



BIHAR CEMENT PLANT

(A Unit of Shree Cement Ltd.)
Jasoia More, BIADA Industrial Growth Centre,
Post/P.S.- Aurangabad (Bihar)-824101, India
Tel. : 06186-292294, 292295, 292296
E-mail Id : shreebcgu@shreecementltd.com
CIN:L26943RJ1979PLC001935

SCL/Bihar/Env/2018-19/200

Date: 27 September 2018

To,
The Member Secretary,
Bihar State Pollution Control Board
Parivesh Bhawan, N.S.B-2
Patliputra Industrial Area,
Patna (Bihar) - 800010

Sub: Environmental Statement for Clinker Grinding Unit "M/s Bihar Cement Plant, (A Unit of Shree Cement Ltd.)" situated at Jasoia Mor, BIADA, Industrial Growth Centre, Aurangabad, Tehsil & Dist. Aurangabad, Bihar for the period of 2017-18

Ref: - Emission Consent Order No. T - 1041 Patna, Dated - 17/02/2018.
Discharge Consent Order No. T - 1042, Dated - 17/02/2018.

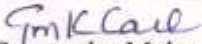
Sir,

We are submitting herewith the annual Environmental Statement of M/s Bihar Cement Plant (A Unit of Shree Cement Ltd.) situated at Jasoia More, BIADA, Industrial Growth Centre, Aurangabad, Tehsil & Dist.-Aurangabad (Bihar), for the period of April 2017 to March 2018.

This is for your kind information.

Thanking you.

Yours faithfully,
For BIHAR CEMENT PLANT
(A Unit of Shree Cement Ltd.)


(Gyanendra Mohan Khare)
Unit in charge



Copy to:

1. The Additional Principal Chief Conservator of Forest (APCCF), Ministry of Environment, Forests & Climate Change, Regional Office, (ECZ), Bungalow No. A - 2, Shyamali Colony, Ranchi - 834002.

Page 1 of 8

Office : BIHAR CEMENT PLANT (A Unit of Shree Cement Ltd.)
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**Environmental Statement for Clinker Grinding Unit of M/s Bihar Cement Plant
(A Unit of Shree Cement Ltd.), situated at Jasoia Mor, BIADA, Industrial
Growth Centre, Aurangabad, Tehsil & Dist. – Aurangabad, Bihar.
From: April-2017 to March-2018**

PART – A

| | | |
|----|---|---|
| 1. | Name and address of the Owner / Occupier of the Industry operation or process | M/s Bihar Cement Plant (A Unit of Shree Cement Ltd.), Jasoia Mor, BIADA, Industrial Growth Centre, Aurangabad, Tehsil & Dist. Aurangabad, Bihar |
| 2. | Industry Category Primary (S.T.C. Code) Secondary (S.T.C. Code) | Red Category |
| 3. | Production Capacity | 4.5 Million TPA Cement |
| 4. | Year of Establishment | 2014 |
| 5. | Date of the last Environmental Audit Report submitted | 22 nd September 2017 |

PART – B

WATER AND RAW MATERIAL CONSUMPTION

(I) **WATER CONSUMPTION:**

| | | |
|----------|---|--|
| Process | : | N.A. (As plant is based on dry Process technology) |
| Cooling | : | 12279 KL |
| Spraying | : | 39089 KL |
| Domestic | : | 22902 KL |

| Name of Product | Process Water Consumption per Unit of Product Output (Cement) | |
|-----------------|---|-------------------------------|
| | During Previous Financial Year | During Current Financial Year |
| Cement | 0.0181 KL/ MT of Cement | 0.0181 KL/ MT of Cement |

(II) RAW MATERIAL CONSUMPTION: (CEMENT PLANT)

| Name of Raw Material | Name of Product | Consumption of Raw Material Per Unit of Output (Cement) | |
|----------------------|-----------------|---|-------------------------------|
| | | During Previous Financial Year | During Current Financial Year |
| 1. Clinker | Cement | 0.507 | 0.532 |
| 2. Gypsum | | 0.047 | 0.042 |
| 3. Fly Ash | | 0.275 | 0.317 |
| 4. Slag | | 0.171 | 0.109 |

RAW MATERIAL CONSUMPTION: (HAG)

| Name of Raw Material | Name of Product | Consumption of Raw Material per unit of Output (Cement) | |
|------------------------|-----------------|---|-------------------------------|
| | | During Previous Financial year | During Current Financial year |
| 1. Coal/ Pet coke/Fuel | Heat | 0.0090 | 0.0053 |

RAW MATERIAL CONSUMPTION: (D.G. SET)

| Name of Raw Material | Name of Product | Consumption of Raw Material per unit of Output (Liters / KWH) | |
|----------------------|-----------------|---|-------------------------------|
| | | During Previous Financial year | During Current Financial year |
| 1. Diesel | Power | 0.332 | 0.334 |

(III) POWER CONSUMPTION (KWH/T OF CEMENT):

| During Previous Financial Year | During Current Financial Year |
|--------------------------------|-------------------------------|
| Cement Mill | Cement Mill |
| 35.78 | 32.30 |

(IV) TOTAL CEMENT PRODUCTION (MT):

| During Previous Financial Year | During Current Financial Year |
|--------------------------------|-------------------------------|
| Cement Mill (MT) | Cement Mill (MT) |
| 2453961 | 2841141 |

(V) TOTAL D.G. POWER PRODUCTION (KWH):

| During Previous Financial Year | During Current Financial Year |
|--------------------------------|-------------------------------|
| 18821 | 24080 |

PART – C
DISCHARGED TO ENVIRONMENTAL / UNIT OF OUTPUT

| Pollutants | Quantity of Pollutants Discharged | Concentration of Pollutants in Discharge (Mass/Value) | Percentage of variation from prescribed standard with reasons |
|------------|-----------------------------------|---|---|
| (a) | Water | Plant is being operated on dry process technology, hence no liquid effluent is generated from the Clinker Grinding Unit. The waste water generated from the office toilet, mess and guest house is being disposed off in soak pit via septic tank. | |
| (b) | Air | Please refer Annexure – 1 | |

PART – D
HAZARDOUS WASTE

(As specified under Hazardous Wastes (Management, Handling & Transboundary Movement) Rules amended up to 2011)

| Hazardous Waste | Total Quantity (Liters.) | |
|--|---|---|
| | During Previous Financial Year | During Current Financial Year |
| a) From Process (Cement manufacturing (Grinding) is based on “Dry Process” No Hazardous waste is generated from the process except used oil which is drained from Machinery / Equipments) | Total quantity generated = 2.2 KL Old stock = Zero Total disposal= 2.2 KL Balance quantity= Zero | Total quantity generated = 2.4 KL Old stock = Zero Total disposal= 2.4 KL Balance quantity= Zero |
| (b) From Pollution Control Facilities | N.A. | N.A. |

PART – E
SOLID WASTE

| | | Total Quantity | |
|-----|---|--|-------------------------------|
| | | During Previous Financial Year | During Current Financial Year |
| (a) | From Process | N.A. | N.A. |
| (b) | From Pollution Control Facility | Dust collected in the Bag Houses and Bag Filters are recycled to the system. | |
| (c) | 1) Quantity rejected or re-utilized within the unit | N.A | N.A |
| | 2) Sold | Nil | Nil |
| | 3) Disposed | Nil | 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 the categories of wastes:

(I) E-Waste:-

E-Waste was not generated during year 2017-18.

(II) Bio-Medical waste:-

Bio-medical waste generated in small quantity at dispensary is deeply buried in pit after proper treatment (Annexure-II).

(III) Battery waste:-

Battery Waste has not been generated during year 2017-18. In future it will be returned to the supplier or will be sold to the authorized recycler.

(IV) Hazardous Waste:-

Cement manufacturing is based on “Dry Process”. No Hazardous waste is generated from the process except used oil, which is sold out to CPCB authorized recycler.

(V) Solid Wastes: - N.A.

PART – G

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

M/s Bihar Cement Plant, A Unit of Shree Cement Limited (Grinding Unit) 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 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.

PART – H
ADDITIONAL MEASURES / INVESTMENTS PROPOSAL FOR
ENVIRONMENT PROTECTION INCLUDING ABATEMENT OF POLLUTION

Green belt development and tree plantation are our ongoing process. Every year we are doing new tree plantation to increase the bio-diversity of the area. Till date we have developed plantation in 91088 M² area, with around 20051 trees and shrubs, this is around 33 % green area of the total plant area.

PART – I
ANY OTHER PARTICULATES FOR IMPROVING THE QUALITY OF
ENVIRONMENT.

1. We have full-fledged Environment Department with three separate cells, one for monitoring, one for maintenance of pollution control equipment and one for 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. Raw Materials are stored in covered shed and silos. All conveyor belts are covered.
5. A vacuum sweeping machine is being used for continuous housekeeping.
6. Civil and Personal & Administration departments are taking care of Housekeeping.
7. Horticulture Section is taking care of tree plantation and green belt development. Every year we are growing new tree plantation.

On support of above, we are enclosing herewith following:-

- Annexure-I : Ambient Air Quality Report (SPM, SO₂ and NO₂),
Stack Emission Report, Noise level monitoring data
- Annexure-II : Bio-Medical waste generated quantity

AMBIENT AIR QUALITY ($\mu\text{g}/\text{m}^3$) FOR YEAR 2017-18

| Location Month | Plant boundary towards main gate / NH - 98 | | | | Plant boundary towards Reclaimer area | | | | Plant boundary towards Water harvesting pond | | | |
|-------------------|---|-----------|----------|-----------|--|-----------|----------|-----------|---|-----------|----------|-----------|
| | PM10 | PM2.5 | SO2 | NO2 | PM10 | PM2.5 | SO2 | NO2 | PM10 | PM2.5 | SO2 | NO2 |
| Apr-17 | 53 | 33 | 7 | 14 | 71 | 38 | 6 | 14 | 70 | 41 | 6 | 14 |
| May-17 | 50 | 35 | 6 | 16 | 59 | 35 | 6 | 18 | 56 | 31 | 7 | 14 |
| June-17 | 48 | 33 | 6 | 18 | 58 | 28 | 7 | 13 | 56 | 36 | 6 | 12 |
| July-17 | 51 | 27 | 6 | 19 | 52 | 26 | 7 | 17 | 50 | 24 | 6 | 14 |
| Aug-17 | 48 | 40 | 7 | 18 | 54 | 40 | 6 | 21 | 50 | 29 | 8 | 17 |
| Sept-17 | 54 | 33 | 7 | 13 | 56 | 39 | 5 | 21 | 53 | 31 | 6 | 16 |
| Oct-17 | 55 | 36 | 6 | 14 | 53 | 37 | 8 | 12 | 57 | 32 | 4 | 13 |
| Nov-17 | 64 | 37 | 6 | 19 | 56 | 37 | 6 | 19 | 52 | 33 | 4 | 17 |
| Dec-17 | 58 | 33 | 7 | 21 | 59 | 38 | 7 | 17 | 53 | 36 | 6 | 16 |
| Jan-18 | 59 | 39 | 7 | 19 | 58 | 29 | 8 | 17 | 65 | 39 | 7 | 18 |
| Feb-18 | 57 | 33 | 8 | 22 | 57 | 27 | 6 | 20 | 52 | 30 | 7 | 17 |
| Mar-18 | 59 | 32 | 7 | 19 | 57 | 28 | 7 | 19 | 56 | 26 | 6 | 19 |
| Average | 55 | 34 | 7 | 18 | 58 | 34 | 7 | 17 | 56 | 32 | 6 | 16 |

STACK EMISSION LEVEL (mg/Nm^3) FOR YEAR 2017-18

| Sr. No. | Month | Pollution Control Measures | PM (mg/Nm^3) |
|----------------|--------------|----------------------------|-----------------------------------|
| 1 | April-17 | Bag House | 21 |
| 2 | May-17 | Bag House | 28 |
| 3 | June-17 | Bag House | 25 |
| 4 | July-17 | Bag House | 21 |
| 5 | August-17 | Bag House | 26 |
| 6 | September-17 | Bag House | 22 |
| 7 | October-17 | Bag House | 16 |
| 8 | November-17 | Bag House | 17 |
| 9 | December-17 | Bag House | 19 |
| 10 | January-18 | Bag House | 18 |
| 11 | February-18 | Bag House | 20 |
| 12 | March-18 | Bag House | 23 |
| Average | | Bag House | 21 |

NOISE LEVEL Leq-dB (A) FOR YEAR 2017-18

| S. No. | Monitoring Location Month | Plant boundary towards main gate / NH - 98 | | Plant boundary towards reclaimer Area | | Plant boundary towards Water Harvesting Pond | |
|----------------|------------------------------|---|-------------|--|-------------|---|-------------|
| | | Day Time | Night Time | Day Time | Night Time | Day Time | Night Time |
| 01. | Apr-17 | 63.7 | 58.6 | 62.9 | 54.5 | 56.5 | 51.9 |
| 02. | May-17 | 63.3 | 56.8 | 62.4 | 55.3 | 57.9 | 51.5 |
| 03. | June-17 | 64.1 | 59.8 | 63.2 | 58.5 | 58.3 | 55.8 |
| 04. | July-17 | 65.4 | 58.7 | 64.3 | 56.4 | 56.5 | 52.8 |
| 05. | Aug-17 | 63.5 | 57.5 | 62.6 | 56.7 | 57.4 | 51.2 |
| 06. | Sept-17 | 62.7 | 57.1 | 61.5 | 57.5 | 55.7 | 52.1 |
| 07. | Oct-17 | 64.2 | 52.7 | 58.9 | 56.2 | 59.3 | 48.5 |
| 08. | Nov-17 | 65.6 | 53.5 | 68.9 | 55.5 | 59.4 | 50.2 |
| 09. | Dec-17 | 65.2 | 52.6 | 67.5 | 57.6 | 61.1 | 51.3 |
| 10. | Jan-18 | 65.3 | 56.7 | 66.7 | 54.8 | 68.2 | 51.5 |
| 11. | Feb-18 | 65.2 | 53.8 | 64.4 | 54.9 | 54.8 | 49.6 |
| 12. | Mar-18 | 64.3 | 55.9 | 62.9 | 54.1 | 56.1 | 43.5 |
| Average | | 64.4 | 56.1 | 63.9 | 56.0 | 58.4 | 50.8 |

Bio-Medical waste quantity generated during 2017-18

| S. No. | Month | BIOMEDICAL WASTE GENERATION & DISPOSAL (Kg) |
|---------------|--------------|---|
| 1 | April-17 | 0.230 |
| 2 | May-17 | 0.225 |
| 3 | June-17 | 0.225 |
| 4 | July-17 | 0.500 |
| 5 | August-17 | 0.440 |
| 6 | September-17 | 0.330 |
| 7 | October-17 | 0.180 |
| 8 | November-17 | 0.205 |
| 9 | December-17 | 0.353 |
| 10 | January-18 | 0.195 |
| 11 | February-18 | 0.380 |
| 12 | March-18 | 0.405 |
| | TOTAL | 3.668 |