



JK Cement LTD.

Phone : +91-1477-220098, 220087
Fax : +91-1477-220027, 220049
E-mail : jkc.nbh@jkcement.com
Web : www.jkcement.com

J.K. Cement Works, Mangrol
C/o. Kailash Nagar-312617, Nimbahera
Distt. Chittorgarh (Raj.) INDIA

CIN : L17229UP1994PLC017199

ISO 9001:2008, ISO 14001:2004 & OHSAS 18001 : 2007 CERTIFIED COMPANY

MGR/PC/ESR/21 269

Date: 15.09.2020

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

Subject: Environmental Statement Report for the FY 2019-2020 of Waste Heat Recovery Power Plant (10 MW) of M/s J. K. Cement Works, Mangrol, Tehsil: Nimbahera, Dist : Chittorgarh (Rajasthan).

Ref.:F(Tech)/CHITTORGARH(NIMBAHERA)/1(1)/2008-2009/1530-1532, Order no. 2017-2018/CPM/4863, Dated 30/05/2017.

Dear Sir,

With reference to above subject matter, Please find enclosed herewith Environment Statement Report of Waste Heat Recovery Power Plant (10 MW) of M/s J. K. Cement Works, Mangrol for the FY 2019-2020 for your kind reference and record. We trust you will find the same in order.

Thanking You.

O/C

Yours Faithfully
For J.K. Cement Works, Mangrol

Anil Kumar Jain
Sr. General Manager (Environment)

Encl. : as above.

Copy:

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

Corporate & Registered Office : Kamla Tower, Kanpur-208001, (U. P.) INDIA
Phone : +91-512-2371478 to 81 **Fax :** 2399854 **E-mail :** ho.grey@jkcement.com



J. K. Cement Works, Nimbahera
J. K. Cement Works Mangrol
J. K. Cement Works, Gotan

J. K. Power, Bamania
J. K. Cement Works, Muddapur
J. K. White Cement Works, Gotan



ENVIRONMENTAL STATEMENT

FORM - V

Environmental Statement for the financial year 2019-20, ending the 31st March 2020

PART-A

i. Name an address of the owner/occupier of the industry operation or process	J.K. Cement Works, Mangrol 10 MW Waste Heat Recovery System C/o Kailash Nagar, Nimbahera Tehsil: Nimbahera, Chittorgarh (Rajasthan) PIN- 312617
ii. Industry category Primary - (STC Code) Secondary - (STC Code)	Primary
iii. Production capacity	10 MW power generation
iv. Year of establishment-	Year 2014
v. Date of last environmental statement submitted	25 th -September- 2019

PART-B

WATER AND RAW MATERIAL CONSUMPTION

i. **WATER CONSUMPTION** in m³/day

Process	: -	Nil
Cooling	: -	225 m ³ /day
Domestic	: -	5 m ³ /day

Name of products	Process water consumption per unit of products (For cooling & domestic)	
	During the previous financial year (2018-19) (KL/MWh)	During the current financial year (2019-20) (KL/MWh)
1. Power (Electricity)	0.81	0.82

ii. **RAW MATERIAL CONSUMPTION**

Name of raw material	Name of products	Consumption of raw material per unit of output	
		During the previous financial year (2018-19)	During the current financial year (2019-20)
Waste hot gases from Kiln & Cooler	Power (Electricity)	Waste heat recovered from Kiln-1, Kiln-2 ,Cooler -1 & Cooler -2 (Waste hot gases depends up on availability)	

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	Effluent waste water generated from blow down of cooling tower and DM plant waste water treated in neutralization pit as prescribed by Rajasthan State Pollution Control Board and treated water is being utilized in cement plant in cooling purpose, hence maintaining Zero Liquid Discharge unit.				
(b) Air	Waste heat recovery power plant has no any stack , hence it is not applicable				
Ambient Air Quality (yearly average) in µg/m³					
Location	Parameters				
	PM10	PM2.5	SO2	NOx	CO (in mg/m³)
Near Time Office	52.7	36.7	18.2	24.6	644.9
Near Thermal Power Plant	57.5	39.7	20.0	23.6	721.5
Near Factory Gate	59.7	39.8	18.0	25.5	746.3
Near Colony Gate	54.2	38.1	16.9	24.9	687.2

STP treated water quality data

STP treated water Quality		
Parameters	Standards	Average results of YTD
pH	Between 5.5 to 9.0	7.08
Total Suspended solids	Not to exceed 100 mg/l	4.95
Biological Oxygen Demand (3 days at 27 Degree C)	Not to exceed 30 mg/l	3.7
Chemical Oxygen Demand	Not to exceed 250 mg/l	12.48
Oil & Grease	Not to exceed 10 mg/l	<2.46
Ammonical Nitrogen (as N)	Not to exceed 50 mg/l	1.05
Sulphide (as S)	Not to exceed 2.0 mg/l	0.1
Total Residual Chlorine	Not to exceed 1.0 mg/l	0.1

Treated water quality of Neutralization pit data

Treated water quality of Neutralization pit		
Parameters	Standards	Average of YTD
Total Suspended Solids	Not to exceed 100 mg/L	43.40
Oil & Grease	Not to exceed 10 mg/L	1.63
Biochemical Oxygen Demand (3 days at 27° C)	Not to exceed 30 mg/l	6.13
Free available Chlorine	Not to exceed 0.5 mg/l	0.11
PH	Between 6.5 to 8.5	7.30
Temperature	Shall not exceed 5° C above the receiving water temperature	4 oC higher than the intake water temperature
Copper (as Cu)	Not to exceed 1.0 mg/l	0.09
Zinc (as Zn)	Not to exceed 1.0 mg/l	0.02
Total Chromium (as Cr)	Not to exceed 0.2 mg/l	0.02
Iron (as Fe)	Not to exceed 1.0 mg/l	0.43
Chemical Oxygen Demand	Not to exceed 250 mg/l	28.35
Phosphate (as P)	Not to exceed 5.0 mg/l	1.51

Noise level monitoring data

Month	Noise Monitoring Report FY 2019-20							
	Near Time office		Near Thermal Power Plant		Near Raw material Gate		Near Packing Plant Gate	
	Day	Night	Day	Night	Day	Night	Day	Night
Apr-19	71.8	61.4	67.8	57.2	71.8	61.4	67.8	57.2
May-19	69.9	60.8	69.2	59.1	69.9	60.8	69.2	59.1
Jun-19	71.6	61.2	70.0	60.4	71.6	61.2	70.0	60.4
Jul-19	70.5	60.5	68.9	58.1	70.5	60.5	68.9	58.1
Aug-19	69.7	59.9	69.9	59.6	69.7	59.9	69.9	59.6
Sep-19	71.0	61.1	68.5	58.2	71.0	61.1	68.5	58.2
Oct-19	67.1	57.5	69.2	59.1	69.4	59.2	71.4	61.3
Nov-19	68.4	58.6	67.7	58.7	68.7	57.4	70.8	61.1
Dec-19	67.9	58.5	68.4	58.9	69.6	58.9	71.6	61.5
Jan-20	68.7	59.2	68.9	59.2	70.2	59.4	70.9	60.8
Feb-20	67.4	58.4	69.2	59.6	70.8	58.5	71.2	61.2
Mar-20	66.2	54.6	66.7	54.8	65.6	52.4	66.9	51.2
YTD	69.2	59.3	68.7	58.6	69.9	59.2	69.8	59.1

PART-D

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

Hazardous waste	Total Quantity	
	During previous financial year (2018-19) (KL)	During current financial year (2019-20) (KL)
(a) From process	Used oil (5.1)- 17.4 * Waste oil (5.2)- NIL	Used oil (5.1)- 9.40* Waste oil (5.2)- NIL
(b) From pollution Control facilities	Not applicable	Not applicable

*including Cement Plant L-1,2, 3, CPP, WHRS, Mines & Colony. Hazardous waste generated are being sold through authorized recycler by CPCB.

PART-E
SOLID WASTE

		Total Quantity	
		During previous financial year (2018-19) (MT/Year)	During current financial year (2019-20) (MT/Year)
(a)	From process	Not applicable	Not applicable
(b)	From pollution control facility	Not applicable	Not applicable
(c)	Quantity reutilized with in the unit	Not applicable	Not applicable

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 and sold to recycler approved by Central Pollution Control Board.
- 2) Waste hot gas release from Kiln & Cooler section totally use for power generation by WHRS.
- 3) Effluent waste water generated from blow down of cooling tower and DM plant waste water treated in neutralization pit as prescribed by Rajasthan State Pollution Control Board and treated water is being utilized in cement plant in cooling purpose, hence maintaining Zero Liquid Discharge unit.

PART-G

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

Industry have installed neutralization pit for proper treatment of trade effluent & treated water quality meet the norms prescribed by Rajasthan State Pollution Control Board. Treated water is being utilized in process and machinery cooling purposes.

PART-H

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

- 1) Air Cooled condenser installed.

PART-I

ANY OTHER PARTICULARS FOR IMPROVING THE QUALITY OF ENVIRONMENT

- 1) Effluent water quality monitoring 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) Effluent generated from the cooling tower blow down and DM plant waste water is being treated through neutralization and used in cement plant for cooling purpose, hence maintaining Zero Liquid Discharge Unit (ZLD).
- 4) Proper Housekeeping and cleaning is being done with the help of three road sweeping machines.
- 5) Domestic waste water generated is being treated in sewage treatment plant (STP). Treated water is utilized for plantation / horticulture development.
- 6) 16 Rain water harvesting structures have been constructed in plant and colony area to recharge ground water.
- 7) Cemented road constructed to avoid fugitive dust generation during the movement of vehicle.
- 8) Telemetry system installed for online ground water level monitoring.
- 9) Total 4800 sapling planted in the FY 2019-20.
- 10) More than 33 % area covered with green belt.
