JK Cement Works, Nimbahera
A unit of JK Cement Ltd.
CIN: L17229UP1994PLC017199
Kailash Nagar - 312617, Nimbahera Distt., Chittorgarh (Raj.) INDIA
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O/C

NBH/PC/ESR/21 2259

Date: 17.09.2021

To,
The Member Secretary,
Rajasthan State Pollution Control Board,
4, Industrial Area, Jhalana Dungri
JAIPUR – 302004 (Raj)

Subject: Environmental Statement Report for the year FY 2020-2021 of Cement Plant of M/s J.K. Cement Works, Nimbahera, Tehsil: Nimbahera, Dist.: Chittorgarh (Rajasthan).

Ref.: F (CPM) / Chittorgarh (Nimbahera)/ 5(1)/ 2010 – 2011 /8039-8041 Order No. 2017 – 2018 / CPM / 5026 dated 20.12.2017 & amendment letter no. F(Tech) RPCB/CPM/(C-90)/2050 dated 25/01/2018.

Dear Sir,

Kindly refer to above subject matter, please find enclosed herewith Environment Statement Report of Cement Plant of J. K. Cement Works, Nimbahera for the FY 2020-21 for your reference and record. We trust you will find the same in order.

Thanking You.

Yours Faithfully
For J.K. Cement Works, Nimbahera

R. B. M. Tripathi
President (O)& Unit Head

Encl: as above.

Copy:

The Regional Officer, Rajasthan State Pollution Control Board, Near FCI Godown, Chanderiya, Distt. - CHITTORGARH (RAJ)

ENVIRONMENTAL STATEMENT

FORM - V

Environmental Statement for the financial year 2020-21, ending the 31st March 2021

PART-A

i. Name an address of the owner/occupier of the industry operation or process	**J.K. Cement Works, Nimbahera (Cement Plant)** Kailash Nagar, Tehsil: Nimbahera, Chittorgarh (Rajasthan) PIN- 312617
ii. Industry category **Primary - (STC Code)** **Secondary - (STC Code)**	Primary
iii. Production capacity	Clinker - 2.8 MMTPA Cement- 3.6 MMTPA
iv. Year of establishment- (UNIT WISE)	UNIT-I 1974 / UNIT-II 1978 / UNIT-III 1982 & 1988 upgraded in 1998-99
v. Date of last environmental statement submitted	15th September 2020

PART-B

WATER AND RAW MATERIAL CONSUMPTION

i. WATER CONSUMPTION in m3/day

Process : NIL

Cooling : 790 m3/day

Domestic : 17 m3/day

Name of products	Process water consumption per unit of products	
	During the previous financial year (2019-20) (KL/MT)	During the current financial year (2020-21) (KL/MT)
1. CEMENT	0.08	0.058

* Total water consumption including WHR waste water reutilized.

ii. **RAW MATERIAL CONSUMPTION**

Name of raw material	Name of products	Consumption of raw material per unit of output	
		During the previous financial year (2019-20)	During the current financial year (2020-21)
Limestone	Clinker	1.39	1.37
Laterite / Redocher		0.149	0.106
Coal		0.024	0.056
Petcoke		0.096	0.064
Alternative Fuel resources and Alternative Raw material		0.0181	0.0190
Gypsum	Cement	0.035	0.037
Flyash% of OPC + PPC		0.147	0.156
Flyash% of PPC		0.277	0.295
Alternative Raw Material and Performance improver		0.019	0.022

PART-C

POLLUTION DISCHARGE TO ENVIRONMENT / UNIT OF OUTPUT

Pollutants	Quantity of pollutants discharged (Ton/Day)	Concentration of pollutants in discharge (mg/Nm3)	Percentage of variation from prescribed standards with reasons
(a) Water	Cement plant is being operated on dry process technology, hence no liquid effluent is generated. Domestic waste water generated from the office toilet and canteen is being treated in STP and treated water used in plantation & horticulture purpose within the premises.		
(b) Air	Stack Emission (yearly average)		
PM	0.487	14.97	-50.10 %
SO2	0.142	7.55	-92.45%
NOx	8.08	296.10	-70.39%

Ambient Air Emission (yearly average)					
Location	Parameters				
	PM10 (µg/m3)	PM2.5 (µg/m3)	SO2 (µg/m3)	NOx (µg/m3)	CO (mg/m3)
Main security gate	44.3	32.7	10.9	21.7	614.9
Near thermal power plant	59.9	40.3	13.5	24.1	646.1
Near new J.K. factory gate	51.4	35.8	11.6	21.5	675.5
Near Mines gate	54.8	37.8	12.1	22.8	642.1

STP yearly average Analysis report

S.No.	PARAMETER	Standards	Yearly Average
1	pH	Between 5.5 to 9.0	7.54
2	Total Suspended solids	Not to exceed 100 mg/l	13.80
3	Chemical Oxygen Demand	Not to exceed 250 mg/l	27.80
4	Biological Oxygen Demand (3 days at 27 Degree C)	Not to exceed 30 mg/l	6.31
5	Oil & Grease	Not to exceed 10 mg/l	1.9
6	Ammonical Nitrogen (as N)	Not to exceed 50 mg/l	0.15

Noise level monitoring data

Month	Main Security Gate		Thermal Power Plant		New JK Factory Gate		Mines Office	
	Day	Night	Day	Night	Day	Night	Day	Night
Apr-20	Plant was not in operation due to covid -19 pandemic							
May-20	Plant was not in operation due to covid -19 pandemic							
Jun-20	67.3	56.8	68.4	58.7	66.7	57.6	65.9	55.1
Jul-20	68.4	57.1	69.8	59.7	67.3	58.3	66.4	56.4
Aug-20	67.1	56.4	67.8	58.1	66.2	57.1	65.4	54.9
Sep-20	66.4	54.8	68.7	56.7	65.5	55.6	64.4	53.8
Oct-20	65.3	52.9	67.1	55.1	67.1	56.2	63.8	52.4
Nov-20	66.4	54.8	65	55	69	61	68	58
Dec-20	65.6	52.1	67.2	55.8	65.2	53.7	64.9	53.1
Jan-21	69.7	53.8	64.8	53.1	66.8	54.9	65.8	53.9
Feb-21	68.4	54.1	65.9	54.7	68.9	56.3	67.1	55.2
Mar-21	67.6	55.7	66.8	57.3	64.9	59.8	68.6	57.5
YTD Avg	56.01	45.70	55.95	47.01	55.63	47.54	55.02	45.85

PART-D

(As specified under Hazardous & Other Waste Management Rules-2016)

Hazardous waste	Total Quantity	
	During previous financial year (2019-20) (KL)	During current financial year (2020-21) (KL)
(a) From process	Used oil (5.1)- 9.970 * Waste oil (5.2)- NIL	Used oil (5.1)- 26.80* Waste oil (5.2)- NIL
(b) From pollution Control facilities	Not applicable	Not applicable

*including Cement Plant, CPP, WHRS, Mines & Colony. Hazardous waste generated are being sold to authorized recycler by CPCB.

PART-E
SOLID WASTE

		Total Quantity	
		During previous financial year (2019-20) (MT/Year)	During current financial year (2020-21) (MT/Year)
(a)	**From process**	NONE	NONE
(b)	**From pollution control facility**	Dust collected in ESP, bag house and bag filters are recycled into the system	Dust collected in ESP, bag house and bag filters are recycled into the system
(c)	**Quantity rejected or reutilized with in the unit**	100%	100%

PART-F

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

1) Hazardous waste generated in the form of used / spent oil, waste / residue containing oil, which is stored in barrels at safe & dedicated area in covered shed and sold to recycler approved by Central Pollution Control Board.
2) Dust collected from pollution control equipment's (i.e. from ESP, Bag house and Bag filter) is totally recycled in the process.

PART-G

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

Cement manufacturing is a dry process technology, hence no effluent generated from process. 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 and Bag filters installed at various material transfer points to arrest the fugitive emissions. The particulate matter collected from the pollution control equipment is recycled in process and optimizing the cost of operation of pollution control equipment, conserving natural raw material and hence no impact on the environment.

PART-H

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

1) Conducted 3rd party stack emission monitoring during co-processing of AFR in Cement Kiln.

2) Covered shed constructed for limestone storage

3) Reed Bed STP installed with capacity of 55 KLD and 35 KLD to treat the additional Sewage.

PART-I

ANY OTHER PARTICULARS FOR IMPROVING THE QUALITY OF ENVIRONMENT

1) Monitoring of stack emission and ambient air and water quality is being done regularly as mentioned in consent to operate.
2) 4 nos. of Continuous Ambient Air Quality Monitoring Systems (CAAQMS) has been installed at periphery of the plant.
3) Continuous Emission Monitoring Systems (CEMS) for PM, SO2 & NOx have been installed at stack of Kiln section and for monitoring of PM emission CEMS has installed at stack coal mill, cooler & cement mill and real time data transfer to RSPCB & CPCB (13 nos. CEMS).
4) Bag filters have been installed at various material transfer points to control fugitive emission.
5) Cement being manufacturing in dry process and there is no any effluent generated from the process hence maintaining Zero Effluent Discharge unit.
6) Apart from this fly ash purchased from nearby thermal power plant and use for cement production.
7) Raw materials are storage in covered shed, product in closed silo with high efficient bag filters for fugitive dust emission control.
8) To utilization of waste heat, Waste heat recovery system has been installed to generate green power.
9) Proper Housekeeping and cleaning is being done with the help of three road sweeping machines.

10) Domestic waste water generated is being treated in sewage treatment plant (STP). Treated water is utilized for plantation / horticulture development.
11) Cover shed Constructed to store the raw material, to avoid fugitive emission. Finish product stored in closed silo.
12) All Belt Conveyor belt are fully covered & also installed Bag filter at all material transfer points
13) Cemented road constructed to avoid fugitive dust generation during the movement of vehicle.
14) Telemetry system installed for online ground water level monitoring.
15) Industry has constructed 15 nos. of rain water harvesting structures in plant and colony area and 02 Nos. Check bund on seasonal nallah and 01 water pond at Nimbahera plant.
16) Total 8123 plants are planted in FY- 2020-21, total plantation 82186 nos. till 31st March 2021, apart from this unit has covered more than 33% area under green belt.

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