



Chettinad Cement, KW/Cement Plant /Environmental Statement / 2020-2021/EHS-265
28th Sep, 2021

The Member Secretary

Tamil Nadu Pollution Control Board
76, Mount Salai, Guindy
Chennai – 600 032

Respected Sir,

Sub : Submission of “ Environmental Statement – Form V ” for the year 2020-2021
under Environment (Protection) Rules,1986 for our Cement Plant – Reg.

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With reference to the above subject, the “Environmental Statement – Form V” has been submitted here for the year 2020-2021 under Environment (Protection) Rules, 1986 for our Cement Plant - 4.5 MTPA which is situated at Karikkali & Dholipatti Villages, Guziliamparai Taluk, Dindigul District, Tamilnadu – 624703.

Kindly acknowledge for receipt of the same please

Thanking you,

Yours faithfully,
for CHETTINAD CEMENT CORPORATION PRIVATE LIMITED,


V.KRISHNAN
JOINT PRESIDENT [WORKS]

Copy to :

1. The Regional Director, CPCB, Bangalore
2. The Director, Regional Office, MoEF & CC, Chennai
3. The Joint Chief Environmental Engineer (M), TNPCB, Madurai
4. The District Environmental Engineer, TNPCB, Dindigul



Chettinad Cement Corporation Private Limited.

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FORM - V

(Rule 14 of Environment (Protection) Rules, 1986)

Environmental Statement for the Financial Year ending the 31st March 2021

PART - A

- (i) Name and address of the owner / occupier of the industry operation or process. : **V.KRISHNAN,**
Joint President [Works]
Cement Plant
Chettinad Cement Corporation Private Limited
Rani Meyyammai Nagar, karikkali Post,
Guziliamparai Taluk, Dindigul District
Tamilnadu, Pin code -624 703
- (ii) Industry category
Primary (STC Code) : Red Large
Secondary (SIC Code) : 1026- Cement
- (iii) Production Capacity : 4.5 million tons of Cement per annum
- (iv) Year of Establishment : 2001
- (v) Date of Last Environment statement submitted : 30th June, 2020

PART - B

Water and Raw Material Consumption

(i) Water Consumption - m³/day

Process	:	102
Cooling	:	613
Domestic	:	68

Name of the Product	Process water consumption (m ³) per unit (metric ton) of Product (Cement) output	
	During the Previous Financial year 2019 - 2020	During the Current Financial year 2020 - 2021
Cement	0.0164	0.0153



(ii) Raw Material / Fuel Consumption:

Name of the Raw Materials		Name of the Products	Consumption of Raw Material / Fuel (metric ton) per unit (metric ton) of Product (cement) output	
			During the Previous Financial Year 2019-2020	During the Current Financial Year 2020-2021
(1)	Lime Stone	Cement (OPC, PPC, PSC)	1.029	1.058
(2)	Laterite		0.032	0.037
(3)	Iron Ore		0.021	0.018
(4)	Imported coal		0.040	0.053
	Indigenous Petcock		0.031	0.025
	Total Fuel		0.073	0.082
(5)	Gypsum		0.064	0.047
(6)	Fly ash		0.265	0.274
(7)	Slag		0.451	0.459

Alternative Fuels & Raw materials (AFR)

Name the Wastes		UOM	During the Previous Financial Year 2019-2020	During the Current Financial Year 2020-2021
(1)	ETP Sludge (HW Cat. 35.3)	% per ton of Raw Meal	0.03	0.23
(2)	Alternative Fuels	TSR% (Thermal substitution ratio)	1.54	3.02



PART – C

Pollution Discharged to Environment / unit of output
(Parameter as specified in the consent issued)

Pollution	Quantity of Pollutants discharged (kg/day)	Concentrations of pollutants in discharges (Mass /Volume)	Percentage of variation from prescribed standards with reasons
(a) Water - Treated Sewage Water - 47m³/day (Permitted quantity 150 m³/day)			
pH	Not Applicable	7.76	Maintained with in norm 5.5 – 9.0
TDS	29.2	620	70% lesser compare with norm 2100 mg/l
TSS	0.4	8.5	72% lesser compare with norm 30mg/l
BOD	0.4	7.7	61% lesser compare with norm 20mg/l
COD	2.4	50.5	80% lesser compare with norm 250mg/l
(b) Air – stack emission			
PM	120	19.84	34% lesser compare with norm 30mg/Nm3
SO ₂	-	22.67	77% lesser compare with norm 100mg/Nm3
NOx	-	385.18	52% lesser compare with norm 800mg/Nm3
Load Based Emission (Particulate Matter)	0.104 (kg / ton of clinker production)	-	17% lesser compare with norm 0.125kg /ton of clinker production

PART – D

HAZARDOUS WASTES

(As specified under [Hazardous & Other Wastes (Management, Handling and Transboundary Movement) Rules, 2016])

Sl. No	Hazardous Wastes	Total Quantity Generated in KL	
		During the Previous Financial Year 2019-2020	During the Current Financial Year 2020- 2021
(a)	From Process Used Oil (Category No.5.1)	17.17	19.31
(b)	From Pollution Control Facilities	NIL	NIL



PART – E
SOLID WASTES

Solid Wastes		Total Quantity (Kg)	
		During the Previous Financial Year 2019-2020	During the Current Financial Year 2020-2021
(a)	From Process - None	NIL	NIL
(b)	From Pollution Control Facilities - STP Sludge Generated	271	265
(c)	1. Quantity recycled or re-utilized within the unit (STP Sludge)	271	265
	2. Sold (STP Sludge)	NIL	NIL
	3. Disposed (STP Sludge)	NIL	NIL

PART – F

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

Sl. No	Name of the Hazardous and Other Wastes	Quantity in tons /Annum				Characteristics	Disposal Practice Adopted
		Opening Balance as on 01.04.20	Receipt For the year 2020-21	Disposed / Co-processed for the year 2020-21	Closing Stock as on 31.03.21		
A. Hazardous Waste							
(1)	Used / Spent Oil (HW Category No.5.1)	0.220	19.310	19.130	0.180	Liquid(Oily) Cd+Cr+Ni <5ppm Density : 0.85-0.98g/cc	Sent to TNPCB authorized agency (M/s.Sri Balaji Industries, Coimbatore. (Cement Plant : 17.17KL + Power plant : 0.88KL)
(2)	Wastes containing oil (HW Category No.5.2)	208.350	1372.328	1580.678	0.000	Solid GCV: 2500-4500kcal/Kg Ash: <2% Moisture : 2 - 20% Cd+cr+Ni : <0.1%	Used as Alternative fuel in Cement Kiln
(3)	Phosphate sludge (HW Category no.12.5)	0.000	37.695	37.695	0.000	Solid GCV: 2000-2500kcal/Kg pH : 9 -10 Ash : <40%	Used as Alternative fuel in Cement Kiln



Sl. No	Name of the Hazardous and Other Wastes	Quantity in tons /Annum				Characteristics	Disposal Practice Adopted
		Opening Balance as on 01.04.20	Receipt For the year 2020-21	Disposed / Co-processed for the year 2020-21	Closing Stock as on 31.03.21		
						Moisture : 20-40% Cd+cr+Ni+Zn : <0.5%	
(4)	Solvent (HW Category no.20.2)	0.000	0.783	0.783	0.000	Liquid GCV:5000-6000 kcal/Kg pH : 6-7 Ash :NIL Moisture : >10% Cd+cr+Ni+Zn : <0.5%	Used as Alternative fuel in our Cement Kiln
(5)	Distillation Residues, (HW category no.20.3)	0.000	0.150	0.150	0.000	Solid GCV:3000-3500 kcal/Kg Ash : <10% Moisture : 10-20% Cd+cr+Ni+Zn : <0.5%	Used as Alternative fuel in our Cement Kiln
(6)	Paint Sludge (HW Category No.21.1)	637.191	2143.918	2394.544	386.565	Solid GCV:4500-5000 kcal/Kg pH : 6-8 Ash : <5% Moisture : 20-32% Cd+cr+Ni+Zn : <2%	Used as Alternative fuel in Cement Kiln
(7)	Process Residues (HW Category No.22.2)	0.000	55.538	31.146	24.392	Solid GCV:3000-3500 kcal/Kg Ash : <10% Moisture : 10-20% Cd+cr+Ni+Zn : <0.5%	Used as Alternative fuel in Cement Kiln
(8)	Wastes & Residues (HW Category No.23.1)	0.000	1297.377	1297.377	0.000	Solid GCV : 3000-3500kcal/Kg pH : 6-7 Ash : <5% Moisture : 2-5% Cd+cr+Ni+Zn : <0.5%	Used as Alternative fuel in Cement Kiln
(9)	Spent Carbon (HW Category no.28.3)	2.160	27.310	29.470	0.000	Solid GCV:3500-3500kcal/Kg pH : 7 -9 Ash : <20% Moisture : 10-20% Cd+cr+Ni+Zn : <0.5%	Used as Alternative fuel in Cement Kiln
(10)	Contaminated Cotton rags (HW Category No.33.2)	0.000	49.556	49.556	0.000	Solid GCV:3500-4000kcal/Kg pH : 7-9 Ash : <20% Moisture : <10% Cd+cr+Ni+Zn : <0.1%	Used as Alternative fuel in Cement Kiln



Sl. No	Name of the Hazardous and Other Wastes	Quantity in tons /Annum				Characteristics	Disposal Practice Adopted
		Opening Balance as on 01.04.20	Receipt For the year 2020-21	Disposed / Co-processed for the year 2020-21	Closing Stock as on 31.03.21		
(11)	Cleaning gas residues (HW Category No.35.1)	370.693	959.930	1330.623	0.000	Solid GCV:3500-4000kcal/Kg pH : 6-8 Ash : <20% Moisture : <10% Cd+cr+Ni+Zn : <0.5%	Used as Alternative fuel in Cement Kiln
(12)	ETP sludge (HW Category No.35.3)	510.839	5316.870	5664.257	163.452	Solid CaO : 25 - 35% Sio2 : 10 -20% Chloride : 20-30% Moisture : 30 -50 % Fe : 1-5% Mn : <2%	Co-Processing in Cement Kiln
(13)	Distillation residues (HW Category No.36.1)	7.280	92.488	99.768	0.000	Solid GCV:2500-3000kcal/Kg pH : 6-9 Ash : <40% Moisture : <20% Cd+cr+Ni+Zn : <0.5%	Used as Alternative fuel in Cement Kiln
(14)	Filter Medium (HW Category no.36.2)	5.012	37.637	42.649	0.000	Solid GCV:3000-3500kcal/kg Moisture : 9.08% Ash : <25%	Used as Alternative fuel in Cement Kiln
(15)	GEPIL Solid Waste Mix, (HW category.37.3)	0.000	392.210	392.210	0.000	olid GCV:2500-2800kcal/kg Moisture : 10-20% Ash : 20 - 50%	Used as Alternative fuel in Cement Kiln
Total (Hazardous waste)		1741.745	11803.100	12970.036	574.589	-	-
B. Other Wastes (Non -Hazardous wastes)							
(1)	Solid Waste STP Sludge	0.000	0.265	0.265	0.000	Solid Dark granular, Soluble in water, pH : 6.8 -7.8. Nitrogen : 2 - 8%, Phosphorus : 0.3-1%, Potassium : 0.3-1%	Dried sludge used as manure for Green Belt Development
(2)	Plastic Waste	7.576	121.480	47.080	81.976	Solid Size : less than 100X100mm GCV : 2000-2750 kcal/kg Ash : Less than 2% Municipal plastic waste and Paper wastes.	Used as Alternative fuel in Cement Kiln



Sl. No	Name of the Hazardous and Other Wastes	Quantity in tons /Annum				Characteristics	Disposal Practice Adopted
		Opening Balance as on 01.04.20	Receipt For the year 2020-21	Disposed / Co-processed for the year 2020-21	Closing Stock as on 31.03.21		
(3)	Municipal Bio mining Waste	0.000	16.920	16.920	0.000	Solid Light Brownish colour GCV:2500 3000kcal/kg SiO ₂ : 25-35%, Fe ₂ O ₃ : 2-3% LOI : 10-15% K ₂ O+Na ₂ O : <1%	Used as Alternative fuel in Cement Kiln
(4)	Other Wastes (FRB Waste, Cotton Waste, Husk Waste, RDF, Emery sheet, Saw dust, Footwear waste)	46.227	1552.430	1376.578	222.079	Solid Which is received from Solid waste generated from Foot ware manufacturing units (Lotus Foot Wares) and other wastes received from various industries located from TN	Used as Alternative fuel in Cement Kiln
Total (Non Hazardous waste)		53.803	1691.095	1440.843	304.055	-	-

PART – G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production

Impact on Natural resources by implementation of Environmental conservation measures:

- ❖ 8727.227 tons of Alternative Fuel (Hazardous and Other wastes) was consumed for the year 2020-21 which was 4.8% of total fuel consumption.
- ❖ 5664.257 tons of ETP sludge was consumed for the year 2020-2021 which was received from Karur & Thiruppur CETP.
- ❖ 62633 m3 of Tread Sewage water were effectively used for gardening development within the plant premises.
- ❖ It was achieved the 27.4% of the Fly ash addition in PPC Cement Production for the year 2021-22 which was directly conserved the Limestone recourses.
- ❖ 100% harvested rainwater are being used for entire plant and Mines operation including domestic consumption for colonies.

PART – H

Additional measures / investment proposal for environmental protection including abatement of pollution, prevention of pollution

Investment Proposal for the year 2021-22

- ❖ Rs. 89.0 Lakhs for Air Pollution Control Measures which will include replacement of Bag Filters, ESP Maintenance, Concrete Road near STP etc.,
- ❖ Rs 5.0 lakhs for Water Pollution Control Measures
- ❖ Rs 12.0 lakhs for other Environmental Protection Measures like plantation of saplings, providing additional rainwater harvesting structures etc.,

PART – I

Any other particulars for improving the quality of environment

- ❖ Proper maintenance of Pollution Control Equipment including ETP and STP ensured for effective and efficient operation of the same. Maintenance Cost of Pollution Control Equipment during 2020-21 was Rs. 91.90 Lakhs.
- ❖ Environmental Monitoring are being ensured to assess the effectiveness of Pollution Control Measures to initiate the effective action, if any required. Environmental Monitoring Cost during 2020-21 was Rs.38.76 Lakhs
- ❖ Green Belt Development area covered 33.04% of total plant area, So far, the total number of tree planted 47243 nos its coved 21.42 hectares @ 2206 trees / hectares and over all plant survival rate was 87%.
- ❖ Quality Management System as per IS/ISO 9001:2015, Environmental Management System as per IS/ISO14001:2015, Occupational Health & Safety Management System as per IS/ISO 45001:2018 and Energy Management System as per IS/ISO 50001:2018 are in place to ensure that all operation are carried out in compliance with international standards.

Place : Karikkali

Date : 28th Sep, 2021

(Signature of the Authorized Person)

Name : V.KRISHNAN

Designation : JOINT PRESIDENT [WORKS]

