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o/c

# SHREE CEMENT LTD.

*Regd. Office:*
BANGUR NAGAR, POST BOX NO.33, BEAWAR 305 901, RAJASTHAN, INDIA

SCL/Ras/Unit-X/Env. Statement/2019-20/ 8971

Date: 10/09/2019
Speed Post

**File No. C-168**

To,
The Member Secretary,
Rajasthan Pollution Control Board,
4, Institutional Area, Jhalana Doongri Road,
JAIPUR-302004 (Rajasthan)

Sub: - Environmental Statement for the period from April 2018 to March 2019 for Cement Plant Unit-X of M/s Shree Cement Limited situated at Village- Ras Bhimgarh, Tehsil- Jaitaran, Dist- Pali (Raj).

Ref: - CTO No.- F(Tech)/Pali(Jaitaran)/2(1)/2008-2009/1057-1059 dated 17/06/2019

Respected Sir,
We are submitting herewith Environmental Statement for the **period from April, 2018 to March, 2019** for Cement Plant **Unit-X (Without Cement grinding)** of M/s Shree Cement Limited situated at Village- Ras Bhimgarh, Tehsil- Jaitaran, Dist- Pali (Raj).
This is for your kind information please.

Thanking you,
Yours faithfully,

For Shree Cement Ltd;

**(Dr. Anil Kumar Trivedi)**
**Sr. GM (Environment)**

Copy to:-

1. Chief Conservator of Forests (Central), Ministry of Environment & Forests, Central Regional Office, Kendriya Bhawan, 5th Floor Sector H, Aliganj, Lucknow – 226024 (U.P.)
2. The Regional Officer (Regional Office), Rajasthan Board for the Prevention & Control of Pollution, S / A-6, Mandia Road, Industrial Area, Near Pali Urban Co-Operative Bank, PALI- MARWAR- 306401 (Raj.)

o/c Environment Department, Ras

**ENVIRONMENTAL STATEMENT – Form- V**
**M/s Shree Cement Limited: Unit- X**
**Period from: April 2018 to March 2019**

## PART – A

| | | |
|---|---|---|
| 1. | Name and address of the Owner / Occupier of the Industry operation or process | Cement Plant Unit-X<br>M/s Shree Cement Ltd.<br>Village: Ras/Bhimgarh,<br>Tehsil: Jaitaran, Dist:Pali - 306107 (Rajasthan) |
| 2. | Industry Category<br>Primary (S.T.C. Code)<br>Secondary (S.T.C. Code) | Red Category |
| 3. | Production Capacity | 2.85 Million TPA Clinker |
| 4. | Year of Establishment | 2014 |
| 5. | Date of the last Environmental Statement Submitted | 20.09.2018 |

## PART – B

### WATER AND RAW MATERIAL CONSUMPTION

### (I) WATER CONSUMPTION:

Process : N.A. (As plant is based on dry Process technology)

Cooling and dust Suppression : 46570 KL

Domestic : 70430 KL (Common for Cement Plant & Power Plant)

| Name of Product | Process Water Consumption per Unit of Product Output | |
|---|---|---|
| | During Previous Financial Year (2017-2018) | During Current Financial Year (2018-2019) |
| Clinker | 0.02544 KL/MT of Clinker | 0.02269 KL/MT of Clinker |

## (II) RAW MATERIAL CONSUMPTION:

| Name of Raw Material | Name of Product | Consumption of Raw Material Per Unit of Output (Cement) | |
|---|---|---|---|
| | | During Previous Financial Year (2017-2018) | During Current Financial Year (2018-2019) |
| 1. Limestone | Clinker | 1.510 | 1.448 |
| 2. Laterite /Iron Ore | | 0.017 | 0.021 |
| 3. Coal & Pet Coke | | 0.101 | 0.092 |

## (III) POWER CONSUMPTION (KWH/T OF CLINKER):

| During Previous Financial Year (2017-2018) | During Current Financial Year (2018-2019) |
|---|---|
| 50.51 | 50.94 |

## (IV) TOTAL CLINKER PRODUCTION (MT):

| During Previous Financial Year (2017-2018) | During Current Financial Year (2018-2019) |
|---|---|
| 1990549 | 2052817 |

## PART – C

## DISCHARGED TO ENVIRONMENTAL / UNIT OF OUTPUT

| Pollutants | Quantity of Pollutants Discharged (Mass/Day) | Concentration of Pollutants in Discharge (Mass/Value) | Percentage of variation from prescribed standard with reasons |
|---|---|---|---|
| (a) | Water | As the plant is being operated on dry process technology, no liquid effluent is generated from the cement plant.<br>The waste water generated from the office toilet and canteen is treated in STP and treated water & sludge generated is used in horticulture activities.<br>Analysis Report of STP treated water is attached as Annexure-3 | |
| (b) | Air | Please refer Annexure – 1 & 2 | |

## PART – D
## HAZARDOUS WASTE

(As specified under Hazardous Wastes (Management, Handling & Trans boundary Movement Rule, 2016)

| Hazardous Waste | Total Quantity (Ltrs.) | |
|---|---|---|
| | **During Previous Financial Year (2017-2018)** | **During Current Financial Year (2018-2019)** |
| a)From Process (Cement manufacturing is based on "Dry Process" No Hazardous waste is generated from the process except used oil which is drained from Machinery / Equipments) | Common authorization for Hazardous Waste Management & Handling for Cement Plant, Power Plant, D.G.Set and Nimbeti Limestone Mines.<br><br>Total Quantity generated from April-2017 to March-2018 = 18270 Ltrs.<br>Old Stock = 0 Ltrs.<br>Total Used oil = 18270 Ltrs.<br>Sold-out to registered recycler = 18270 Ltrs.<br>Balance Quantity= 0 Ltrs | Common authorization for Hazardous Waste Management & Handling for Cement Plant, Power Plant, D.G.Set and Nimbeti Limestone Mines.<br><br>Total Quantity generated from April-2018 to March-2019 = 12780 Ltrs.<br>Old Stock = 0 Ltrs.<br>Total Used oil = 12780 Ltrs.<br>Sold-out to registered recycler = 0.0 Ltrs.<br>Co-processed in cement kiln = 12780 Ltrs. |
| (b) From Pollution Control Facilities | N.A. | N.A. |

## PART – E
## SOLID WASTE

| | | Total Quantity | |
|---|---|---|---|
| | | **During Previous Financial Year (2017-2018)** | **During Current Financial Year (2018-2019)** |
| (a) | From Process | NA | Nil |
| (b) | From Pollution Control Facility | Dust collected in the ESPs, Bag Houses and Bag Filters are recycled to the system | Dust collected in the ESPs, Bag Houses and Bag Filters are recycled to the system |
| (c) | 1. Quantity rejected or re-utilized within the unit | 100% | 100% |
| | 2. Sold | NA | Nil |
| | 3. Disposed | NA | Nil |

## PART – F

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

**Hazardous Wastes**

Cement manufacturing is based on "Dry Process". No Hazardous waste is generated from the process except used oil which is drained from Machineries / Equipments. The used oil & Lead acid batteries are sold to CPCB authorized recyclers.

**Bio-Medical Wastes:**

Bio-medical waste generated is common for cement plant, power plant and mines during current financial year April 2018 to March 2019 under the Bio-Medical Waste (Management & Handling) Rules 2016, are as follows.

| | **Bio-Medical Waste Quantity (Kg) as per Color Coding** | | | |
|---|---|---|---|---|
| | **Red** | **Blue** | **Yellow** | **White** |
| **April 2017 to March 2018** | 39.105 | 38.05 | 37.92 | 38.91 |
| **April 2018 to March 2019** | 39.21 | 28.448 | 41.065 | 32.01 |

Above mentioned waste has been sent to Sales Promoter, CBWTF Bio Medical Treatment Facility, Jaipur Bye Pass Road, Ajmer (Raj.) for disposal.

E- Wastes:

| | Total Quantity | |
|---|---|---|
| | **During Previous Financial Year (2017-2018)** | **During Current Financial Year (2018-2019)** |
| From Process | 1740 Kg. | Nil |
| From Pollution Control Facility | Nil | Nil |

Solid Wastes: - N.A.

## Battery Wastes:

As specified under Batteries (Management and Handling) Amendment Rules, 2010, we have purchased following new batteries of different categories is common for cement plant, power plant and mines -

| | | | | | |
|---|---|---|---|---|---|
| 1. | Number of new batteries of different categories purchased from the manufacturer / importer / dealer or any other agency | **Previous Year 1st Apr 2017 to 31st Mar 2018** | | **Current Year 1st Apr 2018 to 31st Mar 2019** | |
| | Category: | (i) No. of Batteries | (ii) Approximate Weight (In Metric Tonnes) | (i) No. of Batteries | (ii) Approximate Weight (In Metric Tonnes) |
| | (i) Automotive | | | | |
| | a) Four wheeler | 207 | 8.652 | 219 | 9.568 |
| | b) Two wheeler | Nil | Nil | Nil | Nil |
| | (ii) Industrial | | | | |
| | a) UPS | 455 | 4.640 | 66 | 0.563 |
| | b) Motive Power | Nil | Nil | Nil | Nil |
| | c) Stand –by | Nil | Nil | Nil | Nil |
| | (iii) Others | Nil | Nil | Nil | Nil |
| | Total | **662 Nos** | **13.292 MT** | **285 Nos** | **10.131 MT** |
| 2. | Number of used batteries of categories mentioned in Sl. No 3 and Tonnage of scrap sent manufacturer /dealer /importer /registered recycler/or any other agency to whom the used batteries scrap was sent | **Previous Year 1st Apr 2017 to 31st Mar 2018** | | **Current Year 1st Apr 2018 to 31st Mar 2019** | |
| | Category: | (i) No. of Batteries | (ii) Approximate Weight (In Metric Tonnes) | (i) No. of Batteries | (ii) Approximate Weight (In Metric Tonnes) |
| | (i) Automotive | | | | |
| | a) Four wheeler | 164 | 5.438 | 301 | 7.854 |
| | b) Two wheeler | Nil | Nil | Nil | Nil |
| | (ii) Industrial | | | | |
| | a) UPS | 449 | 3.592 | 112 | 0.896 |
| | b) Motive Power | Nil | Nil | Nil | Nil |
| | c) Stand –by | Nil | Nil | Nil | Nil |
| | (iii) Others | Nil | Nil | Nil | Nil |
| | Total | **613 Nos** | **9.030 MT** | **413 Nos** | **8.750 MT** |

Used battery scrap was sent to CPCB authorized recycler

## PART – G

## IMPACT OF THE POLLUTION CONTROL MEASURES ON CONSERVATION OF NATURAL RESOURCES AND CONSEQUENTLY ON THE COST OF PRODUCTION

M/s Shree Cement Limited is being operated on dry process technology, 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, Bag Houses and Bag Filters installed at various material transfer points to clean the process and arrest the fugitive emissions. The particulate matter collected in the pollution control equipment is recycled in process and neutralizing the cost of operation of pollution control equipments and hence no cost impact on the production cost.

Synthetic Gypsum is being used in place of natural gypsum thus directly conserves the mineral gypsum. Waste Heat Recovery System (WHRS) is installed at Pre- heater and cooler section for trapping gasses of high temperatures are being used for generation of Green Power which has resulted in conservation of fuel, reduction of GHG emissions and water conservation.

Company has separate AFR cell looking after the utilization of alternative fuels and raw materials. Unit is utilizing ETP sludge, Paint sludge, oily rags, waste mix solids, phosphate sludge.

## PART – H

## ADDITIONAL MEASURES / INVESTMENTS PROPOSAL FOR ENVIRONMENT PROTECTION INCLUDING ABATEMENT OF POLLUTION

Green belt development and tree plantation is our ongoing process. Plantation has been carried out in an area of around 63.8 hectare with (Total land: 187.56 hc.) 165311 trees, which is ~34 % of the total land of plant area.

## PART – I

## ANY OTHER PARTICULATES FOR IMPROVING THE QUALITY OF ENVIRONMENT.

1. We have full-fledged Environment Department with three separate cells, for monitoring, maintenance of pollution control equipment and Green Belt development.
2. Monitoring of stack emission and ambient air and water quality is being done regularly.
3. Maintenance department is doing regular checking and scheduled maintenance of all the pollution control devices.
4. Civil dept. taking care of Housekeeping.

5. Horticulture Department is taking care of tree plantation and green belt development. Every year we are doing tree plantation and every year carbon sequestration being is carried out during 2018-19, 3810.66 Tons of CO2 was sequestrated.
6. Effective operation and maintenance of Bag House at Raw Mill & Kiln, Coal Mill, Cement mill and Cooler ESP.
7. Effective operation of cooler ESP transformer and control panel in first field to further reduce PM emission levels.
8. Constructed concreted roads at Stacker and Reclaimer area for further reduction of fugitive emissions.
9. Installed new bag filters at various application like DBC, transfer points etc.
10. Modification of Coal Mill Bag House for further reduction of Particulate emissions.
11. Installed NOx mitigation systems in all cement kilns (Uint-3-10) as pollution control measure to achieve prescribed standards.

We are enclosing herewith following documents:-

Annexure-1: Stack Emission monitoring report.

Annexure-2: Ambient Air Quality (PM10, PM2.5, $SO_2$ and $NO_2$) & Ambient Noise Level monitoring report

Annexure-3: STP treated water test report

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**Annexure: 1**

## Shree Cement Ltd, Ras - Unit-X
## Stack Emission Monitoring Report (PM, $SO_2$ & NOx)
## All values in mg/$Nm^3$
## Year: 2018-19

| S. No. | Month | Raw Mill & Kiln Stack | | | Coal Mill Stack | Cooler Stack |
|---|---|---|---|---|---|---|
| | | PM | NOx | SO2 | PM | PM |
| 1 | Apr-18 | 17 | 733 | 9.3 | 19 | 6 |
| 2 | May-18 | 11 | 654 | 10.1 | 16 | 8 |
| 3 | Jun-18 | 11 | 744 | 8.9 | 16 | 8 |
| 4 | Jul-18 | 14 | 591 | 0 | 12 | 7 |
| 5 | Aug-18 | NR | NR | NR | NR | NR |
| 6 | Sep-18 | 10 | 576 | 12 | 11 | 6 |
| 7 | Oct-18 | 13 | 616 | 26 | 11 | 7 |
| 8 | Nov-18 | 23 | 578 | 12.5 | 17 | 9 |
| 9 | Dec-18 | 20 | 598 | 0 | 8 | 8 |
| 10 | Jan-19 | 16 | 645 | 13 | 22 | 7 |
| 11 | Feb-19 | 25 | 628 | 0 | 16 | 6 |
| 12 | Mar-19 | 22 | 462.8 | 0 | 18 | 9 |
| **Average** | | **17** | **621** | **8** | **15** | **7** |

NR* - Not running

**Annexure: 2**

**Shree Cement Ltd, Ras**

**Ambient Air Quality (µg/M$^3$) Monitoring Report For The Period Of April 2018 To March 2019**

**Common for Cement plant & Power plant**

**Year:-2018-2019**

| Location → | Plant Boundary Near Main Gate | | | | Plant Boundary Near Mess | | | | Plant Boundary towards Stacker & Reclaimer | | | | Plant boundry towards village Khera & Jawangarh | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | AAQ in µg/M$^3$ | | | | AAQ in µg/M$^3$ | | | | AAQ in µg/M$^3$ | | | | AAQ in µg/M$^3$ | | | |
| **Parameter →** | **PM 2.5** | **PM10** | **$SO_2$** | **$NO_2$** | **PM 2.5** | **PM 10** | **$SO_2$** | **$NO_2$** | **PM 2.5** | **PM 10** | **$SO_2$** | **$NO_2$** | **PM 2.5** | **PM 10** | **$SO_2$** | **$NO_2$** |
| Apr-18 | 36.1 | 54.8 | 7.9 | 12.1 | 31.0 | 48.6 | 8.2 | 11.0 | 28.3 | 47.8 | 7.7 | 11.1 | 25.6 | 46.8 | 7.2 | 10.8 |
| May-18 | 34.6 | 53.3 | 7.7 | 11.3 | 31.6 | 48.3 | 9.2 | 11.4 | 30.6 | 47.0 | 8.1 | 10.8 | 27.1 | 46.9 | 7.5 | 10.6 |
| Jun-18 | 33.6 | 51.1 | 7.9 | 10.9 | 32.5 | 44.8 | 8.6 | 10.8 | 31.8 | 47.8 | 7.7 | 10.6 | 29.0 | 46.3 | 7.3 | 10.3 |
| Jul-18 | 30.8 | 48.3 | 7.9 | 10.4 | 31.0 | 47.6 | 8.4 | 10.5 | 31.5 | 45.4 | 7.8 | 10.3 | 29.1 | 44.8 | 7.4 | 9.9 |
| Aug-18 | 28.5 | 46.3 | 8.1 | 10.7 | 28.9 | 46.5 | 8.6 | 10.1 | 27.8 | 43.3 | 8.0 | 10.4 | 25.0 | 39.3 | 7.6 | 10.1 |
| Sep-18 | 29.0 | 48.4 | 8.2 | 10.3 | 29.4 | 49.0 | 8.3 | 10.6 | 31.1 | 48.0 | 8.0 | 10.6 | 28.4 | 44.9 | 7.6 | 10.2 |
| Oct-18 | 30.1 | 45.1 | 8.4 | 10.9 | 34.4 | 45.1 | 9.0 | 11.1 | 37.6 | 45.9 | 8.9 | 10.9 | 33.1 | 44.6 | 8.4 | 10.5 |
| Nov-18 | 28.5 | 41.9 | 8.6 | 10.6 | 36.5 | 45.9 | 8.8 | 10.9 | 37.3 | 43.8 | 9.0 | 10.8 | 33.5 | 45.5 | 8.6 | 10.3 |
| Dec-18 | 33.4 | 49.6 | 9.3 | 11.7 | 30.4 | 43.0 | 10. | 11.5 | 33.5 | 47.9 | 9.2 | 11.5 | 31.5 | 46.3 | 8.8 | 11.2 |
| Jan-19 | 34.6 | 45.2 | 8.9 | 12.0 | 33.5 | 41.9 | 9.1 | 11.9 | 36.8 | 40.9 | 8.8 | 11.9 | 32.0 | 43.5 | 8.5 | 11.5 |
| Feb-19 | 36.5 | 52.4 | 8.7 | 12.3 | 31.6 | 46.6 | 8.5 | 12.3 | 32.0 | 45.9 | 8.2 | 12.1 | 28.1 | 43.0 | 7.9 | 11.7 |
| Mar-19 | 36.3 | 52.0 | 14.4 | 11.6 | 33.3 | 47.8 | 8.8 | 11.5 | 35.8 | 48.3 | 9.4 | 11.5 | 29.5 | 42.0 | 9.2 | 11.1 |
| **Average** | **32.7** | **49.0** | **8.8** | **11.2** | **32.0** | **46.3** | **8.8** | **11.1** | **32.8** | **46.0** | **8.4** | **11.0** | **29.3** | **44.5** | **8.0** | **10.7** |

| Shree Cement Ltd, Ras | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Ambient Noise Level dB(A) Monitoring Report For The Period Of April 2018 To March 2019 | | | | | | | | |
| Common for Cement plant & Power plant | | | | | | | | |
| Year:-2018-2019 | | | | | | | | |
| **Location →** | **Plant Boundary Near Main Gate** | | **Plant Boundary Near Mess** | | **Plant Boundary towards Stacker & Reclaimer** | | **Plant boundry towards village Khera & Jawangarh** | |
| | **Noise Level in dB(A)** | | **Noise Level in dB(A)** | | **Noise Level in dB(A)** | | **Noise Level in dB(A)** | |
| **Parameter →** | **Day time** | **Night time** | **Day time** | **Night time** | **Day time** | **Night time** | **Day time** | **Night time** |
| Apr-18 | 71.20 | 66.90 | 72.60 | 65.50 | 70.60 | 60.70 | 68.90 | 62.10 |
| May-18 | 72.40 | 67.20 | 70.30 | 64.80 | 67.60 | 61.20 | 65.10 | 60.30 |
| Jun-18 | 70.60 | 64.20 | 72.60 | 63.40 | 66.40 | 61.60 | 63.60 | 59.20 |
| Jul-18 | 68.20 | 59.30 | 70.30 | 62.60 | 65.20 | 61.90 | 62.30 | 58.20 |
| Aug-18 | 71.30 | 59.90 | 68.60 | 61.30 | 67.20 | 62.20 | 61.90 | 57.50 |
| Sep-18 | 68.20 | 59.30 | 70.30 | 62.60 | 65.20 | 61.90 | 62.30 | 58.20 |
| Oct-18 | 70.10 | 58.20 | 64.00 | 60.10 | 71.50 | 63.30 | 63.30 | 55.50 |
| Nov-18 | 65.00 | 56.90 | 71.00 | 60.50 | 68.50 | 60.10 | 60.10 | 57.10 |
| Dec-18 | 71.20 | 59.90 | 70.20 | 57.50 | 65.30 | 60.80 | 61.00 | 59.90 |
| Jan-19 | 73.10 | 62.90 | 70.60 | 61.70 | 67.40 | 62.50 | 64.30 | 60.40 |
| Feb-19 | 72.80 | 63.20 | 69.20 | 60.90 | 68.60 | 66.90 | 63.50 | 61.40 |
| Mar-19 | 71.50 | 62.70 | 70.20 | 61.30 | 67.30 | 69.10 | 62.30 | 58.10 |
| **Average** | **70.5** | **61.7** | **70.0** | **61.9** | **67.6** | **62.7** | **63.2** | **59.0** |

## Annexure: 3

| (STP Treated Water Quality, Year 2018-2019) | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **S. No.** | **Parameter ↓** | **Apr-18** | **May-18** | **Jun-18** | **Jul-18** | **Aug-18** | **Sep-18** | **Oct-18** | **Nov-18** | **Dec-18** | **Jan-19** | **Feb-19** | **Mar-19** | **Avg.** |
| 1 | pH | 7.29 | 7.3 | 7.33 | 7.26 | 7.66 | 7.36 | 7.26 | 7.31 | 7.22 | 7.39 | 7.5 | 7.44 | **7.36** |
| 2 | Total Suspended Solids | 42.3 | 46.3 | 48.2 | 42.1 | 46.6 | 48.2 | 56 | 43.2 | 40.3 | 43.6 | 40 | 42 | **44.90** |
| 3 | Oil and Grease | 3.1 | 3.4 | 3.1 | 3.9 | 2.95 | 1.56 | 2.04 | 1.8 | 1.8 | 2 | <4.0 | 2.53 | **3.1** |
| 4 | BOD 3days 27°C | 18.4 | 17.5 | 15.7 | 13.2 | 15 | 16.7 | 15.3 | 17.9 | 11.2 | 13.3 | 11.9 | 24 | **15.84** |
| 5 | COD | 89.3 | 92.3 | 90.1 | 98.5 | 95.1 | 86.5 | 95.3 | 89.2 | 98.1 | 135 | 146 | 62.9 | **98.19** |