

MGR/PC/ESR/21

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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 FY 2020-2021 of Waste Heat Recovery Power Plant (29.1 MW) of M/s J. K. Cement Works, Mangrol, Tehsil: Nimbahera, Dist: Chittorgarh (Rajasthan).

Ref: F(Tech)/CHITTORGARH(NIMBAHERA)/11(1)/2018-2019/4400-4402, Order no. 2019 2020/CPM/5599, Dated 04/02/2020.

Dear Sir,

Kindly refer to above subject matter, please find enclosed herewith Environment Statement Report of Waste Heat Recovery Power Plant (29.1 MW) of M/s J. K. Cement Works, Mangrol for the FY 2020-2021 for your kind reference and record. We trust you will find the same in order.

Thanking You.

Yours Faithfully

For J.K. Cement Works, Mangrol

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)-312021



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**JK CEMENT
WallMaxX**
White Cement Wall Putty



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, Mangrol 29.1 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	29.1 MW power generation
iv. Year of establishment-	Year - 2020
v. Date of last environmental statement submitted	15 th September 2020

PART-B

WATER AND RAW MATERIAL CONSUMPTION

i. WATER CONSUMPTION in m³/day

Plant has commissioned in year 2020.

Name of products	Process water consumption per unit of products (For cooling & domestic)	
	During the previous financial year (2019-20) (KL/MWh)	During the current financial year (2020-21) (KL/MWh)
1. Power (Electricity)	Plant has commissioned in year 2020.	0.600

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 ,Kiln-3 ,Cooler -1 , Cooler -2 & Cooler-3 (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 $\mu\text{g}/\text{m}^3$

Location	Parameters				
	PM10	PM2.5	SO2	NOx	CO
Near Time Office	52.3	38.0	19.9	23.4	678.0
Near Thermal Power Plant	57.5	40.8	21.6	24.0	738.6
Near Factory Gate	60.5	41.5	22.0	23.8	745.8
Near Colony Gate	52.6	37.4	21.2	23.8	705.4

*Plant has situated in existing plant premises

Neutralization pit treated waste water yearly average Analysis report

S.No.	PARAMETERS	RPCB Limits	AVERAGE
1	pH	Between 6.5 to 8.5	7.42
2	Total Suspended Solids (TSS)	Not to exceed 100 mg/l	29.97
3	Oil & Grease	Not to exceed 20 mg/l	1.60
4	Bio-Chemical Oxygen Demand (BOD) (3 Days at 270C)	Not to exceed 30 mg/l	6.9
5	Chemical Oxygen Demand (COD)	Not to exceed 250 mg/l	43.12
6	Phosphate	Not to exceed 5 mg/l	8.07
7	Iron (as Fe)	Not to exceed 1.0 mg/l	0.194
8	Total Chromium (as Cr)	Not to exceed 0.2 mg/l	<0.02
9	Free Available chlorine	Not to exceed 0.5 mg/l	0.1
10	Copper as (Cu)	Not to exceed 1.0 mg/l	<0.02
11	Zinc (Zn)	Not to exceed 1.0 mg/l	<0.02
12	Temperature	Not more than 5 °C higher than the intake water temperature	4° C Higher than the intake water

Noise level monitoring data

Month	Noise Monitoring Report FY 2020-21							
	Near Time office		Near Thermal Power Plant		Near Raw material Gate		Near Packing Plant Gate	
	Day	Night	Day	Night	Day	Night	Day	Night
Apr-20	64.5	52.4	68.2	56.7	70.2	59.8	62.8	52.8
May-20	63.9	56.3	69.4	57.9	72.1	58.4	64.3	52.6
Jun-20	65.8	54.7	70.1	58.3	69.6	56.8	66.7	55.4
Jul-20	64.9	56.2	67.5	56.1	68.8	57.7	68.5	53.8
Aug-20	66.4	56.7	69	57.2	69.7	57.9	67.4	56.1
Sep-20	69.3	57.4	67.8	54.6	70.2	58.2	65.9	54.7
Oct-20	66	53.9	68.1	58.3	70.1	58.3	70.5	60.8
Nov-20	67.2	54.2	67.3	56.9	71.3	57.9	71.3	60.1
Dec-20	65.6	53.9	68.9	57.6	69.9	56.8	68.9	58.3
Jan-21	68.2	54.2	69.3	56.3	67.5	57.5	65.2	52.8
Feb-21	67.9	52.4	69.2	56.4	68.4	58.6	68	56.2
Mar-21	66.9	52.9	68.8	56.2	70.2	59.3	67.8	55.4
YTD	66.38	54.6	68.63	56.87	69.83	58.10	67.27	55.75

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)- 34.80* 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 (2019-20) (MT/Year)	During current financial year (2020-21) (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 nos of tree in plant up to March-2021 is 143976 nos, including cement plant, WHR & CPP
- 10) More than 33 % area covered with green belt.
