



Chettinad Cement, KW/Cement Plant /Environmental Statement / 2019-2020/EHS-70
30th June, 2020

The Member Secretary

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

Respected Sir,

Sub : Submission of **Environmental Statement** in “**Form V**” for the year **2019-2020** under Environment (Protection) Rules, 1986 – **Cement Plant** of M/s. Chettinad Cement Corporation Private Limited, located at Karikkali & Dholipatti villages, Vedasandur taluk, Dindigul District, Tamilnadu.

With reference to the above, we hereby submit the “**Environmental Statement**” in the prescribed format of **Form V** for the year **2019-2020** under Environment (Protection) Rules, 1986, pertaining to our Cement Plant of M/s. Chettinad Cement Corporation Private Limited located at Karikkali & Dholipatti Villages, Guziliyamparai Taluk, Dindigul District, Tamilnadu.

Kindly acknowledge the receipt of the same please

Thanking you,
Yours faithfully,

for CHETTINAD CEMENT CORPORATION PRIVATE LIMITED,

V. KRISHNAN
SENIOR VICE 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 2020

PART - A

- (i) Name and address of the owner / occupier of the industry operation or process. : **V.KRISHNAN,**
Senior Vice 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 : 16th July, 2019

PART - B

Water and Raw Material Consumption

(i) Water Consumption - m³/day

Process	:	108
Cooling	:	730
Domestic	:	74

Name of the Product	Process water consumption (m ³) per unit (metric ton) of Product (Cement) output	
	During the Previous Financial year 2018 - 2019	During the Current Financial year 2019 - 2020
Cement	0.0163	0.0164



(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 2018-2019	During the Current Financial Year 2019-2020
(1)	Lime Stone	Cement (OPC, PPC, PSC)	1.093	1.029
(2)	Laterite		0.028	0.032
(3)	Iron Ore		0.018	0.021
(4)	Imported coal		0.023	0.041
	Other Fuels		0.055	0.033
	Total Fuel		0.078	0.074
(5)	Gypsum		0.064	0.064
(6)	Fly ash		0.238	0.265
(7)	Slag		0.460	0.451

Alternative Fuels & Raw materials (AFR)

Name the Wastes		Name of the Products	Consumption of AFR (metric ton) per unit (metric ton) of Product (cement) output	
			During the Previous Financial Year 2018-2019	During the Current Financial Year 2019-2020
(1)	CETP Sludge (HW Cat. 35.3)	Cement (OPC, PPC, PSC)	0.00014	0.0002
(2)	Alternative Fuels	Cement (OPC, PPC, PSC)	0.00778	0.00159

PART – C

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

Pollutants	Quantity of Pollutants discharged (kg/day)	Concentrations of pollutants in discharges (Mass /Volume) (mg/litre expect pH)	Percentage of variation from prescribed standards with reasons
(a) Treated Sewage Water -66m ³ /day (Permitted quantity 150 m ³ /day)			
pH	Not Applicable	7.59	With in the norms (5.5 – 9.0)
TDS	40.2	315	Compared to Norm Less by 87%
TSS	0.8	4.5	Compared to Norm Less by 83%
BOD	0.7	3.0	Compared to Norm Less by 76%
COD	4.5	37.5	Compared to Norm Less by 88%



Pollutants	Quantity of Pollutants discharged (kg/day)	Concentrations of pollutants in discharges (Mass /Volume) (mg/Nm ³)	Percentage of variation from prescribed standards with reasons
(b) Air			
PM #	226	19.55	Compared to Norm Less by 35%
SO ₂	-	11.83	Compared to Norm Less by 88%
NOx	-	406.52	Compared to Norm Less by 49%

Compared to allowed Pollution Load of 0.125 kg of PM per ton of Clinker, actual load was 0.119 kg per of PM per ton of Clinker, which was less by 5 %

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 2017-2018	During the Current Financial Year 2018- 2019
(a)	From Process Used Oil (Category No.5.1)	15.770	17.17
(b)	From Pollution Control Facilities	NIL	NIL

PART – E SOLID WASTES

Solid Wastes	Total Quantity (Kg)	
	During the Previous Financial Year 2018-2019	During the Current Financial Year 2019-2020
(a) From Process - None	NIL	NIL
(b) From Pollution Control Facilities - STP Sludge Generated	375	271
(c)	1. Quantity recycled or re-utilized within the unit (STP Sludge)	271
	2. Sold (STP Sludge)	NIL
	3. Disposed (STP Sludge)	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 Wastes	Quantity	Characteristics	Disposal Practice Adopted
A. Hazardous Waste				
(1)	Used / Spent Oil (Category No.5.1)	Opening stock (as on 01.04.2019) : 0.13 KL Generation (Apr'19 –Mar'20) : 17.17 KL Disposal (Apr'19-Mar'20) : 17.08 KL Closing stock (as on 31.03.2020) : 0.22 KL	Liquid(Oily) Cd+Cr+Ni <5ppm Density : 0.85-0.98g/cc	Snt to TNPCB authorized agency (M/s.Sri Balaji Industries, Coimbatore. (Cement Plant : 17.17KL + Power plant : 0.88KL)
(2)	Wastes containing oil (Category No.5.2)	Opening stock in dry basis (as on 01.04.2019) : NIL Receipt (Apr'19 –Mar'20) Wet quantity : 1074.624 tons Dry quantity : 829.434 tons Consumption (Apr'19-Mar'20) Dry quantity : 668.622 tons Closing stock in dry basis (as on 31.03.2020):160.812 tons	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 (Category no.12.5)	Opening stock in dry basis (as on 01.04.2019) : NIL Receipt (Apr'19 –Mar'20) Wet quantity : 18.020 tons Dry quantity : 17.200 tons Consumption (Apr'19-Mar'20) Dry quantity : 17.200 tons Closing stock in dry basis (as on 31.03.2020): NIL	Solid GCV: 2000-2500kcal/Kg pH : 9 -10 Ash : <40% Moisture : 20-40% Cd+cr+Ni+Zn : <0.5%	Used as Alternative fuel in Cement Kiln
(4)	Solvent (Category no.20.1)	Opening stock in dry basis (as on 01.04.2019) : NIL Receipt (Apr'19 –Mar'20) Wet quantity : 2.115 tons Dry quantity : 1.048 tons Consumption (Apr'19-Mar'20) Dry quantity : 1.048 tons Closing stock in dry basis (as on 31.03.2020): NIL	Liquid GCV:5000-6000 kcal/Kg pH : 6-7 Ash :NIL Moisture : >10% Cd+cr+Ni+Zn : <0.5%	Used as Alternative fuel in Cement Kiln



Sl. No	Name of the Wastes	Quantity	Characteristics	Disposal Practice Adopted
(5)	Paint Sludge (Category No.21.1)	Opening stock in dry basis (as on 01.04.2019): 294.959 tons Receipt (Apr'19 –Mar'20) Wet quantity : 1520.649 tons Dry quantity : 1049.737 tons Consumption (Apr'19-Mar'20) Dry quantity : 904.830 tons Closing stock in dry basis (as on 31.03.2020): 439.867 tons	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
(6)	Process Residues (Category No.22.2)	Opening stock in dry basis (as on 01.04.2019): NIL Receipt (Apr'19 –Mar'20) Wet quantity : 25.823 tons Dry quantity : 23.945 tons Consumption (Apr'19-Mar'20) Dry quantity : 23.945 tons Closing stock in dry basis (as on 31.03.2020): NIL	Solid GCV:3000-3500 kcal/Kg Ash : <10% Moisture : 10-20% Cd+cr+Ni+Zn : <0.5%	Used as Alternative fuel in Cement Kiln
(7)	Wastes & Residues (Category No.23.1)	Opening stock in dry basis (as on 01.04.2019): NIL Receipt (Apr'19 –Mar'20) Wet quantity : 34.031 tons Dry quantity : 26.939 tons Consumption (Apr'19-Mar'20) Dry quantity : 26.939 tons Closing stock in dry basis (as on 31.03.2020): NIL	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
(8)	Process wastes & Residues – Spent Solvent (Category no.28.1)	Opening stock in dry basis (as on 01.04.2019): 14.560 tons Receipt (Apr'19 –Mar'20) Wet quantity : 109.545 tons Dry quantity : 89.730 tons Consumption (Apr'19-Mar'20) Dry quantity : 104.290 tons Closing stock in dry basis (as on 31.03.2020): NIL	Liquid GCV:3000-4000 kcal/Kg pH : 6-8 Ash : NIL Moisture : 5-10% Cd+cr+Ni+Zn : <0.5%	Used as Alternative fuel in Cement Kiln
(9)	Spent Carbon (Category no.28.3)	Opening stock in dry basis (as on 01.04.2019): NIL Receipt (Apr'19 –Mar'20) Wet quantity : 19.135 tons Dry quantity : 13.075 tons Consumption (Apr'19-Mar'20) Dry quantity : 11.115 tons Closing stock in dry basis (as on 31.03.2020): 1.960 tons	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



Sl. No	Name of the Wastes	Quantity	Characteristics	Disposal Practice Adopted
(10)	Off Specification Products (Category No.28.4)	Opening stock in dry basis (as on 01.04.2019): NIL Receipt (Apr'19 –Mar'20) Wet quantity : 0.210 tons Dry quantity : 0.210 tons Consumption (Apr'19-Mar'20) Dry quantity : 0.210 tons Closing stock in dry basis (as on 31.03.2020): NIL	Solid GCV:2500-3000kcal/Kg pH : 6-9 Ash : <20% Moisture : <10% Cd+cr+Ni+Zn : <0.1%	Used as Alternative fuel in Cement Kiln
(11)	Date expired Products (Category No.28.5)	Opening stock in dry basis (as on 01.04.2019): NIL Receipt (Apr'19 –Mar'20) Wet quantity : 0.450 tons Dry quantity : 0.450 tons Consumption (Apr'19-Mar'20) Dry quantity : 0.450 tons Closing stock in dry basis (as on 31.03.2020): NIL	Solid GCV:2500-3000kcal/Kg pH : 6-9 Ash : <40% Moisture : NIL Cd+cr+Ni+Zn : <0.5%	Used as Alternative fuel in Cement Kiln
(12)	Contaminated Cotton rags (Category No.33.2)	Opening stock in dry basis (as on 01.04.2019): NIL Receipt (Apr'19 –Mar'20) Wet quantity : 16.140 tons Dry quantity : 15.093 tons Consumption (Apr'19-Mar'20) Dry quantity : 15.093 tons Closing stock in dry basis (as on 31.03.2020): NIL	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
(13)	Cleaning gas residues (Category No.35.1)	Opening stock in dry basis (as on 01.04.2019): NIL Receipt (Apr'19 –Mar'20) Wet quantity : 496.983 tons Dry quantity : 453.732 tons Consumption (Apr'19-Mar'20) Dry quantity : 117.051 tons Closing stock in dry basis (as on 31.03.2020): 336.681 tons	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
(14)	Textile CETP sludge (Category No.35.3)	Opening stock in dry basis (as on 01.04.2019) : 153.498 tons Receipt (Apr'19 –Mar'20) Wet quantity : 1233.960 tons Dry quantity : 734.628 tons Consumption (Apr'19-Mar'20) dry quantity : 516.658 tons Closing stock (dry quantity) (as on 31.03.2020): 309.354 tons	Solid CaO : 25 - 35% Sio2 : 10 -20% Chloride : 20-30% Moisture : 30 -50 % Fe : 1-5% Mn : <2%	Co-Processing in Cement Kiln



Sl. No	Name of the Wastes	Quantity	Characteristics	Disposal Practice Adopted
(15)	Distillation residues (Category No.36.1)	Opening stock in dry basis (as on 01.04.2019): NIL Receipt (Apr'19 –Mar'20) Wet quantity : 36.890 tons Dry quantity : 32.905 tons Consumption (Apr'19-Mar'20) Dry quantity : 25.625 tons Closing stock in dry basis (as on 31.03.2020): 7.280	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
(16)	Filter Medium (Category no.36.2)	Opening stock (as on 01.04.2019): NIL Receipt (Apr'19 –Mar'20) Wet quantity : 48.625 tons Dry quantity : 40.191 tons Consumption (Apr'19-Mar'20) dry quantity : 35.201 tons Closing stock (dry quantity) (as on 31.03.2020): 4.990 tons	Solid GCV:3000-3500kcal/kg Moisture : 9.08% Ash : <25%	Co-Processing in Cement Kiln
B. Other Wastes (Non –Hazardous wastes)				
(17)	Solid Waste STP Sludge	Opening stock (as on 01.04.2019) : NIL Generation (Apr'19 –Mar'20) : 271 kg Consumption (Apr'19-Mar'20) : 271 kg Closing stock (as on 31.03.2020) : NIL	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
(18)	Plastic Waste	Opening stock (as on 01.04.2019) : 169.45 tons Receipt (Apr'19 –Mar'20) : 417.126 tons Consumption (Apr'19-Mar'20) : 579.000 tons Closing stock (as on 31.03.2020): 7.576 tons	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 Wastes	Quantity	Characteristics	Disposal Practice Adopted
(19)	High GCV Fly ash	Opening stock (as on 01.04.2019) :4060.58 tons Receipt (Apr'19 –Mar'20) : NIL Consumption (Apr'19-Mar'20) : 3598 tons Closing stock (as on 31.03.2020): 462.580 tons	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
(20)	Foot ware and Other Wastes	Opening stock (as on 01.04.2019) :287.969 tons Receipt (Apr'19 –Mar'20) : 915.258 tons Consumption (Apr'19-Mar'20) : 1157.000 tons Closing stock (as on 31.03.2020) :46.227 tons	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

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:

- ❖ Around 3688 ton of Alternative Fuel (Hazardous and Other wastes) i.e, 2.2% of total fuel consumption was used for the year 2019-20.
- ❖ 24087 m3 of Tread Sewage water effectively used for gardening developed within the plant premises.
- ❖ Green Belt Development area covered 33.04% of total plant area, So far, the total number of tree planted 45503 nos its coved 21.42 hectares @ 2124 trees / hectares..



PART – H

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

Investment Proposal for the year 2020-21

- ❖ Rs. 95.0 Lakhs for Air Pollution Control Measures which will include replacement of Bag Filters, ESP Maintenance, Concrete Road near STP etc.,
- ❖ Rs 3.0 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 2019-20 was Rs 81.42 Lakhs.
- ❖ Environmental Monitoring carried out to assess the effectiveness of Pollution Control Measures and initiate required action, if any required. Environmental Monitoring Cost during 2019-20 was Rs.38.76 Lakhs
- ❖ So far around 45503 trees planted covering 21.42 hectares which is 33.04% of total plant area.
- ❖ Quality Management System (ISO 9001), Environmental Management System (ISO14001), Occupational Health & Safety Management System (IS 18001) and Energy Management System (ISO 50001) are in place to ensure that all operations are carried out in compliance with international standards.

Place : Karikkali

Date : 30th June, 2020




(Signature of the Authorized Person)
Name : V.KRISHNAN
Designation : SENIOR VICE PRESIDENT [WORKS]