Dalmia cement
FUTURE TODAY

cement! sugar! refractories! power!

Ref: CCIL/USO/EHS/2023-24/06 **Dated: 15/11/2023**

To,

The Director,
Ministry of Environment Forest & Climate Change
Govt. of India, Integrated Regional Office,
Guwahati, Assam.

Subject: Submission of Six-Monthly Compliance Report of the condition of environment clearance of **M/S Calcom Cement India Limited** located at Umrongso Assam-788931.

Dear Sir,

With reference to the stipulations of Environment Clearance, please find enclosed herewith the Six-Monthly Compliance report for the period of 1st April 23 to 30th September 2023 for Calcom Cement India Limited, Umrongso. The compliance report will be uploaded to our company website www.dalmiabharat.com within 15 days.

Kindly acknowledge the receipt of the same.

Thanking you,

For Calcom Cement India Limited.

(Authorized Signatory)

CC to:
1) The Regional Executive Engineer,
Regional Office, Silchar, Pollution Control Board, Assam.
2) The Zonal Officer
Central Pollution Control Board,
Shillong, Meghalaya-793 014.
3) SEIAA Guwahati

Calcom Cement India Ltd.

Environmental Clearance - Compliance Report

Ref: *Environment Clearance No. J-11011/307/2006-IA.II(I), dated 5th May 2022*

EC to Cement (Clinker) Plant 1.52 MTPA at Jamunanagar, Umrangshu, Dist. Dima Hasao, Assam by M/S Calcom Cement India Ltd.

Sn.	Conditions	Compliance Status
A	**Specific Conditions**	
(1)	Particulate matter emissions from all the stacks shall be less than 30 mg/Nm^3.	**Complied**.
(2)	975 KLD water shall be sourced from the Longlai River flowing 6 km from the site. Groundwater withdrawal is not permitted.	**Complied.**
(3)	Green belt shall be developed in 9.63 ha area all along the entire periphery of the area with a density of 2500 trees per ha by 31st December 2023 as committed. Additionally, 20,000 trees shall be planted outside the project site shall be brought under avenue plantation as committed by the proponent	Green belt developed in 8.86 ha area. Additional 10,000 trees and 6000 bamboo plants were planted outside the project site.
(4)	Thermal Energy consumption for the kiln shall be less than 720 Kcal/ton for clinker as committed by the proponent.	Complied.
(5)	DeSOx system shall be provided dry type. NOx level shall be maintained below 600 mg/Nm3 by using the best available technology	Complied.
(6)	All stockyards shall be having impervious flooring and shall be equipped with a water spray system for dust suppression. Stockyards shall also have garland drains to trap the run-off material.	Complied.
(7)	Slip roads shall be provided at the gates and along crossings on main roads.	Complied.
(8)	All internal and connecting road to the Highway shall be black topped/ concreted with suitable load in term of Million Standard Axle (MSA) as per IRC guidelines.	Complied.
(9)	Performance monitoring of pollution control equipment shall be taken up yearly and compliance status in this regard shall be reported to the concerned Regional Office of the MoEF&CC.	Performance monitoring was done in the month of Jan 2023. Report attached as **Annexure-I**.
(10)	Dioxin and furans shall be monitored twice a year during the co-processing of hazardous waste and a report shall be submitted to the Regional Office of	Complied. Report attached as **Annexure-II**.

	the MoEF&CC.	
(11)	Project proponent shall develop separate drainage system for storm water and industrial waste water and effectively prevent the pollution of natural waterbody.	Separate drainage system constructed for storm water. Zero waste discharge is maintained in the plant.
(12)	Project proponent shall comply with the all the observations as mentioned in the IRO report dated 28/03/2022 by 31/12/2022 except for green belt development by 31/12/2023.	Noted and complied. Detailed report attached. Attached as an **Annexure-III.**
B	**General Conditions**	
	Statutory compliance	
(1)	The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.	Noted & Complied
	Air quality monitoring and preservation	
(2)	The project proponent shall install 24x7 Continuous Emission Monitoring System (CEMS) at process stacks to monitor stack emission as well as 4 Nos. Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act 1986 or NABL accredited laboratories	Complied. Report attached as an **Annexure- IV.**
(3)	The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognized under Environment (Protection) Act, 1986.	Complied. Report attached as **Annexure-V**.
(4)	The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags	Complied.

(5)	The project proponent shall ensure covered transportation and conveying of ore, coal and other raw material to prevent spillage and dust generation; Use closed bulkers for carrying fly ash;	Complied
(6)	The project proponent shall provide wind shelter fence and chemical spraying on the raw material stock piles;	Complied
(7)	The ventilation system shall be designed for adequate air changes as per the prevailing norms for all tunnels, motor houses, and cement bagging plants.	Complied
	Water quality monitoring and preservation	
(8)	The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R. No. 612 (E) dated 25th August, 2014 (Cement) and subsequent amendment dated 9thMay, 2016 (Cement) and 10th May, 2016 (in case of Co-processing Cement)as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	The dry process is being maintained and zero waste discharge is being maintained.
(9)	The project proponent shall regularly monitor ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.	Surface water is being used. Attached Report VII
(10)	Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards	Complied.
(11)	The project proponent shall make efforts to minimize water consumption in the cement plant complex by segregation of used water, practicing cascade use and by recycling treated water.	Complied and agrees to comply
	Noise monitoring and prevention	
(12)		Complied.

	Noise quality shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.	Report attached as **Annexure-VI.**
	Energy Conservation measures	
(13)	Waste heat recovery system shall be provided for kiln and cooler.	Complied.
(14)	The project proponent makes efforts to achieve power consumption less than 65 units/ton for Portland Pozzolana Cement (PPC) and 85 units/ton for Ordinary Portland Cement (OPC) production and thermal energy consumption of 670 Kcal/Kg of clinker	Only the Clinkerisation unit is installed and 46 units/ Ton is being maintained.
(15)	Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly.	Complied.
(16)	Provide the project proponent for LED lights in their offices and residential areas.	Complied and agrees to comply.
	Waste management	
(17)	Used refractories shall be recycled as far as possible.	Noted
	Green Belt	
(18)	The project proponent shall prepare GHG emissions inventory for the plant and shall submit the program for reduction of the same including carbon sequestration by trees in the plant premises.	Noted and WHRS plant is installed and 76 % renewable energy is being used in the plant
	Public hearing and Human health issues	
(19)	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	Noted and complied.
20	The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms.	Noted and Complied

21	Occupational health surveillance of the workers shall be done on a regular basis and records maintained.	Complied.
	Environment Management	
22	The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020.	Noted and complied
23	The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.	Noted and complied. Report attached as an **Annexure-VIII**.
24	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.	Complied and attached as **Annexure-**IX
C	Miscellaneous	
1.	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.	Complied and attached as an **Annexure** X
2.	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	Complied and attached as **Annexure-XI**.

3.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis	Complied.
4.	The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.	Complied The criteria pollutant levels namely: PM (stack), PM10, PM2.5, SO2, NOx (ambient levels as well as stack emissions) are monitored continuously online and displayed at main gate of the company in the public domain. **Attached Photo Annexure-XII**
5.	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.	Noted and Complied
6.	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.	Complied and attached as **Annexure**...XIII
7	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.	Complied and the Operation started. CTE and CTO attached as an **Annexure-XIV**.
8.	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.	Public Hearing commitments ensured. Attached as an **Annexure XV**.
9.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).	Noted and complied
10.	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Noted
11.	The Ministry may revoke or suspend the clearance,	Noted

	if implementation of any of the above conditions is not satisfactory.	
12.	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions	Noted
13.	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports	Noted
14.	Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Noted

PERFORMANCE ASSESSMENT STUDY OF AIR POLLUTION CONTROL EQUIPMENT (APCE) FOR M/S CALCOM CEMENT INDIA LTD., UMRANGSO, DIMA HASAO, ASSAM

CME-ENV/SP-6487

March 2023

CENTRE FOR MINING, ENVIRONMENT, PLANT ENGG. & OPERATION

NATIONAL COUNCIL FOR CEMENT AND BUILDING MATERIALS

ACKNOWLEDGEMENT

The Environmental Sustainability and Climate Change (ESC) Programme of the Centre for Mining, Environment, Plant Engineering & Operation (CME) of National Council for Cement and Building Materials (NCB) thankfully acknowledge the support and co-operation extended by the Management and Staff of M/s Calcom Cement India Limited (M/s CCIL), Jamunanagar in Umrangso, Dima Hasao, Assam.

We are also grateful for the confidence reposed in NCB for the study on "Performance Evaluation of Air Pollution Control Equipment of M/s Calcom Cement India Ltd., Umrangso, Assam".

CONTENTS

LIST OF TABLES

LIST OF FIGURES

EXECUTIVE SUMMARY

1. M/s Calcom Cement India Ltd. approached National Council for Cement and Building Materials (NCB) to carry out a study on "Performance Assessment of Existing Air Pollution Control Equipment".

2. NCB team visited the plant during 8th January to 12th January 2023 to collect relevant plant data and to carry out emission measurements including temperature, pressure, velocity, dust concentration at inlet and outlet of APCE.

3. In this study, 3 major APCEs of clinkerisation plant, were covered which include Reverse Air Bag House (RABH) attached with kiln/raw mill sections, pulse-jet bag filters attached with coal mill and Electro Static Precipitators (ESP) attached with cooler.

4. During the Performance Assessment Study of APCE at Calcom Cement India Ltd., the average particulate matter (PM) concentration measured at stacks of three APCE viz. Kiln/Raw Mill RABH, Cooler ESP and Coal Mill bag filter and dust control efficiency of the three APCE are shown in table below:

S.No.	Description of APCE	PM Concentration (mg/Nm^3 on dry basis)	Efficiency of APCE (%)
1.	Kiln/Raw Mill RABH	23.92	99.9179
2.	Cooler ESP	26.04	99.91
3.	Coal Mill Bag Filter	16.13	99.9941

1. INTRODUCTION

M/s Calcom Cement India Limited (M/s CCIL) is one of the major clinkerization unit of Dalmia Cement (Bharat) Ltd. located at 16 Kilo, Jamunanagar in Umrangso, Dima Hasao, Assam. The plant is located at an altitude of 585 m from mean sea level. The company started its production in 2015 with capacity of 4600 tonnes per day clinkerization. The plant is based on dry process rotary kiln technology.

As per the conditions of Environment Clearance, M/s Calcom Cement India Ltd. is required to carry out performance evaluation of its Air Pollution Control Equipment (APCE). In this regard, M/s CCIL approached National Council for Cement and Building Materials (NCB) to carry out a study on "Performance Assessment of Existing Air Pollution Control Equipment" to evaluate the status of the existing APCEs. NCB team comprising of 2 officials visited plant during 8th January to 12th January 2023 to collect relevant plant data and to carry out emission measurements including temperature, pressure, velocity, dust concentration at inlet and outlet of APCE.

In this study, 3 major APCEs of clinkerisation plant, were covered which include Reverse Air Bag House (RABH) attached with kiln/raw mill sections, pulse-jet bag filters attached with coal mill and Electro Static Precipitators (ESP) attached with cooler.

2. SCOPE OF WORK

The scope of the study is as follows:

- Plant visit for detail discussions with plant officials regarding the operation of existing APCE which include Reverse Air Bag House (RABH) attached with kiln/raw mill sections, pulse-jet bag filters attached with coal mill and Electro Static Precipitators (ESP) attached with cooler.
- Measurements of process parameters like temperature, pressure, gas/air volume etc., at various locations in APCE circuit.
- Measurement of the dust concentration at inlet and outlet of the APCE.
- Evaluation of the existing performance of APCE.

3. PERFORMANCE ASSESSMENT

To evaluate the performance of APCE, process parameters like temperature, pressure, velocity, gas flow, dust concentration and efficiency were measured both at inlet and outlet (Stack) of APCE. Three samples of dust measurements were taken both at inlet and outlet of each APCE. The outlet measurements were taken at stack emission monitoring point. The detailed description of the measurements/studies carried out at each APCE is given below:

3.1 Kiln/Raw Mill Reverse Air Bag House (RABH)

The RABH handles the exhaust gases coming from Kiln and Raw Mill. The technical specification of RABH as provided by the plant during visit is shown in Table 3.1, CCR snapshot of RABH and RABH at CCIL are shown in Fig 3.1 and 3.2 respectively.

Table 3.1: Technical Specification of RABH

S.No.	Description	Unit	Specifications
1	**Operating Conditions**		
	Volume	m^3/h	480000-550000
	Inlet gas temperature	℃	120-220
	Inlet dust load	g/m^3	30
	Static pressure drop across bag filter (Operational)	mmWG	175
2	**Design Data**		
	Air to cloth ratio	$m^3/min/m^2$	0.58
	Design suction pressure of housing	mmWG	+500/-400
	Maximum gas temperature allowed	℃	260
	Maximum outlet dust load	mg/Nm^3	50
3	**Construction & Arrangement**		
	Number of compartment module		12
	Compartment size(lxw)	mm x mm	5610 x 4258(Inside)
	Number of bag per module/compartment		132
	Total number of bags		1584
	Total filtration area	m^2	15622.69
4	**Bag information**		
	Diameter	mm	301
	Length	mm	10430
	Fabric material		Woven Glass fire with PTFE membrane
	Material of bag coating		PTFE Membrane
	Number		1584
	Temperature		
	- operation	℃	120-220
	- maximum	℃	240
	Life	months	60

5	**Reverse air fan**		
	Operating	m^3/h	22802
	Design	m^3/h	33100
	Static pressure	mm WG	-220
	Operating/Design temperature	℃	65
6	**Performance Guarantee**		
a	Outlet Emission	mg/Nm^3	≤25 mg/ Nm^3
b	Pressure Drop	mmWG	175
c	Power Consumption(RABH Fan)	kW	215(compound mode)
d	Filter bags guaranteed life	yrs.	5 years

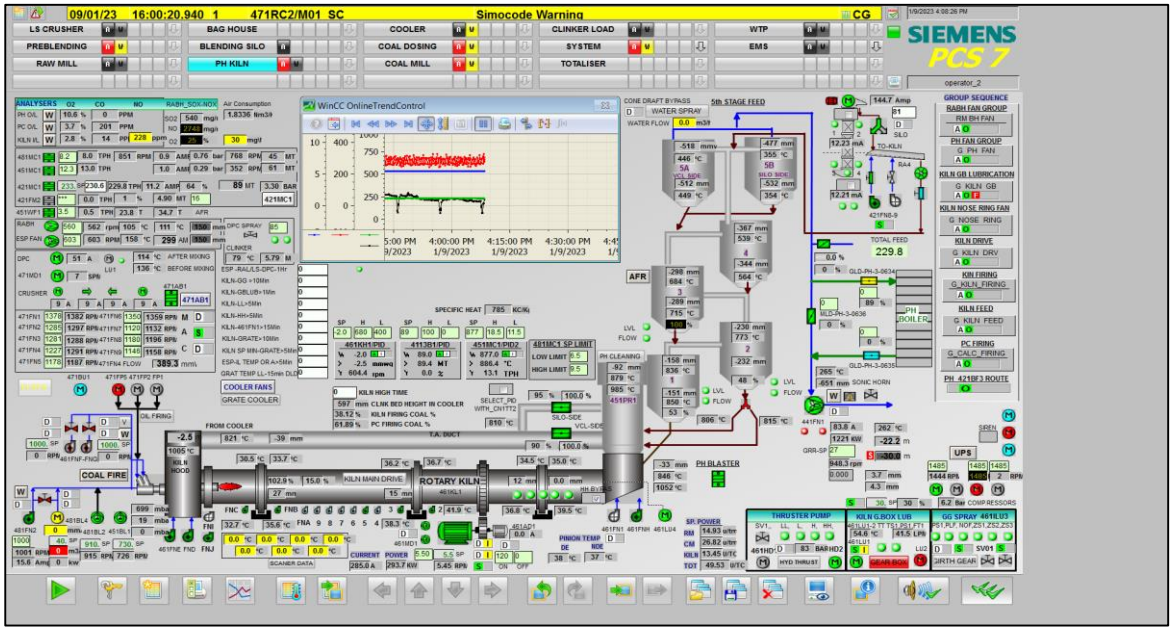


Fig 3.1: CCR Snapshot of RABH

Fig 3.2: Reverse Air Bag House

The measurement data and operating parameters for inlet and outlet of RABH is discussed below:

3.1.1 Inlet of RABH

At inlet duct of RABH, the temperature of gas was around 109°C and the Static Pressure was around -14 mmWG. The velocity in the duct was found to be 9.92 m/s and the gas flow was 321,521 Nm^3/hr. The operational parameters details of RABH are given in Table 3.2.

Table 3.2: Operational Parameters at inlet duct of RABH

Parameter	UoM	1st Sample	2nd Sample	3rd Sample
Date & Time of Measurement	-	09.01.2023 at 3 PM to 6 PM		
Kiln Feed Rate	TPH	230 TPH		
Ambient Temp.	℃	24.6		
Gas Temperature	℃	109		
O_2	%	9		
Mol. Wt.	g/mol	32.84		
Dynamic Pressure	mmWG	6.67		
Static Pressure	mmWG	-14		
Velocity	m/s	9.92		
Gas Flow	Nm^3/hr	321,521		

- **Dust Concentration**

The dust concentration in the inlet duct of RABH was in the range of 27,060 to 30, 522 mg/Nm^3 and the dust load was measured in the range of 8.7 to 9.8 TPH. The details of dust concentration and dust load in inlet duct of RABH are given in Table 3.3.

Table 3.3: Dust Measurements in inlet duct of RABH

Parameter	UoM	1st Sample	2nd Sample	3rd Sample
Dust concentration	mg/Nm^3	30,522	29,923	27,060
Avg. dust concentration	mg/Nm^3	29,168		
Dust load	TPH	9.8	9.6	8.7
Avg. dust load	TPH	9.4		

3.1.2 Outlet (Stack) of RABH

At outlet duct (stack) of RABH, the temperature of gas was around 108°C, the Static Pressure was around -12 mmWG, velocity in the duct was 12.59 m/s and the gas flow was 354,930 Nm^3/hr in compound mode. During direct mode when raw mill was not working, the temperature of gas was around 185°C, the Static Pressure was around -14 mmWG, velocity in the duct was 12.23 m/s and the gas flow was 304,602 Nm^3/hr. The operational parameters details are given in Table 3.4.

Table 3.4: Operational Parameters of outlet duct of RABH

Parameter	UoM	1st Sample	2nd Sample	3rd Sample
Date & Time of Measurement	-	10.03.2023 at 11.00 AM to 2.00 PM		
Kiln Feed Rate	TPH	215		
Ambient Temp.	ºC	29.5		
Gas Temp.	ºC	108 to 185		
O_2	%	7.8 to 9.8		
Mol. Wt.	g/mol	32.744		
Dynamic Pressure	mmWG	8.94 to 10.10		
Static Pressure	mmWG	-12 to -14		
Velocity	m/s	12.23 to 12.59		
Gas Flow	Nm^3/hr	304,602 to 354,930		

- **Dust Concentration**

The dust concentration in the outlet duct (stack) of RABH was in the range of 22.47 to 24.40 mg/Nm^3 with an average dust concentration of 23.92 mg/Nm^3 and the dust emission rate was measured as 0.008 TPH. The details of dust concentration and dust load in outlet duct of RABH are given in Table 3.5.

Table 3.5: Dust Measurements in outlet duct of RABH

Parameter	UoM	1st Sample	2nd Sample	3rd Sample
Dust Concentration	mg/Nm^3	23.26	24.40	22.47
Avg. dust concentration	mg/Nm^3	23.92		
Dust emission rate	TPH	0.008	0.008	0.008
Avg. dust emission rate	TPH	0.008		

3.1.3 Summary of Measurement Data

The measurements taken at inlet and outlet of RABH are summarized below:

Parameter	RABH Inlet	RABH O/L
Oxygen (%)	9.0	9.8
Velocity (m/sec)	9.92	12.59
Flow (Nm^3/hr)	321,521	354,930
Avg. Dust Concentration (mg/Nm^3)	29,168	23.92
Avg. Dust Load/Emission rate (TPH)	9.4	0.008

Based on the above measurements, the efficiency of RABH is calculated as **99.9179%** as shown below:

	RABH Inlet	RABH Outlet	Efficiency of RABH
Dust Concentration (mg/Nm^3)	29,168	23.92	**99.9179 %**

3.1.4 Evaluation of Site Measurements Results (Observation & Recommendations)

- Emission level at stack outlet is 23.92 mg/Nm^3 which is lower than the PM emission limit of $\leq$ 30 mg/Nm^3
- Efficiency of RABH was found to be 99.9179%, however there exist a further scope of improvement
- The inlet temperature to RABH was measured as 109ºC in the acceptable range
- For improvement of RABH efficiency, measures like checking the conditions of bags, bag internals, periodic cleaning etc. can be carried out

3.2. Cooler ESP

The Cooler ESP handles the exhaust gases from Cooler. The technical specification of ESP as provided by the plant is shown in Table 3.6, the CCR snapshot of cooler ESP and picture of cooler ESP are shown in Fig 3.3 and 3.4 respectively.

Table 3.6: Technical Specification of ESP

S.NO	Description	Unit	Data
	Equipment number		
1.	**Compound operation**		
	Gas quantity	m3/hr	450000
	Gas temperature	°C	130-140
	Mech design temp.	°C	400
	Gas dew point	°C	20
	Static pressure	mmWG	-50
	Inlet gas dust content	g/m^3	20
	Clean gas dust content	mg/Nm^3	50
	Operating pressure drop across ESP	m bar	3-5
2	**ESP**		
	Total collecting area, projected	m^2	8498.2m2
	Number of Chambers		3
	No. of fields per chamber		3
	Row width	mm	4610
	Maximum tolerated temperature	°C	270
	Max. tolerated operating pressure	mmWG	+350
3	**Parameters**		
	Collecting area	m^2	8498.4
	Migration Velocity	cm/s	11.18
	Gas Velocity		
	Compound Operation	m/s	1.0
	Retention Time in all fields in Operation		13.8 second
4	**Collecting Electrodes**		
	Quantity	Nos.	870
	Number/ESP		01
	Material		Clinker Dust
	Width	mm	445
	Thickness	mm	1.2
	Height	mm	10779
	Rapper Type		Coil type Plunger
5	**Performance Guarantee**		
a	Outlet Emission	mg/cu Nm	Less than 30
b	Pressure Drop	mmWG	25-30
c	Power Consumption(ESP Fan)	kW	108
d	Expected life of electrodes	yrs.	7-8

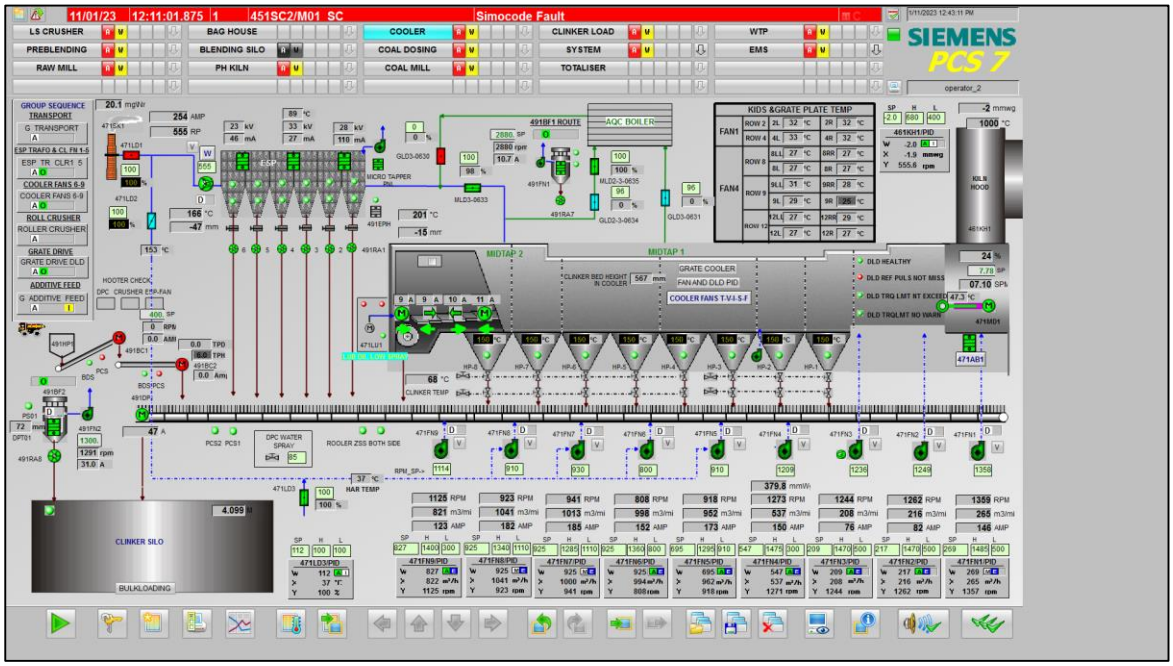


Fig 3.3: CCR Snapshot of Cooler

Fig 3.4: Cooler ESP

The dust measurement data and operating parameters at inlet and outlet of cooler ESP are discussed below:

3.2.1 Inlet of Cooler ESP (AQC Boiler Outlet)

At inlet of cooler ESP, the temperature of gas was around 134.7°C and the Static Pressure was around -71 mmWG. The velocity in the duct was 14.21 m/s and the gas flow was 190,253 Nm^3/hr. The operational parameters details of inlet of cooler ESP are given in Table 3.7.

Table 3.7: Operational Parameters of inlet of cooler ESP

Parameter	UoM	1st Sample	2nd Sample	3rd Sample
Date & Time of Measurement	-	11.01.2023 at 3.00 PM – 6.00 PM		
Kiln Feed Rate	TPH	230		
Ambient Temp.	ºC	24		
Gas Temp.	ºC	134.7		
O_2	%	21		
Mol. Wt.	g/mol	28.84		
Dynamic Pressure	mmWG	11.15		
Static Pressure	mmWG	-71		
Velocity	m/s	14.21		
Gas Flow	Nm^3/hr	190,253		

- **Dust Concentration**

The dust concentration in the inlet of cooler ESP was in the range of 26,396 to 28,862 mg/Nm^3 with average dust concentration of 27,674 mg/Nm^3 and the dust load was measured in the range of 5.02 to 5.49 TPH. The details of dust measurement at inlet of cooler ESP are given in Table 3.8.

Table 3.8: Dust Measurements at inlet of cooler ESP

Parameter	UoM	1st Sample	2nd Sample	3rd Sample
Dust Concentration	mg/Nm^3	28,862	27,763	26,396
Avg. dust concentration	mg/Nm^3	27,674		
Dust load	TPH	5.49	5.28	5.02
Avg. dust load	TPH	5.26		

3.2.2 Outlet (Stack) of Cooler ESP

At stack of cooler ESP, the temperature of gas was around 126°C and the Static Pressure was around -10 mmWG. The velocity of gas in the stack was 8.65 m/s and the gas flow was 191,456 Nm^3/hr. The operational parameters at outlet duct of cooler ESP are given in Table 3.9.

Table 3.9: Operational Parameters at stack of cooler ESP

Parameter	UoM	1st Sample	2nd Sample	3rd Sample
Date & Time of Measurement	-	11.01.2023 at 11.00 am – 2.00 pm		
Kiln Feed Rate	TPH	217		
Ambient Temp.	ºC	22		
Gas Temp.	ºC	126		
O_2	%	21		
Mol. Wt.	g/mol	28.84		
Dynamic Pressure	mmWG	4.25		
Static Pressure	mmWG	-10		
Velocity	m/s	8.65		
Gas Flow	Nm^3/hr	191,456		

- **Dust Concentration**

The dust concentration in the outlet duct of cooler ESP was in the range of 24.33 to 27.88 mg/Nm^3 and the dust emission rate was measured in the range of 0.004 to 0.005 TPH. The details of dust concentration in outlet duct of cooler ESP are given in Table 3.10.

Table 3.10: Dust Measurements at stack of cooler ESP

Parameter	UoM	1st Sample	2nd Sample	3rd Sample
Dust Concentration	mg/Nm^3	27.88	25.91	24.33
Avg. dust concentration	mg/Nm^3	26.04		
Dust emission rate	TPH	0.005	0.004	0.005
Avg. dust emission rate	TPH	0.0047		

3.2.3 Summary of Measurement Data for Cooler ESP

The measurements taken at inlet and outlet of cooler ESP are summarized below:

Parameters	Cooler ESP Inlet	Cooler ESP Stack
Oxygen (%)	21	21
Velocity (m/sec)	14.21	8.65
Flow (Nm^3/hr)	190,253	191,456
Avg. Dust Concentration (mg/Nm^3)	27,674	26.04
Avg. Dust Load (TPH)	5.26	0.0047

Based on the above measurements, the efficiency of Cooler ESP is calculated as **99.91%** as shown below:

	Cooler ESP Inlet	Cooler ESP Outlet	Efficiency of ESP
Dust Concentration (mg/Nm^3)	27,674	26.04	**99.91**

3.2.4 Evaluation of Site Measurements Results (Observation & Recommendations)

- Emission level at cooler ESP stack is 26.04 mg/Nm^3 which is lower than the emission limit of $\leq$ 30 mg/Nm^3
- Efficiency of ESP was found to be 99.91%, however there exist a further scope of improvement in efficiency
- For improvement of ESP efficiency, measures like optimization of ampere setting, checking of ESP internals should be carried out.
- For improvement in collection efficiency of ESP, plant may increase the rapping frequency

3.3 Coal Mill Bag Filter

The Coal Mill Bag Filter handles the exhaust gases from coal mill, where a stream of gas is coming from Kiln/Preheater. About 50-60% of gases are re-circulated from bag filter fan outlet to coal mill inlet The technical specification of coal mill bag filter as provided by the plant is shown in Table 3.11 and the CCR snapshot of coal mill is shown in Fig 3.5.

Table 3.11: Technical Specification of Coal Mill Bag Filter

COAL MILL BAG HOUSE DATA SHEET			
Sl.No.	**Description**	**Unit**	**Specifications**
1	**Operating Conditions**		
	Gas Volume	m^3/h	80000
	Inlet gas temperature	°C	68-75
	Static pressure at inlet	mmWG	-620
	Inlet dust concentration	g/m^3	350-400
2	**General equipment data**		
	No. of rows of the compartment	nos.	18
	No. of compartment per row	nos.	9
	Total no. of filter bag	nos	784
	Filtration area per bag(effective)	m^2	1.71
	Total filtration area(effective)	m^2	1343.18
	Air to cloth ratio(effective)	$m^3/min/m^2$	0.99
3	**Cleaning arrangement**		
	Type		Pulse Jet
	Compressed air required (FAD)	m^3/h	40
	Compressed air pressure required	kg/cm^2g	6
	Time range of pulsation(adjustable)	ms	100
	Time range of off period(adjustable)	s	10
	Maximum temp. of the air	°C	25-30
4	**Filter Bag**		
	Diameter	mm	149
	Length	mm	3660
	Fabric material		Homopolymer, antisatic
	Max. temp. bag can withstand	°C	120
	Fabric thickness	mm	2.2-2.4
5	**Performance Guarantee**		
a	Outlet Emission	mg/Nm^3	Below 10
b	Pressure Drop	mmWG	90
c	Power Consumption(Coal Mill Fan)	kW	324
d	Filter bags guaranteed life	yrs.	2

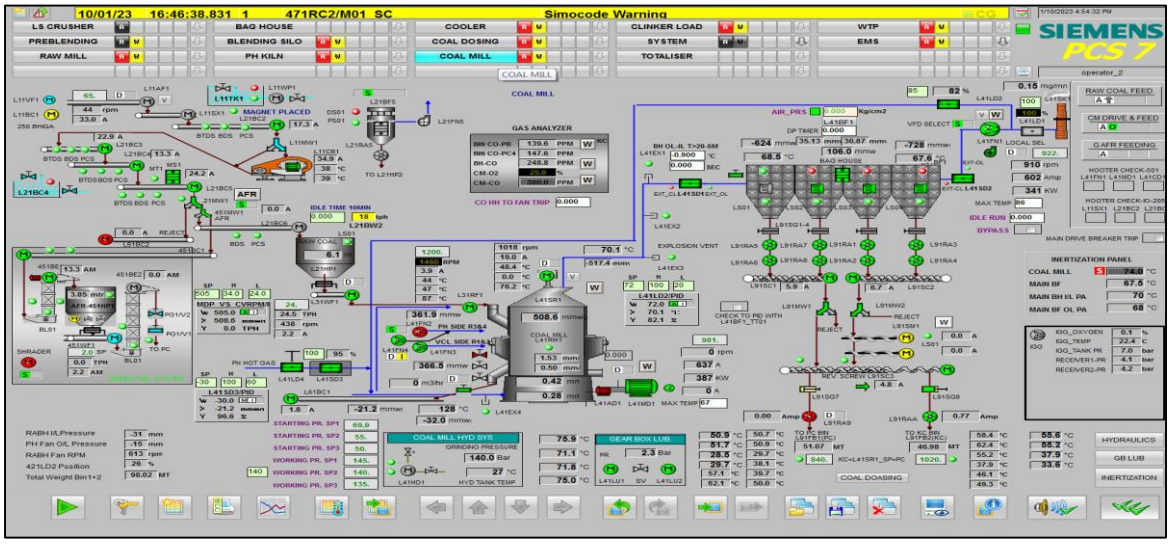


Fig 3.5: CCR Snapshot of Coal Mill

The dust measurement data at inlet and outlet (stack) of coal mill bag filter is discussed below:

3.3.1 Inlet of Coal Mill Bag Filter

At inlet of coal mill bag filter, the temperature of gas was around 71.0°C and the Static Pressure was around -625 mmWG. The velocity in the duct was 38.27 m/s and the gas flow was 96,900 Nm^3/hr. The operational parameters details at inlet duct of coal mill bag filter are given in Table 3.12.

Table 3.12: Operational Parameters of inlet duct of coal mill bag filter

Parameter	UoM	1st Sample	2nd Sample	3rd Sample
Date & Time of Measurement	-	10.01.2023 at 3 PM to 4.30 PM		
Coal Mill	TPH	24.5		
Ambient Temp	ºC	30		
Gas Temperature	ºC	71		
O_2	%	9.8		
Mol. Wt.	g/mol	33.16		
Diff. Pressure	mmWG	38.27		
Static Pressure	mmWG	-625		
Velocity	m/s	23.23		
Gas Flow	Nm^3/hr	96,911		

➢ **Dust Concentration**

The dust concentration in the inlet duct of coal mill bag filter was in the range of 256,744 to 293,363 mg/Nm^3 and the dust load was measured in the range of 24.88 to 28.43 TPH. The details of dust concentration and dust load in inlet duct of coal mill bag filter are given in Table 3.13.

Table 3.13: Dust Measurements at inlet duct of coal mill bag filter

Parameter	UoM	1st Sample	2nd Sample	3rd Sample
Dust Concentration	mg/Nm^3	256,744	275,350	293,363
Avg. dust concentration	mg/Nm^3	275,153		
Dust load	TPH	24.88	26.68	28.43
Avg. load	TPH	26.66		

3.3.2 Outlet (Stack) of Coal Mill Bag Filter

At stack of coal mill bag filter, the temperature of gas was around 74.4°C and the Static Pressure was around -9 mmWG. The velocity in the duct was 10.21 m/s and the gas flow was 30,376 Nm^3/hr. The operational parameters details at stack of coal mill bag filter are given in Table 3.14.

Table 3.14: Operational Parameters of outlet duct of coal mill bag filter

Parameter	UoM	1st Sample	2nd Sample	3rd Sample
Date & Time of Measurement	-	10.01.2023 at 6.00 PM – 8.00 PM		
Coal Mill	TPH	24.5		
Ambient Temp.	ºC	30		
Gas Temperature	ºC	74.4		
O_2	%	10		
Mol. Wt.	g/mol	33.168		
Dynamic Pressure	mmWG	7.81		
Static Pressure	mmWG	-9		
Velocity	m/s	10.21		
Gas Flow	Nm^3/hr	30,376		

- **Dust Concentration**

The dust concentration in the outlet duct (stack) of coal mill bag filter was in the range of 14.17 to 17.47 mg/Nm^3 and the dust emission rate was measured as 0.0004 - 0.001 TPH. The details of dust concentration and dust emission rate in outlet duct of coal mill bag filter are given in Table 3.15.

Table 3.15: Dust Measurements at stack of coal mill bag filter

Parameter	UoM	1st Sample	2nd Sample	3rd Sample
Dust Concentration	mg/Nm^3	17.47	14.17	16.75
Avg. dust concentration	mg/Nm^3	16.13		
Dust emission rate	TPH	0.0010	0.0004	0.0010
Avg. dust emission rate	TPH	0.0008		

3.3.3 Summary of Measurement Data for Coal Mill bag filter

The measurements taken at inlet and outlet of Coal Mill bag filter are summarized below:

	Coal Mill Bag Filter Inlet	Coal Mill Bag Filter Outlet
Oxygen (%)	9.8	10
Velocity (m/sec)	23.23	10.21
Flow (Nm^3/hr)	96,911	30,376
Avg. Dust Concentration (mg/Nm^3)	275,153	16.13
Avg. Dust Load (TPH)	26.66	0.0008

Based on the above measurements, the efficiency of bag filter is calculated as **99.9941%** as shown below:

	Coal Mill bag filter inlet	Coal Mill bag filter outlet	Efficiency of Bag Filter
Dust Concentration (mg/Nm^3)	275,153	16.13	**99.9941 %**

3.3.4 Evaluation of Site Measurements Results (Observation & Recommendations)

- Emission level at stack outlet is 16.13 mg/Nm^3 which is lower than the emission limit of $\leq$ 30 mg/Nm^3
- Efficiency of coal mill bag filter was found to be 99.9941%
- Periodic Inspection of bag filter needs to be carried out to check the condition of bags.

4. CONCLUSION

During the Performance Assessment Study of APCE at Calcom Cement India Ltd., the average particulate matter (PM) concentration measured at stacks of three APCE viz. Kiln/Raw Mill RABH, Cooler ESP and Coal Mill bag filter and dust control efficiency of the three APCE are shown in Table 4.1 & 4.2 respectively.

Table 4.1: PM concentration measured at stacks of APCE

S.No.	Description of APCE	PM Concentration (mg/Nm^3 on dry basis)
1.	Kiln/Raw Mill RABH	23.92
2.	Cooler ESP	26.04
3.	Coal Mill Bag Filter	16.13

Table 4.2: Efficiency of APCE

S.No.	Description of APCE	Efficiency of APCE (%)
1.	Kiln/Raw Mill RABH	99.9179
2.	Cooler ESP	99.91
3.	Coal Mill Bag Filter	99.9941

ENVIROCON
Recognised By
Pollution Control Board, Assam

Envirocon Building, I.O.C.L (AOD) New Market
P.O.: Digboi, Dist.: Tinsukia, Assam – 786 171
Ph: 03751-264414, 9435008657, 8876028672
E-mail: envirocon@rediffmail.com

ISO 9001:2015 Certified
ISO 45001:2018 Certified

Format No.: ENV/R/TR/19/SE-01 Rev. No.: 00

STACK EMISSION TEST REPORT

ULR No.	NA		
Report No.	ENV/TR/DCNEL/DMH/23-24/SE-04	**Issue Date**	16/10/2023
Order No.	4556001700/236	**Order Date**	09/09/2023
Report Issued To	DALMIA CEMENT (NORTH EAST) LIMITED Jamunanagar-16 Kilo, Umrangshu, Dist.- Dima Haso (N. C. Hills), Assam - 788931		

Sample Ref. No.:	DCNEL/2023/SE-1409/01	Sample Source:	R. A. B. H Stack	Material of Construction:	M. S.
Shape of Stack:	Circular	Stack Height & Diameter:	55 m & 3.8 m	Fuel Used:	NA
Sampling Date:	14.09.2023	Sample Receipt Date:	16.09.2023	Instrument Used:	Stack Kit & Flue Gas Analyser
Analysis Start Date:	22.09.2023	Analysis End Date:	04.10.2023	Sampled By:	Bidyut Kalita, Envirocon

TEST RESULTS

Sl. No.	Parameters	Test Method	Results	Units	Limits*
1.	Hydrogen Chloride (as HCl)	USEPA Method 29:2017	BDL [MDL: 1.0]	mg/Nm³	10
2.	Hydrogen Fluoride (as HF)	USEPA Method 29:2017	BDL [MDL: 1.0]	mg/Nm³	1
3.	Mercury (as Hg)	USEPA Method 29:2017	BDL [MDL: 0.001]	mg/Nm³	0.03
4.	Hg and its compounds	USEPA Method 29:2017	BDL [MDL: 0.001]	mg/Nm³	0.05
5.	Cd + Tl and their compounds	USEPA Method 29:2017	BDL [MDL: 0.001]	mg/Nm³	0.05
6.	Sb+As+Pb+Co+Cr+Cu+Mn+Ni+V+ and their compounds	USEPA Method 29:2017	0.154	mg/Nm³	0.5
7.	Total Organic Carbon (as TOC)	NSWEPA, 2007	7.0	mg/Nm³	10
8.	Total Dioxins and Furans	USEPA 23A/QA. 16.4.73	BDL [MDL: 0.01]	ngTEQ/Nm³	0.1

NA: Not Applicable, **BDL**: Below Detectable Limit, **MDL**: Minimum Detection Limit

*** Limits as per CPCB norms.**

***********End of Report***********

ENVIROCON DIGBOI, ASSAM Date:

Authorised Signatory: Mr. Pankaj Baroi (Director)

NOTE:
1. Results reported are valid at the time of and under the prevailing conditions of measurement.
2. Results refer only to the particular parameters tested.
3. This test report shall not be reproduced except in full, without the written permission of ENVIROCON, I.O.C.L (AOD) New Market, Digboi – 786171, Assam.

Sn.	Observations	Compliance Status
A		
(1)	Coal dumping has been done without cover shade where spontaneous firing was also observed, neither fixed type of water sprinklers have been provided, nor undertaken any measures to control of fugitive dust and smog & based on height of foothills the constructed toe wall, catch drains, siltation ponds and sedimentation pits are insufficient	Partial Complied and work is in progress for covered shed However, all control measures were taken. **Additional fixed-type sprinklers installed for the same along with Dry Fog System for coal dump hopper area. Additional Settling pond Constructed. Attached photos 1 2 &3.**
(2)	Roads connecting the raw material yards to the plant has not been repaired**. (Specific Condition No. v.)**	**Complied.**
(3)	Approach road to coal stockyard has neither been black topped nor properly paved/ concreted creating dust pollution in the project site. **(Specific Conditions No. vi.).**	Complied
(4)	A settling pond has not been constructed before discharge of water from all drainage system into the outside plant premises. **(Specific Condition No. ix and Specific Condition no. xii.).**	Complied.
(5)	Cemented bandh made to block the natural flow to accumulate water has resulted in drying of remaining part of the natural nallah in winter season **(Specific condition no. x.)**	Complied attached
(6)	Green belt development is not satisfactory and high value index air pollution tolerant native species have not been planted **(Specific Condition No. xvii.).**	The plantation is in Progress.
(7)	**The transfer of EC for Cement plant from else while owner of M/s. Calcom Cement Ltd. to present owner M/s. Dalmia Bharat Cement Limited is yet to be approved by the Ministry and no application has been submitted. (General Condition No. i.).**	**Complied. Already complied during seeking extension of validity of EC.**

Photos 1

Photos 2

Photos 3

ENVIROCON
Recognised By
Pollution Control Board, Assam

Envirocon Building, I.O.C.L (AOD) New Market
P.O.: Digboi, Dist.: Tinsukia, Assam – 786 171
Ph: 03751-264414, 9435008657, 8876028672
E-mail: envirocon@rediffmail.com

ISO 9001:2015 Certified
ISO 45001:2018 Certified

Format No.: ENV/R/TR/19/AA-01 Rev. No.: 00

AMBIENT AIR QUALITY TEST REPORT

ULR No.	NA		
Report No.	ENV/TR/DCNEL/DMH/23-24/A-01	**Issue Date**	27/09/2023
Order No.	4556001700/236	**Order Date**	09/09/2023
Report Issued To	DALMIA CEMENT (NORTH EAST) LIMITED Jamunanagar-16 Kilo, Umrangshu, Dist.- Dima Haso (N. C. Hills), Assam - 788931		

Sample Ref. No.:	DCNEL/2023/A-1109/01	Sample Source:	CCR Building	Weather Condition:	Clear & Calm
Date of Sampling:	11.09.2023	Sample Receipt Date:	16.09.2023	Instrument Used:	FPS, RDS & Gaseous Attachment
Analysis Start Date:	19.09.2023	Analysis End Date:	27.09.2023	Sampled By:	Bidyut Kalita, Envirocon

TEST RESULTS

Sl. No.	Parameters	Test Method	Results	Units	Limits*
1.	Particulate Matter (size less than 2.5 µm) or $PM_{2.5}$	IS 5182 (Part 24)	22.4	µg/m³	60 (24 Hours Average)
2.	Particulate Matter (size less than 10 µm) or PM_{10}	IS 5182 (Part 23)	45.2	µg/m³	100 (24 Hours Average)
3.	Sulphur Dioxide (as SO_2)	IS 5182 (Part 2)	BDL [MDL: 5.0]	µg/m³	80 (24 Hours Average)
4.	Nitrogen Dioxide (as NO_2)	IS 5182 (Part 6)	BDL [MDL: 5.0]	µg/m³	80 (24 Hours Average)
5.	Ozone (as O_3)	CPCB Guidelines	BDL [MDL: 1.0]	µg/m³	180 (1 Hour Average)
6.	Lead (as Pb)	IS 5182 (Part 22)	BDL [MDL: 0.01]	µg/m³	1.0 (24 Hours Average)
7.	Carbon Monoxide (as CO)	IS 5182 (Part 10)	BDL [MDL: 0.01]	mg/m³	4.0 (1 Hour Average)
8.	Ammonia (as NH_3)	CPCB Guidelines	BDL [MDL: 5.0]	µg/m³	400 (24 Hours Average)
9.	Benzene (as C_6H_6)	CPCB Guidelines	BDL [MDL: 0.01]	µg/m³	5.0 (Annual Average)
10.	Benzo(a)Pyrene (as BaP) - Particulate Phase Only	CPCB Guidelines	BDL [MDL: 0.1]	ng/m³	1.0 (Annual Average)
11.	Arsenic (as As)	CPCB Guidelines	BDL [MDL: 0.01]	ng/m³	6.0 (Annual Average)
12.	Nickel (as Ni)	CPCB Guidelines	BDL [MDL: 0.01]	ng/m³	20 (Annual Average)

NA: Not Applicable, **BDL**: Below Detectable Limit, **MDL**: Minimum

*** Limits as per G.S.R. 826(E), 16.11.2009**

***********End of Report***********

ENVIROCON DIGBOI, ASSAM Date

Authorised Signatory: Mr. Pankaj Baroi (Director)

NOTE:
1. Results reported are valid at the time of and under the prevailing conditions of measurement.
2. Results refer only to the particular parameters tested.
3. This test report shall not be reproduced except in full, without the written permission of ENVIROCON, I.O.C.L (AOD) New Market, Digboi – 786171, Assam.

ENVIROCON
Recognised By
Pollution Control Board, Assam

Envirocon Building, I.O.C.L (AOD) New Market
P.O.: Digboi, Dist.: Tinsukia, Assam – 786 171
Ph: 03751-264414, 9435008657, 8876028672
E-mail: envirocon@rediffmail.com

ISO 9001:2015 Certified
ISO 45001:2018 Certified

Format No.: ENV/R/TR/19/AA-01 Rev. No.: 00

AMBIENT AIR QUALITY TEST REPORT

ULR No.	NA		
Report No.	ENV/TR/DCNEL/DMH/23-24/A-02	**Issue Date**	27/09/2023
Order No.	4556001700/236	**Order Date**	09/09/2023
Report Issued To	DALMIA CEMENT (NORTH EAST) LIMITED Jamunanagar-16 Kilo, Umrangshu, Dist.- Dima Haso (N. C. Hills), Assam - 788931		

Sample Ref. No.:	DCNEL/2023/A-1109/02	Sample Source:	Near Dispensary	Weather Condition:	Clear & Calm
Date of Sampling:	11.09.2023	Sample Receipt Date:	16.09.2023	Instrument Used:	FPS, RDS & Gaseous Attachment
Analysis Start Date:	19.09.2023	Analysis End Date:	27.09.2023	Sampled By:	Bidyut Kalita, Envirocon

TEST RESULTS

Sl. No.	Parameters	Test Method	Results	Units	Limits*
1.	Particulate Matter (size less than 2.5 µm) or $PM_{2.5}$	IS 5182 (Part 24)	16.3	µg/m³	60 (24 Hours Average)
2.	Particulate Matter (size less than 10 µm) or PM_{10}	IS 5182 (Part 23)	41.7	µg/m³	100 (24 Hours Average)
3.	Sulphur Dioxide (as SO_2)	IS 5182 (Part 2)	BDL [MDL: 5.0]	µg/m³	80 (24 Hours Average)
4.	Nitrogen Dioxide (as NO_2)	IS 5182 (Part 6)	BDL [MDL: 5.0]	µg/m³	80 (24 Hours Average)
5.	Ozone (as O_3)	CPCB Guidelines	BDL [MDL: 1.0]	µg/m³	180 (1 Hour Average)
6.	Lead (as Pb)	IS 5182 (Part 22)	BDL [MDL: 0.01]	µg/m³	1.0 (24 Hours Average)
7.	Carbon Monoxide (as CO)	IS 5182 (Part 10)	BDL [MDL: 0.01]	mg/m³	4.0 (1 Hour Average)
8.	Ammonia (as NH_3)	CPCB Guidelines	BDL [MDL: 5.0]	µg/m³	400 (24 Hours Average)
9.	Benzene (as C_6H_6)	CPCB Guidelines	BDL [MDL: 0.01]	µg/m³	5.0 (Annual Average)
10.	Benzo(a)Pyrene (as BaP) - Particulate Phase Only	CPCB Guidelines	BDL [MDL: 0.1]	ng/m³	1.0 (Annual Average)
11.	Arsenic (as As)	CPCB Guidelines	BDL [MDL: 0.01]	ng/m³	6.0 (Annual Average)
12.	Nickel (as Ni)	CPCB Guidelines	BDL [MDL: 0.01]	ng/m³	20 (Annual Average)

NA: Not Applicable, **BDL**: Below Detectable Limit, **MDL**: Minimum

*** Limits as per G.S.R. 826(E), 16.11.2009**

***********End of Report***********

ENVIROCON Date: DIGBOI, ASSAM

Authorised Signatory: Mr. Pankaj Baroi (Director)

NOTE:
1. Results reported are valid at the time of and under the prevailing conditions of measurement.
2. Results refer only to the particular parameters tested.
3. This test report shall not be reproduced except in full, without the written permission of ENVIROCON, I.O.C.L (AOD) New Market, Digboi – 786171, Assam.

ENVIROCON
Recognised By
Pollution Control Board, Assam

Envirocon Building, I.O.C.L (AOD) New Market
P.O.: Digboi, Dist.: Tinsukia, Assam – 786 171
Ph: 03751-264414, 9435008657, 8876028672
E-mail: envirocon@rediffmail.com

ISO 9001:2015 Certified
ISO 45001:2018 Certified

Format No.: ENV/R/TR/19/AA-01 Rev. No.: 00

AMBIENT AIR QUALITY TEST REPORT

ULR No.	NA		
Report No.	ENV/TR/DCNEL/DMH/23-24/A-03	**Issue Date**	27/09/2023
Order No.	4556001700/236	**Order Date**	09/09/2023
Report Issued To	DALMIA CEMENT (NORTH EAST) LIMITED Jamunanagar-16 Kilo, Umrangshu, Dist.- Dima Haso (N. C. Hills), Assam - 788931		

Sample Ref. No.:	DCNEL/2023/A-1109/03	Sample Source:	Near Shiv Temple	Weather Condition:	Clear & Calm
Date of Sampling:	11.09.2023	Sample Receipt Date:	16.09.2023	Instrument Used:	FPS, RDS & Gaseous Attachment
Analysis Start Date:	19.09.2023	Analysis End Date:	27.09.2023	Sampled By:	Bidyut Kalita, Envirocon

TEST RESULTS

Sl. No.	Parameters	Test Method	Results	Units	Limits*
1.	Particulate Matter (size less than 2.5 µm) or $PM_{2.5}$	IS 5182 (Part 24)	18.5	µg/m³	60 (24 Hours Average)
2.	Particulate Matter (size less than 10 µm) or PM_{10}	IS 5182 (Part 23)	43.9	µg/m³	100 (24 Hours Average)
3.	Sulphur Dioxide (as SO_2)	IS 5182 (Part 2)	BDL [MDL: 5.0]	µg/m³	80 (24 Hours Average)
4.	Nitrogen Dioxide (as NO_2)	IS 5182 (Part 6)	BDL [MDL: 5.0]	µg/m³	80 (24 Hours Average)
5.	Ozone (as O_3)	CPCB Guidelines	BDL [MDL: 1.0]	µg/m³	180 (1 Hour Average)
6.	Lead (as Pb)	IS 5182 (Part 22)	BDL [MDL: 0.01]	µg/m³	1.0 (24 Hours Average)
7.	Carbon Monoxide (as CO)	IS 5182 (Part 10)	BDL [MDL: 0.01]	mg/m³	4.0 (1 Hour Average)
8.	Ammonia (as NH_3)	CPCB Guidelines	BDL [MDL: 5.0]	µg/m³	400 (24 Hours Average)
9.	Benzene (as C_6H_6)	CPCB Guidelines	BDL [MDL: 0.01]	µg/m³	5.0 (Annual Average)
10.	Benzo(a)Pyrene (as BaP) - Particulate Phase Only	CPCB Guidelines	BDL [MDL: 0.1]	ng/m³	1.0 (Annual Average)
11.	Arsenic (as As)	CPCB Guidelines	BDL [MDL: 0.01]	ng/m³	6.0 (Annual Average)
12.	Nickel (as Ni)	CPCB Guidelines	BDL [MDL: 0.01]	ng/m³	20 (Annual Average)

NA: Not Applicable, **BDL**: Below Detectable Limit, **MDL**: Minimum

*** Limits as per G.S.R. 826(E), 16.11.2009**

***********End of Report***********

ENVIROCON DIGBOI, ASSAM Date:

Authorised Signatory: Mr. Pankaj Baroi (Director)

NOTE:
1. Results reported are valid at the time of and under the prevailing conditions of measurement.
2. Results refer only to the particular parameters tested.
3. This test report shall not be reproduced except in full, without the written permission of ENVIROCON, I.O.C.L (AOD) New Market, Digboi – 786171, Assam.

ENVIROCON
Recognised By
Pollution Control Board, Assam

Envirocon Building, I.O.C.L (AOD) New Market
P.O.: Digboi, Dist.: Tinsukia, Assam – 786 171
Ph: 03751-264414, 9435008657, 8876028672
E-mail: envirocon@rediffmail.com

ISO 9001:2015 Certified
ISO 45001:2018 Certified

Format No.: ENV/R/TR/19/FE-01 Rev. No.: 00

FUGITIVE EMISSION TEST REPORT

ULR No.	NA		
Report No.	ENV/TR/DCNEL/DMH/23-24/FE-01	**Issue Date**	27/09/2023
Order No.	4556001700/236	**Order Date**	09/09/2023
Report Issued To	DALMIA CEMENT (NORTH EAST) LIMITED Jamunanagar-16 Kilo, Umrangshu, Dist.- Dima Haso (N. C. Hills), Assam - 788931		

Sample Ref. No.:	DCNEL/2023/A-1109/04	Sample Source:	Near Raw Mill	Weather Condition:	Clear & Calm
Date of Sampling:	11.09.2023	Sample Receipt Date:	16.09.2023	Instrument Used:	High Volume Sampler
Analysis Start Date:	19.09.2023	Analysis End Date:	27.09.2023	Sampled By:	Bidyut Kalita, Envirocon

TEST RESULTS

Sl. No.	Parameters	Test Method	Results	Units	Limits*
1.	Suspended Particulate Matter	IS 5182 (Part 4)	396	µg/m³	2000

NA: Not Applicable, **BDL**: Below Detectable Limit, **MDL**: Minimum

*** Limits as per CPCB guidlines.**

**********End of Report***********

ENVIROCON DIGBOI, ASSAM Date:

Authorised Signatory: Mr. Pankaj Baroi (Director)

NOTE:
1. Results reported are valid at the time of and under the prevailing conditions of measurement.
2. Results refer only to the particular parameters tested.
3. This test report shall not be reproduced except in full, without the written permission of ENVIROCON, I.O.C.L (AOD) New Market, Digboi – 786171, Assam.

Dalmia

CALCOM CEMENT INDIA LIMITED -UMRONGSHO

ENVIRONMENT, HEALTH & SAFETY POLICY

Calcom Cement reaffirms its commitment to provide safe work place and healthy environment to its employees and other stakeholders as an integral part of its business philosophy & values. We will continually enhance our Occupational Health, Safety and Environmental (EHS) performance in our activities, products and services through a structured EHS management framework. Towards this commitment, we shall;

- Comply with applicable EHS legislations and other requirements to which our organization subscribes.
- Conduct operations in safe and environment friendly manner to minimize the impacts on Environment, Health & Safety.
- Use and maintain equipment, system and facilities to provide a safe work atmosphere to our stake holders and aim towards becoming a zero harm company.
- Conserve resources and prevent pollution.
- Create Health, Safety and Environment awareness and develop the required level of knowledge to all employees through need based training and internal communication.

This policy, its objectives & targets and the levels of implementation shall be periodically reviewed to ensure continual improvement and that it remains relevant and communicated to all concerned.

R. A.

KRISHNAKUMAR R.A

Date: 01.03.2016

Environment Management Cell - USO

Sl. No	Name	Deapartment	Designation	Qualification	Cell No.	Email Id
1	Mr. Padmanav Chakravarty	Regional Operation Head	Regional Manufacturing Head	Diploma in Instrumentation Engineer	8811017766	Chakravarty.Padmanav@dalmiabharat.com
2	Mr. Ambuj Srivastava	Unit operation Head	Unit Head	M Tech in Chemical Engineer	9824442179	Srivastava.Ambuj1@dalmiacement.com
2	Mr. Subodh kumar	EHS	DGM	Graduate Diploma in Mechanical ,PGDIS Industrial Safety,Post Graduate Diploma in Environmental Health & Safety Science ,MBA, NEBOSH IGC	8811018071	Kumar.Subodh@dalmiacement.com
3	Mr. Chandra Prakash Mishra	EHS	Asst. Manager	Diploma in Mechanical & PGDIS EHS	8811046681	Mishra.Chandra@dalmiacement.com
4	Mr. Ravindra Routela	Mechanical	Technical Head	Diploma in Mechanical Engg.	6900011081	routela.ravindra@dalmiacement.com
5	Mr.Vemula Dhananjaya	Mines	Sr.GM	Diploma in Mining Engg.[MBA in Mining Techno	8811028649	Dhananjaya.vemula@dalmiacement.com
6	Mr. M. Dash	Electrical & Instrumentation	DGM	AMIE	8811018069	dash.m@dalmiacement.com
7	Mr. Pallab Kumar Kalita	Operation	AGM	B.E. in Mechanical Engineering	9678075714	Kalita.Pallab@Dalmiabharat.com
8	Mr. Chandan Kumar Singh	Mechanical	Deputy Manager	B.E-Mechanical Engg	8811046719	kumar.singh.chandan@dalmiabharat.com
9	Mr. Pankaj Saha	Mechanical	Manager	BE in Mechanical Engineering	7099044278	SAHA.PANKAJ@dalmiacement.com
10	Mr. Krishan Sethi	Mechanical	DGM	MBA in material Management	7086015714	Sethi.Krishan@dalmiacement.com
11	Mr. Mahendra singh Jhala	Process	AGM	B.Tech in Chemical Engineering	8811028644	jhala.mahender@dalmiacement.com
12	Mr. Golap Nath	Process	DGM	B.E-Chemical in Chemical Engg.	8011002458	Nath.Golap@dalmiacement.com
13	Mr. Amitava Roy	Quality	AGM	M.Sc. (Chemistry)	8011002436	roy.amitava@dalmiacement.com
14	Mr. Sukhwinder singh	Mechanical	AGM	Diploma in Mechanical Engg.	8811028653	singh.sukhwinder@dalmiacement.com
15	Mr. Vinay Tripathi	Mechanical	Sr. Manager	B.Tech in Mechanical Engg.	8811046702	tripathi.vinay@dalmiabharat.com
16	Mr. V. Jagadeesh	Mechanical	Manager	Diploma in Mech. Engg.	8811028652	v.jagadeesh@dalmiacement.com
17	Mr.Shivnath Agrawal	Finance	DGM	C.A.	9733541122	Agarwal.Shivnath@dalmiacement.com
18	Mr.Rohini Baishya	CSR	Deputy Manager	B.Sc. [Agri]	8811028656	baishya.rohini@dalmiacement.com

of service to the nation

LATE CITY

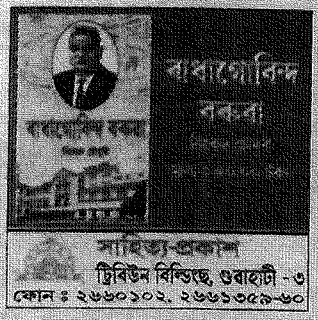
am Tribune

ULTANEOUSLY FROM GUWAHATI & DIBRUGARH

Pages 16 Price: ₹ 8.00

AMTRIBUNE /ASSAMTRIBUNEOFF /THEASSAMTRIBUNE_OFFICIAL

GUWAHATI, WEDNESDAY, MAY 11, 2022



PUBLIC NOTICE

This is to inform you that M/s Calcom Cement India Limited, A subsidiary of Dalmia Cement (Bharat) Ltd., Anil Plaza II, 4th floor, ABC, G.S.Road, Kamrup, Guwahati, Assam 781005, has been accorded the Environmental Clearance for its Expansion in Clinker Capacity from 0.98 MTPA to 1.52 MTPA along with the installation of waste heat recovery system (8 MW) for its unit Located at 16 Kilo- Langcherui (Jamuna Nagar), Tehsil: Umrongso, District: Dima Hasao (Earlier North Cachar Hills), Assam, by Ministry of Environment, Forest & Climate Change vide F. No. J-11011/307/2006-IA.II (I) dated 05.05.2022 & EC Identification no. EC22A009AS128343. A copy of the EC along with the environmental conditions and safeguards is available with the Offices of Pollution Control Board, Assam; Office of the Dima Hasao District Autonomous Council, GaonBura 16 Kilo, GaonBura 19 Kilo, Umrongso Town Committee in addition to the relevant offices of the Government and Company and also on the website of the Ministry of Environment, Forest & Climate Change at **http://parivesh.nic.in/** and company's website (**https://www.dalmiacement.com/**)

নিৰপেক্ষ
অসমীয়া খবৰ

ৰাজহুৱা জাননী

ইয়াৰ দ্বাৰা জনোৱা হয় যে ডালমিয়া চিমেণ্ট ভাৰত লিমিটেড, অনিল প্লাজা ২, চতুৰ্থ মহলা, এবিচি, জিএছ ৰোড, কামৰূপ, গুৱাহাটী, অসম-৭৮১০০৫ৰ এক সহযোগী প্ৰতিষ্ঠান মেছার্ছ কেলকম চিমেণ্ট ইণ্ডিয়া লিমিটেডক পৰিৱেশ, বন আৰু জলবায়ু পৰিৱৰ্তন মন্ত্ৰালয়ৰ দ্বাৰা ফাইল নং- J-11011/307/2006-I A. II (I), দিনাংক ৫-৫-২০২২ আৰু ইচি চিনাক্তকৰণ নং EC22A009AS128343ৰ জৰিয়তে মঞ্জুৰি প্ৰমাণপত্ৰ প্ৰদান কৰা হৈছে। এই প্ৰমাণপত্ৰখন ক্লিংকাৰ ক্ষমতা ০.৯৮ এমটিপিএৰ পৰা ১.৫২ এমটিপিএলৈ সম্প্ৰসাৰণৰ লগতে আৱৰ্জনাৰ পৰা তাপ পুনৰুদ্ধাৰ পদ্ধতি (৮এম ডব্লিউ)ৰ কাৰণে মেছার্ছ কেলকম চিমেণ্ট ইণ্ডিয়া লিমিটেডক প্ৰদান কৰা হৈছে। এই গোটটো অসমৰ ডিমা হাছাও জিলা (পূৰ্বৰ উত্তৰ কাছাৰ পাৰ্বত্য জিলা)ৰ ১৬ কিলো, লাংচেৰুই (যমুনা নগৰ), টেহচিল ঃ উমৰাংছুত অৱস্থিত। পৰিৱেশ সম্বন্ধীয় চর্ত আৰু সুৰক্ষাজনিত দিশসমূহৰ লগতে ইচিৰ প্ৰতিলিপি প্ৰদূষণ নিয়ন্ত্ৰণ পৰিষদ, অসম, ডিমা হাছাও জিলা স্বায়ত্তশাসিত পৰিষদৰ কার্যালয়, ১৬ কিলোৰ গাঁওবুঢ়া, ১৯ কিলোৰ গাঁওবুঢ়া, উমৰাংছু নগৰ সমিতিৰ লগতে চৰকাৰ আৰু কোম্পানীৰ সংশ্লিষ্ট কার্যালয়সমূহত পোৱাৰ ব্যৱস্থা আছে। পৰিৱেশ, বন আৰু জলবায়ু পৰিৱৰ্তন মন্ত্ৰালয়ৰ ৱেবছাইট http://parivesh.nic.in আৰু কোম্পানীৰ ৱেবছাইট http://www.dalmiacement.com তো এয়া উপলব্ধ।

Dalmia cement
FUTURE TODAY

cement! sugar! refractories! power!

Ref. No.: CCIL/EC/2022-23/03

Date: 9th May 2022

To,
The Gaon Bura,
Village 19 Kilometer District - Dima Hasao,
Haflong, Assam

Subject: Expansion in Clinker Production Capacity from 0.98 MTPA to 1.52 MTPA along with the installation of waste heat recovery system (8 MW) by M/s. Calcom Cement India Limited located at 16 Kilo - Langcherui (Jamunanagar), Tehsil: Umrangso, District: Dima Hasao (Earlier North Cachar Hills), Assam– Environment Clearance regarding.

Ref.: 1. Environmental Clearance granted by Ministry of Environment, Forest & Climate Change vide F. No. J-11011/307/2006-IA.II(I) dated 05.05.2022. (Attached as **Annexure-I**)

Dear Sir,

With reference to the aforesaid subject and reference; we would like to inform you that M/s Calcom Cement India Limited, A subsidiary of Dalmia Cement (Bharat) Ltd., has been accorded the Environmental Clearance vide EC Identification no. EC22A009AS128343 for its Expansion in Clinker Capacity from 0.98 MTPA to 1.52 MTPA along with the installation of waste heat recovery system (8 MW) for its unit Located at 16 Kilo- Langcherui (Jamuna Nagar), Tehsil: Umrongso, District: Dima Hasao (Earlier North Cachar Hills), Assam, by Ministry of Environment, Forest & Climate Change vide letter mentioned above under Ref.-1.

In compliance of General Conditions; under Section X-MISCELLANEOUS, Sn 2 of granted EC, copy of Environmental Clearance is being submitted herewith for your information & record. As per this condition, copy of granted EC need to be displayed at your office for 30 days from the date of receipt.

Thanking you & with regards,

For M/s. Calcom Cement India Limited

Padmanav Chakravarty
(Authorized Signatory)
Encl: as above

9.5.22
B. B. Of
Umrongso Village (19Km.,
P.o Umrongso, N. C. Hills

Pollution Control Board:: Assam
Bamunimaidam; Guwahati-21
(Department of Environment & Forests :: Government of Assam)
Phone: 0361-2652774 & 2550258; Fax: 0361-2550259
Website: www.pcbassam.org

No. WB/SLC/T-637/14-15/371 2177 Dated Guwahati, the 19th February, 2022

"CONSENT TO ESTABLISH (EXPANSION)"

CONSENT TO ESTABLISH (EXPANSION) under Section 25 of the Water (Prevention & Control of Pollution) Act, 1974, as amended and under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981, as amended to-

i) Name of Industry : **M/s. Calcom Cement India Limited**

ii) Name of the Occupier / Applicant and Designation : Sri Padmanav Chakravarty, Regional Manufacturing Head

iii) Address of the unit : 16 Kilo, Langcherui (Jamunanagar), Umrangso, Pin-788931, Dist- Dima Hasao, Assam

iv) Type of the Project : Clinker manufacturing unit **(Red Category)**

Cost of the project : 8453.00 Lakhs

v) Details of Project:

Sl No.	Product	Quantity/ Capacity
1	Capacity Expansion for Clinker production	0.98 MTPA to 1.52 MTPA

vi) Waste Heat Recovery System : 8.0 MW

General Conditions:

1. This **Consent to Establish (CTE)** has been accorded based on the particulars furnished by the applicant vide Application **ID 1011286** and subject to addition of further or more conditions, if so warranted by subsequent developments. The CTE will automatically become invalid if any change or alteration or deviation is made in actual practice;
2. This "CTE" will be valid till the date of commissioning of the unit or seven (7) years whichever is earlier.
3. **The project authority should install a Display Board as per the Boards notification No. PCBA/LGL-95/2021/Notification/01 dtd.11.11.2021** (Copy enclosed as **Appendix-A**).
4. All the haul roads shall be made metallic.
5. Proper housekeeping shall be maintained. Burning of solid wastes inside the premises is prohibited.
6. The project proponent must develop a greenbelt/plantation area with native trees only at least 33% of the total plot area to develop Green Belt and Carbon Sink.

Contd....P/2

7. The Company shall comply with all the environment protection measures and safeguards recommended in the EIA/EMP.
8. Domestic Wastewater generated shall be treated in a Sewage Treatment Plant. This treated water shall be utilized in greenbelt development and for dust suppression measures in all the haul roads.
9. Permission of the Central Ground Water Authority shall be obtained for extraction of Ground Water, if applicable.
10. Environmental Statement in prescribed Form-V should be submitted on or before the 30th September every year.
11. Rain water harvesting facility shall be install and maintained.
12. The unit shall install Cameras focusing feeding of AFR in the plant and AFR handling areas. Data captured shall be sent to PCBA for continuous display.

Specific Conditions:

A) Air Aspect:-

1. **The minimum height of all the chimneys shall not be less than 30 meters.**
2. Location of sampling port shall be provided as specified in **CPCB guidelines for Emission Regulations (December 1985), Part-III (Appendix-B)**
3. The unit shall comply with the industry specific emission standards, notified by the **MoEF & CC, Govt. of India, vide GSR.497(E) dated 10th May,2016** as applicable for all its chimney emission (Appendix-**C**)
4. The unit shall comply with noise level standard as notified by the **MoEF & CC, Govt. of India vide, GSR 7, dated Dec.22, 1998** as mentioned herein under.

Limit in dB (A) Leq	
Day Time (6:00am-9:00pm)	**Night Time (9:00pm-6:00am)**
75	70

5. On-line Continuous Emission Monitoring System should be provided for Particulate Matter (PM), SOx, NOx emission shall be properly maintained and **OCMMS RT-DAS** data should be regularly transmitted to **Pollution Control Board, Assam** and Central Pollution Control Board.
6. Appropriate dust suppression measures shall be adopted to reduce fugitive emission at all the materials transfer and dropping points.
7. Vehicle wheel washing system shall be installed at entry and exit gate of the factory.

Contd....P/3

8. The Ambient Air Quality within the Plant premises shall be maintained within the National Ambient Air Quality Standards, notified by the **CPCB, vide No.B-29016/20/90/PCI-L, dated 18th November, 2009** as mentioned herein under-

Sl. No.	Pollutants	Time Weighted average	Concentration in Ambient Air (Industrial, Residential, Rural Areas) $\mu g/m^3$
1.	SO_2	Annual 24 hours	50 80
2.	NO_2	Annual 24 hours	40 80
3.	Particulate Matter, PM_{10} (size less than 10 µm)	Annual 24 hours	60 100
4.	Particulate Matter, $PM_{2.5}$ (size less than 2.5 µm)	Annual 24 hours	40 60

B) Water Aspect:

1. ETP shall be installed to treat service water. The treated water shall meet with industry specific standards, notified by the **MoEF & CC, Govt. of India, vide GSR.497(E) dated 10th May, 2016** (Part-B of **Appendix-C**)
2. **The unit shall maintain 'Zero Liquid Discharge' condition.**
3. Adequate covered storage sheds for fly-ash shall be provided to prevent leachate and runoff from the storage yard.

C) E-Waste Aspects:

Electronic wastes generated in the unit shall be disposed of as per the provisions of E-Waste Management Rules, 2016. The unit shall submit the Annual Report in the Form-III within 30th June every year.

D) Plastic Waste Aspect:

1. Plastic Waste generated in the unit shall be disposed of in accordance of the provisions under Plastic Waste Management Rules, 2016.
2. The unit shall submit the Annual return under the Plastic Waste Management Rules, 2016 within 30th June every year.

E) Solid Waste Aspect-

1. Adequate facility should be created for collection, storage, transportation, treatment & disposal of non-hazardous industrial solid waste generated from the Industry.
2. Adequate system should be adopted on reduction of waste generation and enhancement of re-utilization & recycling of waste materials.

Contd....P/4

3. Solid waste generated in the unit shall be disposed of as per the provisions of the Solid Waste Management Rules, 2016.

F) Hazardous Waste Aspect/Co-incineration of Hazardous & Other waste:

1. The utilization of Fly-ash should be in accordance to the provisions of the Notification No. S.O. 2804(E), dated 03.11.2009 issued by the ministry of Environment and Forests, GOI under the Environment (Protection) Acts 1986 for which action plan is to be prepared and submit to this Board.
2. The unit shall apply for authorization under the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.
3. Adequate facility shall be provided for collection and storage of spent oil, which shall be sent to registered recyclers for recycling.
4. Appropriate facility shall be created for handling, storage, treatment & disposal of Hazardous waste generated from the industry in accordance to the provisions of the Hazardous & Other Waste (Management & Trans Boundary Movement) Rules 2016.
5. The unit should submit the annual return under the Hazardous & Other Waste (Management & Trans Boundary Movement) Rules 2016 in the Form-IV within 30th June every year.

The unit shall submit compliance report of the mandated conditions by April, 15, every year to Member Secretary, PCBA as well as to Regional Office, Guwahati-I, PCBA. The Board will have the liberty to withdraw the CTE if adequate pollution control and safety measures are not taken and mandated conditions are not complied with.

sd/-
(Shantanu Kr. Dutta)
Member Secretary

Memo No. WB/ SLC/T-637/14-15/371-A/2177 Dated Guwahati, the 19th February, 2022

Copy to:

M/s Calcom Cement India Limited, 16 Kilo, Langcherui (Jamunanagar), Umrangso, Pin-788931, Dist- Dima Hasao, Assam for information and necessary action.

শান্তনু দত্ত
(Shantanu Kr. Dutta)
Member Secretary

Appendix-A

pcba

Pollution Control Board, Assam
Bamunimaidam, Guwahati-21

NOTIFICATION

No. PCBA/LGL-95/2021/Notification/01 Dated Guwahati, the 11th Nov, 2021

In exercise of the powers conferred under Section-5 of the Environment (Protection) Act, 1986 as amended till date and keeping in view the need of public interest towards dissemination of vital information regarding Consent/Authorization of this Board, all industries are hereby directed to install a Display Board of minimum size 5'x4', near the main entrance gate.

The format of the display board is given below:

Name and Address of the Unit : M/s.

Description of Consent/Authorization	Details
Consent to Establish (CTE)	No.: Date of Issue:
Consent to Operate (CTO)	No.: Date of validity:
Authorization under Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016 (if applicable)	No.: Date of Issue: Date of validity:

Member Secretary

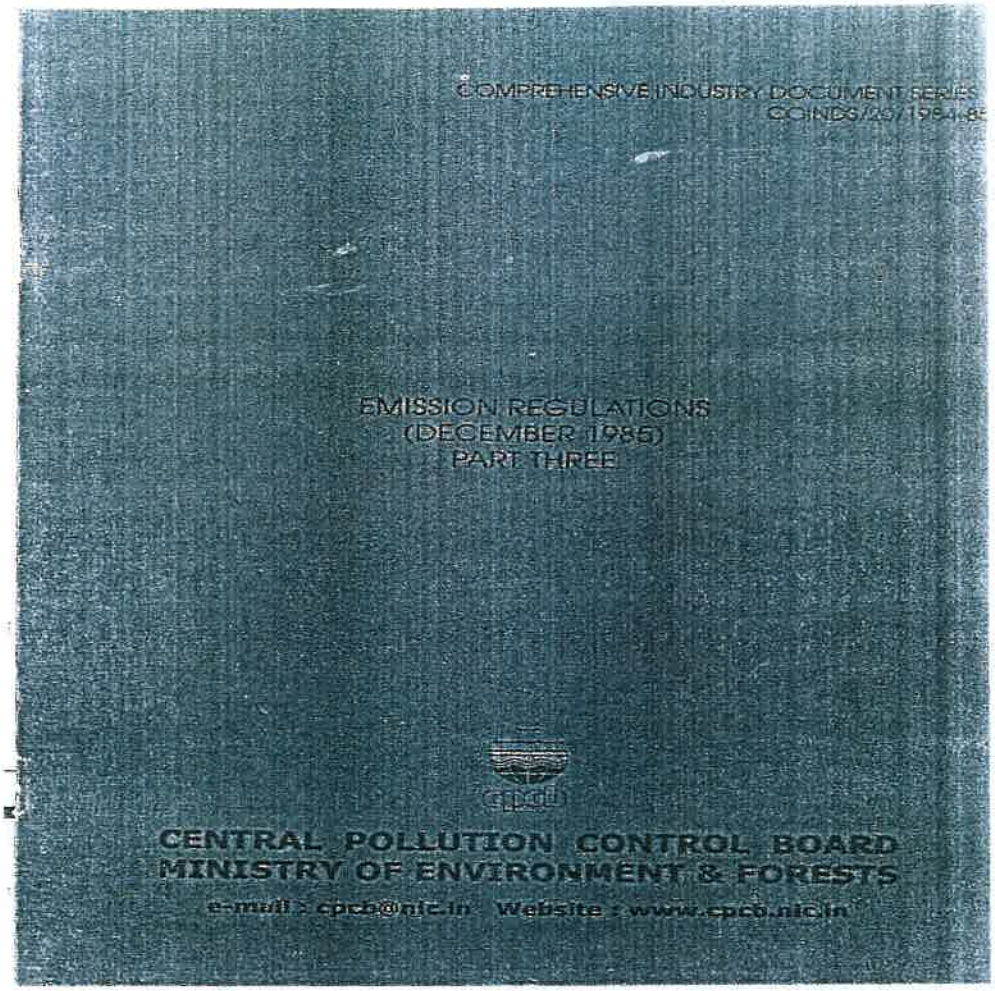
Memo No. PCBA/LGL-95/2021/Notification/01-A/993 Dated Guwahati, the 11th Nov, 2021

Copy to:

1. The Commissioner & Secretary to the Govt. of Assam, Department of Environment & Forest, Dispur for kind information.
2. P.A. to the Chairman, PCBA for kind appraisal of the Hon'ble Chairman.
3. The All Regional Heads, PCBA for information & necessary action.
4. M/S APS Advertising Pvt. Ltd, Guwahati-1. They are requested to publish the "NOTICE" in "the Assam Tribune" and "Dainandin Barta" on **12.11.2021**.
5. Notice Board, Head Office / Website (www.pcbassam.org), PCBA.

Member Secretary

Annexure- B



2.5.0 **Location of Sampling Port**

To ensure laminar flow the sampling ports shall be located at atleast 8 times chimney diameter down stream and 2 times up stream from any flow disturbance. For a rectangular cross section the equivalent diameter (De) shall be calculated from the following equation to determine up stream, down stream distances.

$$De = \frac{2LW}{L+W}$$

Where L = Length in m, W = width in m.

Sometimes it may so happen for existing chimneys that sufficient physical chimney height is not available for desired sampling location in such cases additional traverse points shall be taken as given under 2.4.0.

The sampling port should be preferably provided on the delivery side of duct or chimney and not on the suction side.

APPENDIX-C

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 10th May, 2016

G.S.R. 497 (E). – In exercise of powers conferred by sections 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following rules further to amend the Environment (Protection) Rules, 1986, namely :-

1. Short title and commencement - (1) These rules may be called the Environment (Protection) Third Amendment Rules, 2016.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Environment (Protection) Rules, 1986,-

(a) in schedule I, after serial number 10 and the entries relating thereto, the following serial number and entries shall be inserted, namely:-

"S. No.	Industry	Parameter	Standards		
(1)	(2)	(3)	(4)		
"10A.	Cement Plant with co-processing of wastes	A- Emission Standards			
		Rotary Kiln – with co-processing of Wastes			
			Date of Commissioning	Location	Concentration not to exceed, in mg/Nm^3
			(a)	(b)	(c)
		Particulate Matter (PM)*	on or after the date of notification (25.8.2014)	anywhere in the country	30
			before the date of notification (25.8.2014)	critically polluted area or urban centres with population above 1.0 lakh or within its periphery of 5.0 kilometer radius	30
				other than critically polluted area or urban centres	30
		SO_2*	irrespective of date of commissioning	anywhere in the country	100, 700 and 1000 when pyritic sulphur in the limestone is less than 0.25%, 0.25 to 0.5% and more than 0.5% respectively.
		NOx*	After the date of notification (25.8.2014)	anywhere in the country	(1) 600
			Before the date of notification	anywhere in the country	(2) 800 for rotary kiln with In Line Calciner

			(25.8.2014)		(ILC) technology. (3) 1000 for rotary kiln using mixed stream of ILC, Separate Line Calciner (SLC) and suspension pre-heater technology or SLC technology alone or without calciner.

		HCl	10 mg/Nm^3
		HF	1 mg/Nm^3
		TOC	10 mg/Nm^3 **
		Hg and its compounds	0.05 mg/Nm^3
		Cd +Tl and their compounds	0.05 mg/Nm^3
		Sb+As+Pb+Co+Cr+Cu+Mn+Ni+V and their compounds	0.5 mg/Nm^3
		Dioxins and Furans	0.1 ngTEQ/ Nm^3

Note: The abbreviations used in the Table shall mean as under: SO_2- Sulphur dioxide; NO_x - Oxides of Nitrogen; HCl – Hydrogen Chloride; HF – Hydrogen Flouride; TOC - Total Organic Carbon; Hg – Mercury; Cd – Cadmium; Tl – Thallium; Sb – Antimony; As – Arsenic; Pb – Lead; Co – Cobalt; Cr – Chromium; Cu – Copper; Mn – Manganese; Ni – Nickel; and V - Vanadium.";

* The concentration values and timeline for implementation in respect of PM, SO_2 and NOx shall be governed in accordance with the provisions under notification published vide GSR No. 612 (E), dated the 25th August, 2014 and amended from time to time.

**Permitting authority may prescribe separate standards on case to case basis, if Total Organic Carbon (TOC) does not result from the co-processing of waste.

(a) The height of each individual stack connected to Kiln, Clinker Cooler, Cement Mill, Coal Mill, Raw Mill, Packaging section, etc. shall be of a minimum of 30 metres or, as per the formula $H = 14\ (Q1)^{0.3}$ and $H = 74\ (Q2)^{0.27}$ whichever is more, where "H" is the height of stack in metres and "Q1" is the maximum quantity of SO_2 expected to be emitted in kg/hr and "Q2" is the maximum quantity of PM expected to be emitted in tonnes/hr through the stack at 100 percent rated capacity of the plant;

(b) The monitored values of SO_2, NO_x, HCl, HF, TOC, Metals and Dioxins and Furans at main kiln stack shall be corrected to 10% Oxygen, on dry basis and the norms for SO_2, NO_x, HCl, HF, TOC, Metals and Dioxins and Furans shall be applicable to main kiln stack and the norms for Particulate Matter (PM) shall be applicable to all the stacks in the plant. PM, SO_2, NO_x shall be monitored continuously. HCl, HF, TOC, Metals and Dioxins and Furans shall be monitored once in a year;

(c) Scrubber meant for scrubbing emissions shall not be used as quencher and plants having separate stack for gaseous emission for the scrubbing unit, the height of this stack shall be at least equal to the main stack.

B- Service waste water (with co-processing of wastes)

All efforts shall be made by the industry for 'zero discharge' of service wastewater and in case, the industry prefers to discharge service wastewater, the following norms shall be complied with:

	Concentration not to exceed, milligram per litre (except pH and temperature)
pH	5.5 to 9.0
Suspended Solids	100

		Oil and Grease	10
		Temperature	not more than 5°C higher than the intake water temperature
		C- Storm water (I) Storm-water shall not be allowed to mix with effluent, treated sewage, scrubber water and or or floor washings. (II) Storm-water within battery limits of industry shall be channelised through separate drain(s).".	

(b) in Schedule VI, under 'Part-D' relating to General Emission Standards, in item III relating to Load or Mass based standards, after serial number 10 and the entries relating thereto, the following serial number and entries shall be inserted, namely:-

(1)	(2)	(3)	(4)
"10A	Cement Plants (with co-processing)	Rotary kiln based plants (Particulate Matter from raw mill, kiln and pre-calciner system put together)	0.125 kg/ tonne of clinker.".

[F. No.- Q-15017/30/2007-CPW]

Dr. RASHID HASAN, Advisor

Note .- The principal rules were published in the Gazette of India, Extraordinary, Part II, Section 3,Sub-section (i), *vide* number S.O. 844 (E), dated the 19th November, 1986 and subsequently amended *vide* the following notifications, namely:-

S.O. 433 (E), dated the 18th April 1987; G.S.R. 176(E), dated the 2nd April, 1996; G.S.R. 97 (E), dated the 18th February, 2009; G.S.R. 149 (E), dated the 4th March , 2009; G.S.R. 543(E), dated the 22nd July,2009; G.S.R. 739 (E), dated the 9th September, 2010; G.S.R. 809(E), dated, the 4th October, 2010, G.S.R. 215 (E), dated the 15th March, 2011; G.S.R. 221(E), dated the 18th March, 2011; G.S.R. 354 (E), dated the 2nd May, 2011; G.S.R. 424 (E), dated the 1st June, 2011; G.S.R. 446 (E), dated the 13th June, 2011; G.S.R. 152 (E), dated the 16th March, 2012; G.S.R. 266(E), dated the 30th March, 2012; and G.S.R. 277 (E), dated the 31st March, 2012; and G.S.R. 820(E), dated the 9th November, 2012; G.S.R. 176 (E), dated the 18th March, 2013; G.S.R. 535(E), dated the 7th August, 2013; G.S.R. 771(E), dated the 11th December, 2013; G.S.R. 2(E), dated the 2nd January, 2014; G.S.R. 229 (E), dated the 28th March, 2014; G.S.R. 232(E), dated the 31st March, 2014; G.S.R. 325(E), dated the 07th May, 2014, G.S.R. 612, (E), dated the 25th August 2014; G.S.R. 789(E), dated the 11th November 2014; S.O. 3305(E), dated the 7th December, 2015; S.O.4(E), dated the 1st January 2016; G.S.R. 35(E), dated the 14th January 2016 and lastly amended vide notification G.S.R. 281 (E), dated the 7th March, 2016.

Uploaded by Dte. of Printing at Government of India Press, Ring Road, Mayapuri, New Delhi-110064
and Published by the Controller of Publications, Delhi-110054.

Pollution Control Board:: Assam
Bamunimaidam; Guwahati-21
(Department of Environment & Forests :: Government of Assam)
Phone: 0361-2652774 & 2550258; Fax: 0361-2550259
Website: www.pcbassam.org

No. WB/SLC/T-637/14-15/393/32 Dated Guwahati, the 06th April, 2023

'CONSENT TO OPERATE'

"CONSENT TO OPERATE" (CTO) under Section 25 of the Water (Prevention & Control of Pollution) Act, 1974 and Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 as amended and Rules Framed thereunder is granted to:

i) Name of Industry : M/s Calcom Cement India Ltd.

ii) Name of the Occupier / Applicant and Designation : Padmanav Chakravarty, Regional Manufacturing Head

iii) Address of the unit : 16 Kilo, Jamunanagar, Umrangso, Dist. Dima Hasao, Assam-788931

iv) Cost of the project : Rs. 79953.00 Lakhs.

v) Type of the project and category : Integrated Cement Plant with Waste Heat Recovery Project and Dispensary / Health Care Facility (non bedded)

Red Category

vi) Capacity of the various units :

Sl. No.	Product	Capacity
1	Cement Clinker	1.52 MMTPA
2	Chips Crusher	15000 MT/month
3	Green Power Plant (Waste Heat Recovery)	8 MW (Boiler capacity – 1x19.6 TPH + 1x11.2 TPH

vii) Capacity of various units in the Cement Plant:

Sl. No.	Units	Capacity
1	Lime Stone Crusher	700 TPH
2	Re claimer (Limestone)	450 TPH
3	Stacker (Limestone)	850 TPH
4	Raw Mill: 15% Residue on 90 micron 1.5% Residue on 212 micron	 285 TPH 285 TPH
5	Raw Mill Silo (storage capacity)	4800 MT
6	Kiln Feed Elevator	285 TPH
7	Kiln (Length= 56 m, Ø = 3.8 m)	4600 TPD
8	Coal Firing System – Pre calciner	25 TPH
9	Coal Firing System – Kiln	15 TPH
10	Coal Mill: 15% Residue on 90 micron	 25 TPH
11	Clinker Silo Storage Capacity	Design: 15000 MT Actual : 12500 MT
12	Coal Storage Shed	50000 MT

Contd....p/2

vii	D.G. sets	:	2x 500 KVA

General Conditions:

1. The Consent to Operate (CTO) has been accorded based on the particulars furnished by the applicant vide Application ID**1623442** and subject to addition of further or more conditions if so warranted by subsequent developments. The CTO will automatically become invalid if there is any changes, modification, alteration, expansion or deviation made in actual practice.
2. The CTO is valid till **31.03.2024**.
3. The CTO may be modified, suspended in whole or in part or withdrawn by the Board during its term for cause including, but not limited to the following:-
   a) Violation of any Terms and Conditions of this CTO;
   b) Obtaining the CTO by misrepresentation or failure to disclose fully all relevant facts;
   c) If any genuine complaint received.
4. As per provisions of Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 any officer, employed by this Board in its behalf shall have without any interruption, the right at any time to enter the industry for inspection, to take samples for analysis and may call for any information etc. All the pollution control measures is to be adopted to control the dust, noise, etc. during construction. Denial of this right will cause withdrawal of the Consent Order.
5. **The project proponent shall comply with the Environmental Clearance (EC) conditions, as stipulated by MoEF&CC vide No. J-11011/307/2006-IA.11(I), dtd. 05.05.2022**.
6. The project proponent shall develop a greenbelt/plantation area with native trees only at least 33% of the total plot area to develop Green Belt and Carbon Sink.
7. The project authority should install a Display Board as per the Boards Notification No.PCBA/LGL-95/2021/Notification/01 dtd.11.11.2021 (Appendix-A).
8. The unit shall apply for renewal of CTO before expiry.The Board has decided to grant renewal of CTO for five (5) years, subject to due payment of CTO fees as applicable.
9. Proper housekeeping shall be maintained within unit premises. Burning of any wastes within the premises areas is strictly prohibited.

Specific Conditions:

A) Emission Sources and details of Air Pollution Control Device:

1. Details of Emission Sources:

Sl. No.	Source of Emission	Name of Air Pollution Control Device	Capacity of ID Fan(m^3/hr)	Stack Height(meters)	OCEMS installed
1	Raw Mill	RABH	6500	55	SO_X NO_X
2	Kiln Refractory Coolers	ESP	4060000	55	-
3	Crusher	Bag filter	69000	26	-
4	Coal Mill	Bag filter	74880	54	PM

2. The unit shall comply with the industry specific standards, Notified by MoEF&CC, Govt. of India vide GOI vide G.S.R.612 (E) dated 25.08.2014, G.S.R. 496(E) dated 09.05.2016 and G.S.R. 497(E) dated 10.05.2016 (Appendix-B).

Contd...p/2

3. The unit shall follow the Standards and Guidelines for control of Noise Pollution from Stationary Diesel Generator Sets as notified by MoEF&CC, Govt. of India, vide GSR.7 dtd. Dec. 22, 1998 (Appendix-C).

4. The unit shall comply with the Noise Level Standards, notified by MoEF&CC, Govt. of India, vide as per GSR. 7, dated: Dec.22, 1998, as mentioned herein under:

Limit in dB (A) Leq	
Day Time (6:00am-10:00pm)	Night Time (10:00pm-6:00am)
75	70

5. On-line Continuous Emission Monitoring System (OCEMS) should be provided for Particulate Matter (PM), SO_x& NO_x monitoring OCMMS RT-DAS data shall be regularly transmitted to Pollution Control Board, Assam and Central Pollution Control Board.

6. The Ambient Air Quality within the Plant premises shall be maintained within the National Ambient Air Quality Standards, Notified by MoEF&CC, Govt. of India vide G.S.R.826(E) dtd.19.11.2009, especially with respect to PM_{10}, $PM_{2.5}$,SO_2 & NO_2, as mentioned herein under:

Sl. No.	Pollutant	Time Weighted Average	Concentration in Ambient Air	
			Industrial, Residential, Rural & Other Area	Ecologically Sensitive Area (notified by Central Government)
1	Particulate Matter (size less than 10µg) or PM_{10} (µg/m^3)	Annual* 24 hours**	60 100	60 100
2	Particulate Matter (size less than 2.5µg) or $PM_{2.5}$ (µg/m^3)	Annual* 24 hours**	40 60	40 60
3	Sulphur Dioxide (SO_2)	Annual* 24 hours**	50 80	20 80
4	Nitrogen Dioxide (NO_2)	Annual* 24 hours**	40 80	30 80

7. Air Pollution Control (APC) devices shall be installed at all material transfer and dropping points to control fugitive emission.

8. Vehicle wheel washing system shall be installed at (entry/exit) gate of the factory.

B) Water Aspects:

1. Source of Water : Surface water
2. i) Water consumption : 975 KLD
   ii) Effluent generation : Nil
   iii) Capacity of ETP : 15 KLD

3. The unit shall quantify the raw water consumption in the cement plant and shall prepare and submit water balance diagram.

4. i) Storm water shall not be allowed to mix with any effluent and/or floor washings.

   ii) Storm water within the battery limits shall be channelized through separate drain/pipe passing through an Oil and Grease Trap.

   iii) For Storm water discharge, the units shall meet with the general effluent discharge parameters standard, notified by MoEF & CC, GOI vide G.S.R.422 (E) dtd. 19.05.1993 (Appendix-D).

5. Rain water harvesting facility shall be installed.

Contd...p/4

C) Solid Waste Aspects:

1. Adequate system should be adopted on reduction of waste generation and enhancement of re-utilization & recycling of waste material.
2. Solid waste generated in the unit shall be disposed of as per the provisions of Solid Waste Management Rules, 2016.

D) Plastic Waste Aspects:

1. The unit shall obtain Registration as a plastic Producer under Plastic Waste Management Rules, 2016 as amended through the centralized EPR portal immediately.
2. The unit shall implement EPR (Extended Producers Responsibility) and submit report along with documentary evidence annually.
3. The unit shall submit annual report under Plastic Waste Management Rules, 2016 as amended through the centralized EPR portal before 30th June.
4. The unit shall not use packaging below thickness of 50 microns.
5. The unit shall not engage in any business with unregistered PIBOs (Producer, Importer and Brand Owner) and PWPs (Plastic Waste Processor).

E) E-Waste Aspects:

The unit shall comply with the provisions of E-Waste Management Rules, 2022.

F) Hazardous Waste Aspects:

1. Alternate Fuel and Resources(AFR) and Hazardous Wastes,used for co-incineration,shall be stored under shed and shall managed as per the provisions of Hazardous & Other Wastes (Management & Trans-boundary Movement) Rules, 2016. Detail record shall be maintained regarding use of AFR and Hazardous Waste for co-incineration.
2. Authorization under Hazardous & Other Wastes (Management & Trans-boundary Movement) Rules, 2016 shall be obtained from the Pollution Control Board, Assam.
3. The project authorities shall comply with the provisions of the said Rules.
4. Adequate facility shall be provided for collection and storage of used oil/spent oil, which shall be sent to registered recyclers for recycling.
5. The unit shall dispose of any other Hazardous Waste generated by the unit as per the provisions of the Rules.
6. The unit shall identify and quantify all streams of Hazardous Waste generation as per Schedule-I and maintain proper record in Form-III of the said Rules.
7. The unit should submit annual return in Form-IV under the said rules on or before 30th June every year.

G) Bio-medical Waste Management:

1. The authority shall properly manage the Bio-medical Waste generated from the unit as per the Bio-medical Waste Management Rules, 2016 and subsequent amendments.
2. The unit shall ensure that BMW is not mixed with the general solid waste. The conditions mentioned in (Appendix – E) shall be fully adhered to.
3. The unit shall obtain Authorization under the BMW Rules, 2016.
4. The unit shall submit Annual Return under the said Rule in Form-IV within June every year.

Contd...p/5

4. The unit shall submit compliance report of the mandated conditions of this CTO by April 15, every year to the Member Secretary, PCBA as well as to Regional Office, Silchar. The Board will have the liberty to withdraw the CTO if adequate pollution control and safety measures are not taken.

(Shantanu Kr. Dutta)
Member Secretary

Memo No. WB/SLC/T-637/14-15/393-A Dated Guwahati, the 06th April, 2023

Copy to:

M/s Calcom Cements India Ltd., 16 Kilo, Jamunanagar, Umrangso, Dist. Dima Hasao, Assam-788931 for information & compliance of conditions.

(Shantanu Kr. Dutta)
Member Secretary

Appendix-A

pcba

Pollution Control Board, Assam
Bamunimaidam, Guwahati-21

NOTIFICATION

No. PCBA/LGL-95/2021/Notification/01 Dated Guwahati, the 11th Nov, 2021

In exercise of the powers conferred under Section-5 of the Environment (Protection) Act, 1986 as amended till date and keeping in view the need of public interest towards dissemination of vital information regarding Consent/Authorization of this Board, all industries are hereby directed to install a Display Board of minimum size 5'x4', near the main entrance gate.

The format of the display board is given below:

Name and Address of the Unit : M/s.

Description of Consent/Authorization	Details
Consent to Establish (CTE)	No.: Date of Issue:
Consent to Operate (CTO)	No.: Date of validity:
Authorization under Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016 (if applicable)	No.: Date of Issue: Date of validity:

Member Secretary

Memo No. PCBA/LGL-95/2021/Notification/01-A/993 Dated Guwahati, the 11th Nov, 2021

Copy to:

1. The Commissioner & Secretary to the Govt. of Assam, Department of Environment & Forest, Dispur for kind information.
2. P.A. to the Chairman, PCBA for kind appraisal of the Hon'ble Chairman.
3. The All Regional Heads, PCBA for information & necessary action.
4. M/S APS Advertising Pvt. Ltd, Guwahati-1. They are requested to publish the "NOTICE" in "the Assam Tribune" and "Dainandin Barta" on **12.11.2021**.
5. Notice Board, Head Office / Website (www.pcbassam.org), PCBA.

Member Secretary

Appendix B

(ख) अनुसूची 6 में, साधारण उत्सर्जन मानक से संबंधित भाग घ के अधीन, भार/मात्रा आधारित मानक से संबंधित मद 3 में, क्रम सं. 9 और उससे संबंधित प्रविष्टियों के पश्चात् निम्नलिखित क्रम संख्यांक और प्रविष्टियां अंत:स्थापित की जाएगी, अर्थात् :—

(1)	(2)	(3)	(4)
"10	सीमेंट मानक (बिना प्रसंस्करण के)	धूर्णक भट्ठा पर आधारित संयंत्र (अपरिष्कृत मिल, भट्ठा और पूर्ण खांगर सिस्टम को साथ चलने से विवत्त पदार्थ)	खांगर का 0.125 कि.ग्रा./टन (01.01.2017 से)
		उर्ध्वाधर शाफ्ट भट्ठा आधारित संयंत्र (अपरिष्कृत मिल, भट्ठा के साथ चलने से प्राप्त विवत्त पदार्थ)	खांगर का 0.50 कि.ग्रा./टन (01.01.2017 से) ।"।

[फा. सं. क्यू.-15017/30/2007-सी.पी.डब्ल्यू.]

डॉ. राशिद हसन, सलाहकार

टिप्पण—मूल नियम भारत के राजपत्र में का.आ. सं. 844(अ), 19 नवंबर, 1986 द्वारा प्रकाशित किए गए थे और तत्पश्चात् अधिसूचना सं. 433(अ), तारीख 18 अप्रैल, 1987 ; सा.का.नि. सं. 97(अ), तारीख 18 फरवरी, 2009 ; सा.का.नि. सं. 149(अ), तारीख 4 मार्च, 2009 ; सा.का.नि. सं. 739(अ), तारीख 9 सितंबर, 2010 ; सा.का.नि. सं. 809(अ), तारीख 4 अक्तूबर, 2010 ; सा.का.नि. सं. 215(अ), तारीख 15 मार्च, 2011 ; सा.का.नि. सं. 221(अ), तारीख 18 मार्च, 2011 ; सा.का.नि. सं. 354(अ), तारीख 2 मई, 2011 ; सा.का.नि. सं. 424(अ), तारीख 1 जून, 2011 ; सा.का.नि. सं. 446(अ), तारीख 13 जून, 2011 ; सा.का.नि. सं. 152(अ), तारीख 16 मार्च, 2012 ; सा.का.नि. सं. 266(अ), तारीख 30 मार्च, 2012 ; और सा.का.नि. सं. 277(अ), तारीख 31 मार्च, 2012 ; और सा.का.नि. सं. 820(अ), तारीख 9 नवंबर, 2012 ; सा.का.नि. सं. 176(अ), तारीख 18 मार्च, 2013 ; सा.का.नि. सं. 535(अ), तारीख 7 अगस्त, 2013 ; सा.का.नि. सं. 771(अ), तारीख 11 दिसंबर, 2013 ; सा.का.नि. सं. 2(अ), तारीख 2 जनवरी, 2014 ; सा.का.नि. सं. 229(अ), तारीख 28 मार्च, 2014 ; सा.का.नि. सं. 232(अ), तारीख 31 मार्च, 2014 और सा.का.नि. सं. 325(अ), तारीख 7 मई, 2014 द्वारा संशोधित किए गए थे ।

MINISTRY OF ENVIRONMENT, FORESTS AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 25th August, 2014

G.S.R. 612(E).— In exercise of the powers conferred by sections 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following rules further to amend the Environment (Protection) Rules, 1986, namely :—

1. (1) These rules may be called the Environment (Protection) (Fifth Amendment) Rules, 2014.

   (2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Environment (Protection) Rules, 1986,—

(a) in Schedule I, for serial number 10 and entries relating thereto, the following serial number and entries shall be substituted, namely :—

S. No.	Industry	Parameter	Standards		
(1)	(2)	(3)	(4)		
"10	Cement Plant (without coprocessing), Standalone Clinker Grinding Plant or, Blending Plant		**A .- Emission Standards**		
			(i) Rotary Kiln - without coprocessing		
			Date of Commissioning	**Location**	**Concentration not to exceed, in mg/ Nm^3**
			(a)	**(b)**	**(c)**
		Particulate Matter	on or after the date of notification	anywhere in the country	30 (with effect from 01.01.2016)

			before the date of notification	critically polluted area or urban centres with population above 1.0 lakh or within its periphery of 5.0 kilometre radius	50 (with effect from 01.01.2015)
					30 (with effect from 01.06.2016)
				other than critically polluted area or urban centres	100 (with effect from 01.01.2015)
					30 (with effect from 01.06.2016)
		Sulphur Dioxide (SO_2)	irrespective of date of commissioning	anywhere in the country	100
		Nitrogen Dioxide (NO_2)	on or after the date of notification	anywhere in the country	600 (with effect from 01.06.2015)
			before the date of notification	anywhere in the country	800 (with effect from 01.01.2016)

(1)	(2)	(3)	(4)		
			(a)	(b)	(c)
			(ii) Vertical Shaft Kiln – (without coprocessing)		
		Particulate Matter (PM)	on or after the date of notification	anywhere in the country	50 (with effect from 01.06.2016)
			before the date of notification	critically polluted area or urban Centres with population above 1.0 lakh or within its periphery of 5 kilometre radius	100 (with effect from 01.06.2015)
					75 (with effect from 01.06.2016)
				other than critically polluted area or urban centres	150 (with effect from 01.01.2015)
		Sulphur Dioxide (SO_2)	-	-	200 (with effect from 01.01.2016)
		Nitrogen Dioxide (NO_2)	-	-	500 (with effect from 01.01.2016)

3351 GI/14-2

Activities undertaken as per Public Commitments

Programs	**Activities**
Environment, **Education & Skill Training, Employment**	40,000 Bamboo plantation and beautification of school campus at 2 nearby schools completed. Constructed sports gallery at Dithur village. 20000 Nursery raising and plantation of Drumsticks with SHG members (28 SHG). Installation of smart class equipment to 2 schools. Sports items were distributed. Real-time data is uploaded to CPCB as well as SPCB. Ambient air quality data is displayed in the public domain outside the plant gate. **Rs. 38,15,000** has been incurred for Environmental monitoring and management. Scholarship award to `18 meritorious and economically weaker students.
	Water quality has been monitored for all the parameters as per IS-10500. Also, as per EC condition, water was tested for fluoride & arsenic. No traces of arsenic were found.
Socio-Economic development activities	Training & Nutrition Garden development through SHGs. Installation of smart class equipment to schools.
	60 nos. Solar street installation. 3 nos Health Camps and 4 no. Veterinary Camp
	Micro Enterprise Development Program

Some of the Photographs of the activities

Annexure-XI


SPORTS GALLERY
CONSTRUCTED BY
DALMIA CEMENT BHARAT LTD UNDER CSR ACTIVITIES
VILLAGE:DITHUR YEAR:2022-23
UMRANGSO.DIST- DIMA HASAO.
ASSAM

Annexure-XI


Latitude: 23.551736
Longitude: 92.811543
Elevation: 389.82±2 m
Accuracy: 15.0 m
Time: 09-24-2022 11:07
Note: 19 kilo hahahahahaha


Latitude: 23.51191
Longitude: 92.794425
Accuracy: 2000.0 m
Time: 09-23-2022 10:33
Note: Dhlw 7


ANIMAL HEALTH CAMP


ANIMAL HEALTH CAMP

Annexure-XI


WOMEN SELF - HELP GROUP TRAINING
ON
NUTRITION GARDEN
Organized by
DALMIA BHARAT FOUNDATION


MEDICAL CAMP
Organized by
DALMIA BHARAT FOUNDATION
VENUE : KALANALA M.E. SCHOOL

Annexure-XI

Activities undertaken as per Public Commitments

Programs	**Activities**
Environment, **Education & Skill Training, Employment**	6000 Bamboo plantation and beautification of school campus at 2 nearby schools completed. Constructed sports gallery at Dithur village. 10000 Nursery raising and plantation of Drumsticks with SHG members (28 SHG). Installation of smart class equipment to 2 schools. Sports items were distributed. Real-time data is uploaded to CPCB as well as SPCB. Ambient air quality data is displayed in the public domain outside the plant gate. **Rs. 12 lakh,** has been incurred for Environmental monitoring and management. Scholarship award to `18 meritorious and economically weaker students.
	Water quality has been monitored for all the parameters as per IS-10500. Also, as per EC condition, water was tested for fluoride & arsenic. No traces of arsenic were found.
Socio-Economic development activities	Training & Nutrition Garden development through SHGs. Installation of smart class equipment to schools.
	60 nos. Solar street installation. 3 nos Health Camps and 4 no. Veterinary Camp
	Micro Enterprise Development Program

Some of the Photographs of the activities

Annexure-XII

Annexure-XII

Annexure-XII

Annexure-XII


OPPO A31

Dalmia cement
FUTURE TODAY

cement! sugar! refractories! power!

No: CCIL/USO/EHS/2022-2023/17 Date: 31.05.2023

To

The Senior Environmental Engineer,

Pollution control board, Assam

Bamunimaidam Guwahati

Subject: Submission of Annual return Environment Statement Form V for the period 1st April 2022 to 31st March 2023, in respect of **M/S Calcom Cement India Limited at 16 Kilo Jamuna Nagar Umrongso, Assam - 788931.**

Respected Sir,

Referring to the above-mentioned subject we are submitting Annual Return form V in respect of M/S Calcom Cement India Limited at 16 Kilo Jamuna Nagar, Assam - 788931, document is enclosed here.

We trust you find the compliance in order and assure you to comply with all your directions as always.

Thanking you,

For Calcom Cement India Ltd

Authorized Signatory

Enclosed - Form V

C.C Regional Office Silchar

Calcom Cement India Limited
Subsidiary of Dalmia Cement (Bharat) Limited
16 Kilo, Jamuna Nagar, Post Office Umrongso, District Dimahasao (N.C. Hills) - 788 931, Assam, India
T +91 361 7156 700 Toll Free 1800 2020 W www.dalmiacement.com CIN: U26942AS2004PLC007538
Registered Office: 3rd & 4th Floor, Anil Plaza-II, ABC, G.S. Road, Guwahati 781 005, Assam, India
A Dalmia Bharat Group company, www.dalmiabharat.com

FORM – V **Year: 2022 - 23**

(See Rule 14) *

From:

M/S Calcom Cement India Limited

A subsidiary of Dalmia Cement Bharat Limited

16 Kilo Jamuna Nagar Umrongso

Dist. Haflong Assam - 788931

To,

Assam Pollution Control Board

"Bamunimaidam",

Guwahati

ENVIRONMENTAL STATEMENT for the financial year ending 31st March 2023.

PART – A

(i)	Name and address of the owner/ occupier of the industry operation or process:	**Mr. Ambuj Srivastava** Unit Head **M/s Calcom Cement India Limited.** **16 Kilo Jamuna Nagar Umrongso**
(ii)	Industry category - Primary – (STC Code) Secondary – (STC Code)	**Red** ----
(iii)	Production capacity Units:	**1.52 MMTPA**
(iv)	Year of establishment:	**April – 2015**
(v)	Date of the last	**19/05/2022**

	Environmental Statement submitted:	

* Submission of Environmental Statement is in accordance with the provisions of Rule-14 of the Environment (Protection). Amendment Rules, 1993 of the Environment (Protection) Act, 1986 (29 of 1986) published vide Notification dated 22-4-1993 G.S.R. 386 (E) in the Gazette of India-Extraordinary- Part-II Section-3 Subsection (i), No. 155 dated 28-4-1993 by the Ministry of Environment and Forests, Government of India; read with the Notification dated 13-3-1993 G. S. R. 329 (E), of the Gazette of India –Extraordinary Part – II Section –3 Subsection (i) No. 120 dated 13-3-1993.

"Every person carrying on an industry, operation or process requiring Consent under Section-25 of the Water (Prevention & Control of Pollution) Act, 1974 (6 of 1974) or under Section-21 of the Air (Prevention & Control of Pollution) Act, 1981 (14 of 1981) or both or authorization under the Hazardous Wastes (Management and Handling) Rules, 1989 published under the Environment (Protection) Act, 1986 (29 of 1986) Shall submit an Environmental Statement for the financial year ending the 31st March in From V to the concerned State Pollution Control Board on or Before the Thirtieth day of September every year, beginning 1993."

PART –B

Water and Raw Material Consumption

(i)	Water Consumption M^3/day	
	Process	**81 M3/day**
	Cooling	**Nil**
	Domestic	**138 M^3/day**

Please refer Annexure-II (Month wise Water Consumption)

Name of Products	Process water consumption per unit of product output	
	During the previous financial year 21-22	During the current financial year 22-23
	(1)	(2)
01. Clinker	**52 M3/Day**	**81 M3/Day**

(ii) Raw material consumption

* Name of raw material	Name of Products	Consumption of raw material per unit of output	
		During the previous Financial year 2021-2022	During the current Financial year 2022-2023
Raw Mix	Clinker	1.5	1.5
Lime stone	Clinker	1.45	1.41
River/ Hill Sand	Clinker	.051	.084
Coal	Clinker	13	12.33

* Industry may use codes if disclosing details of raw material would violate contractual obligations, otherwise all industries have to name the raw materials used.

PART – C
Pollution discharged to environment per unit of output
(Parameters as specified in the consent issued)

Pollutants	Quantity of Pollutants discharged (mass/day)	Concentration of pollutants in discharged (mass/volume)	Percentage of variation from prescribed Standards with reason
(a) Water	Not applicable, because no waste water is generated from the process	---	---
(b) Air			
	Online Ambient Air Quality & Stack has been done & concentrations are found within the permissible limit. Online data are connecting with PCBA & CPCB servers.		

PART – D

HAZARDOUS WASTES

(As specified under Hazardous Wastes (Management, Handling and Transboundary) Rules, 2008)

Hazardous Wastes	Total Quantity (kg.)	
	During the previous financial year 20-21	During the current financial year 21-22
(a) From Process	Used Oil-2.250 KL	Used Oil-1.47 KL
(b) From pollution control facilities	---	---

PART – E

SOLID WASTE

	Total Quantity (kg.)	
	During the previous financial year	During the current financial year
(a) From Process	Due to the dry process, no solid waste has been generated.	
	Due to the dry process, we are reusing the same.	
(b) From pollution control facilities	Due to the dry process, we are reusing the same.	Due to the dry process, we are reusing the same.
	Due to the dry process, no solid waste has been generated.	
(c) (1) Quantity recycled or re-utilized	Due to dry process we are reuse the same.	Due to dry process we are reuse the same.
(2) Sold NIL		
(3) Disposed		

PART – F

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

Sl. No.	Name of Hazardous Waste / Solid Waste	Quantity	Mode of Disposal/ Co processed
1	28.1,28.4 & 35.3- Pharma Process Residue & Waste, Off specification product and Sludge	1367.072 MT	Co processed in Cement Kiln
2	Plastic & RDF	1558 MT	Co processed in Cement Kiln

PART – G

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

As per present requirement, we have already installed ESP, baghouses for Raw Mill and Coal Mill, and 27 nos. of bag filters at different locations of Pyro sections, Coal Mill, Raw mill, all transfer points, and Clinker loading area to maintain the Particulate Matters (PMs) within the prescribed limit. All these systems were found effective in arresting and putting back the recovered material into the production line thus preventing wastage of the raw materials & finished products and avoiding getting lost in the atmosphere.

Thus, pollution control measures are being taken to maintain a healthy work environment as well as conservation of natural resources and consequently optimization the cost of production.

PART – H

Plantation work is going on in full swing. More than Five Hundred (500 nos.) plants have been planted. The trees planted are Amla, Krishnachuda, Jack Fruit, Mango, Trifala, Nahar, Jamun, Bakul, Nim, Litchi etc.

PART –I *MISCELLANEOUS:*

Any other particulars for improving the quality of the environment.

1. Two full-time vehicles have been deployed for a sprinkling of water within and around the plant area on regular basis to minimize dust emission from the vehicular movement and lay down a permanent sprinkling system in the coal transportation area.
2. In order to maintain the air quality in/around our factory premises, maintenance of Air Pollution Control equipment is carried out periodically.

(Signature of a person carrying out an industry - operation or process)

Name : Subodh Kumar

Designation : DGM – EHS

M/s Calcom Cement India Limited

Address : 16 Kilo Jamunanagar Umrongso,

Assam PIN-788931