48.57	65.54	65.27
boundary towards	PM 2.5	*	21.86	21.99	16.47	12.7	13.88	22.48	21.59	22.69	28.46	22.66	30.28	33.76
villageSemradih)	SO2		3.23	3.67	4.07	3.8	3.8	4.75	4.84	5.05	6.84	9.97	8.05	8.47
	NOx		4.4	4.58	4.61	4.63	4.63	2.37	3.02	3.54	9.77	7.54	6.9	4.24
AAOMS 2 (Plant	PM 10	µg/m3	49.27	47.67	43.24	47.74	35.92	46.45	46.61	50.58	56.63	45.31	68.55	79.65
Boundary towards	PM 2.5		27.07	23.97	21.9	22.35	17.64	20.49	22.29	28.08	30.5	22.87	55.22	32.76
South Diection)	502		4.15	3.42	8.06	12.54	13.82	11.55	9.03	7.1	4.97	14.34	9.4	10.28
South Diection	NOx		5.6	4.04	5.7	5.39	4.1	4.12	4.34	4.43	8.79	6.44	7.52	8.22
AAQMS 4 (Plant Boundary towards village Khapradih)	PM 10		45.89	50.54	42.7	39.93	31.17	41.02	54.86	49.12	59.28	46.85	62.9	67.52
	PM 2.5		18.57	21.24	16.99	16.77	15.09	28.67	24.79	26.27	31.97	24.08	30.21	30.49
	SO2		6.28	6.32	6.91	6.35	5.41	5.27	5.62	8.02	8.02	8.84	7.51	18.32
	NOx		7.13	6.88	6.8	7.42	8.15	8.05	8.01	8.08	11.65	5.68	5.59	5.5

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Annexure-2