Dalmia cement

cement! sugar! refractories! power!

Ref: DCNEL/USO/EHS/2024-25/01 **Dated: 22/05/2024**

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 Dalmia Cement (NE) Limited (Formerly known as 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 October 23 to 31st March 2024 for DCNEL (CCIL) India Limited, Umrangso. 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 Dalmia Cement North East 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

Dalmia Cement (North East) Limited
(Formerly known as Calcom Cement India Limited)
A subsidiary of Dalmia Cement (Bharat) Limited
16 Kilo, Jamuna Nagar, PO-Umrangso, District Hasao (N.C. Hills) - 788931 (Assam) India
W www.dalmiacement.com, CIN: U26942AS2004PLC007538
Registered Office : 3rd & 4th Floor, Anil Plaza-II, ABC, G.S. Road, Guwahati 781 005 (Assam) India
T : 91 361 7156 700 F : 91 361 7156 707 Toll Free : 18002020
*A **Dalmia Bharat Group** company,www.dalmiabharat.com*

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, Umrangso, Dist. Dima Hasao, Assam by M/S Calcom Cement India Ltd.

Sn.	Conditions	Compliance Status
A	**Specific Conditions**	
i.	Particulate matter emissions from all the stacks shall be less than 30 mg/Nm^3.	Complied.
ii.	975 KLD water shall be sourced from the Longlai River flowing 6 km from the site. Groundwater withdrawal is not permitted.	Complied.
iii.	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 has been developed in 10 ha area. Additional 20,000 trees and 132,000 bamboo plants are planted outside the project site.
iv.	Thermal Energy consumption for the kiln shall be less than 720 Kcal/ton for clinker as committed by the proponent.	Complied.
v.	DeSOx system shall be provided dry type. NOx level shall be maintained below 600 mg/Nm3 by using the best available technology.	Complied.
vi.	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.
vii.	Slip roads shall be provided at the gates and along crossings on main roads.	Complied.
viii.	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.
ix.	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 March 2024. Report attached as **Annexure-I**.
x.	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 the MoEF&CC.	Complied. Report attached as **Annexure-II**.
xi.	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.

xii.	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 as **Annexure-** III.ttached as an **Annexure-III.**
B.	**General Conditions**	
I.	**Statutory compliance**	
i.	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.he 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.
II.	**Air quality monitoring and preservation**	
i.	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. Monitoring Report attached as an **Annexure- IV.**
ii.	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. Monitoring Report attached as **Annexure-V**.
iii.	The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.	Complied.
iv.	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.
v.	The project proponent shall provide wind shelter fence and chemical spraying on the raw material	Complied.

	stock piles;	
vi.	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.
III.	**Water quality monitoring and preservation**	
i.	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 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.he 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.

ii.	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. No ground water is available.
iii.	Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards	Complied.
iv.	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.
IV.	**Noise monitoring and prevention**	
i.	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.oise 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.	Complied. Report attached as **Annexure-VI.**
V.	**Energy Conservation measures**	
i.	Waste heat recovery system shall be provided for kiln and cooler.aste heat recovery system shall be provided for kiln and cooler.	Complied.
ii.	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.
iii.	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.
iv.	Provide the project proponent for LED lights in their offices and residential areas.	Complied and agrees to comply.
VI.	**Waste management**	
i.	Used refractories shall be recycled as far as possible.Used refractories shall be recycled as far as possible.	Noted
VII.	**Green Belt**	
i.	The project proponent shall prepare GHG emissions	Noted and WHRS plant is installed and 76 %

	inventory for the plant and shall submit the program for reduction of the same including carbon sequestration by trees in the plant premises.he 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.	renewable energy is being used in the plant
VIII.	**Public hearing and Human health issues**	
i.	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.mergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	Noted and complied.
ii.	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.
iii.	Occupational health surveillance of the workers shall be done on a regular basis and records maintained.	Complied.
IX.	**Environment Management**	
i.	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.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
ii.	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-VI**I
iii.	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**-VIII
X.	**Miscellaneous**	
i.	The project proponent shall make public the	Complied and attached as an **Annexure I**X

	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.	
ii.	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-X**.
iii.	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.
iv.	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. **Photographs are attached as Annexure-XI.**
v.	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.
vi.	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-XII**
vii.	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 has started. CTE and CTO attached as an **Annexure-XIII**.
viii.	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.	Being Complied. 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 has been ensured. Attached as

		an **Annexure XIV**.
ix.	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.
x.	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.
xi.	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted.
xii.	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions	Noted.
xiii.	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.
xiv.	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.

Annexure-I

Performance Assessment Study of Air Pollution Control Equipment (APCE) for M/s Dalmia Cement (North East) Ltd., Umrangso, Dima Hasao, Assam

CME-ENV/SP-6487

April 2024

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 Dalmia Cement (North east) Ltd., 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 Dalmia Cement (North east) Ltd.

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EXECUTIVE SUMMARY

1. M/s Dalmia Cement (North-East) 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 26th March to 28th March 2024 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 Dalmia Cement (North-East) 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	26.32	99.9416
2.	Cooler ESP	28.07	99.79
3.	Coal Mill Bag Filter	28.42	99.9921

1. INTRODUCTION

M/s Dalmia Cement (North-East) Ltd. (M/s DCNL) having clinkerization unit located at 16 Kilo, Jamunanagar in Umrangso, Dima Hasao, Assam and is a subsidiary of Dalmia Cement (Bharat) Ltd. 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 Dalmia Cement (North-East) Ltd. is required to carry out performance evaluation of its Air Pollution Control Equipment (APCE). In this regard, M/s DCNL 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 26th to 28th March 2024 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	°C	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	°C	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	°C	120-220
	- maximum	°C	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

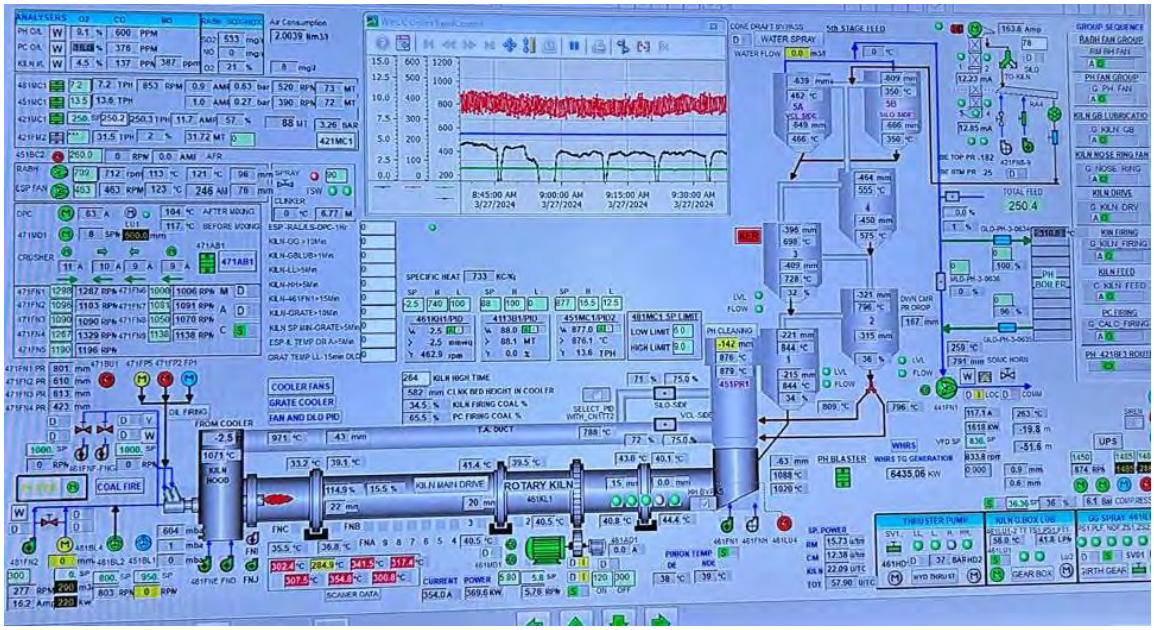

Fig 3.1: CCR Snapshot of RABH

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 122°C and the Static Pressure was around -20 mmWG. The velocity in the duct was found to be 12.27 m/s and the gas flow was 383,986 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	-	26.03.2024 at 2 PM to 4 PM		
Kiln Feed Rate	TPH	250 TPH		
Duct Dia	m	-		
Cross Sectional Area	m^2	12.410		
Ambient Temp.	°C	26		
Gas Temperature	°C	122		
O_2	%	8.7		
Mol. Wt.	g/mol	32.69		
Dynamic Pressure	mmWG	9.80		
Static Pressure	mmWG	-20		
Velocity	m/s	12.27		
Gas Flow	Nm^3/hr	383,986		

- **Dust Concentration**

The dust concentration in the inlet duct of RABH was in the range of 44,106 to 45,899 mg/Nm^3 and the dust load was measured in the range of 16.9 to 17.6 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	45,371	45,899	44,106
Avg. dust concentration	mg/Nm^3	45,125		
Dust load	TPH	17.4	17.6	16.9
Avg. dust load	TPH	17.3		

3.1.2 Outlet (Stack) of RABH

At outlet duct (stack) of RABH, the temperature of gas was around 113°C, the Static Pressure was around -12 mmWG, velocity in the duct was 14.34 m/s and the gas flow was 411,473 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	-	26.03.2024 at 10.00 AM to 1.00 PM		
Kiln Feed Rate	TPH	250		
Duct Dia	m	-		
Cross Sectional Area	m^2	12.410		
Ambient Temp.	ºC	21		
Gas Temp.	ºC	113		
O_2	%	8.7		
Mol. Wt.	g/mol	32.69		
Dynamic Pressure	mmWG	13.71		
Static Pressure	mmWG	-12		
Velocity	m/s	14.34		
Gas Flow	Nm^3/hr	411,473		

- **Dust Concentration**

The dust concentration in the outlet duct (stack) of RABH was in the range of 22.67 to 28.40 mg/Nm^3 with an average dust concentration of 26.32 mg/Nm^3 and the dust emission rate was measured as 0.012 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	28.4	22.67	27.91
Avg. dust concentration	mg/Nm^3	26.32		
Dust emission rate	TPH	0.013	0.010	0.013
Avg. dust emission rate	TPH	0.012		

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 (%)	8.7	8.7
Velocity (m/sec)	12.27	14.34
Flow (Nm^3/hr)	383,986	411,473
Avg. Dust Concentration (mg/Nm^3)	45,125	26.32
Avg. Dust Load/Emission rate (TPH)	17.3	0.012

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)	45,125	26.32	**99.9416 %**

3.1.4 Evaluation of Site Measurements Results (Observation & Recommendations)

- Emission level at stack outlet is 26.32 mg/Nm^3 which is lower than the PM emission limit of $\leq$ 30 mg/Nm^3
- Efficiency of RABH was found to be 99.9416%, however there exist a further scope of improvement
- The inlet temperature to RABH was measured as 122º C 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

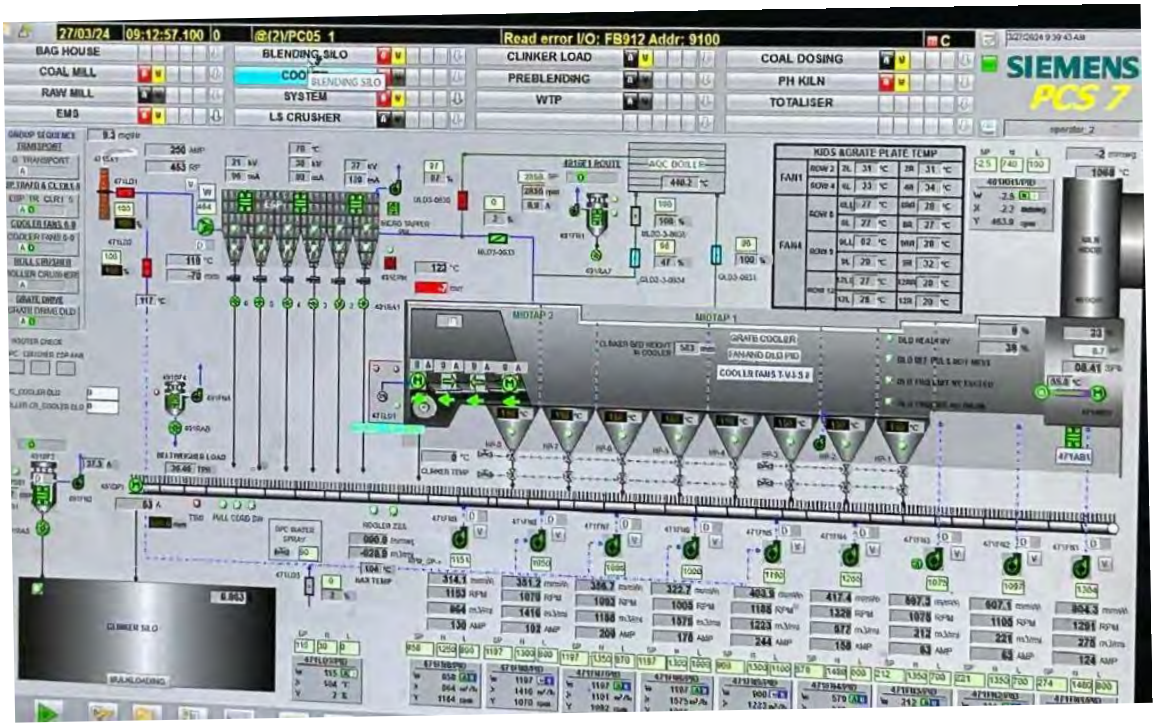

Fig 3.3: CCR Snapshot of Cooler

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 128.6°C and the Static Pressure was around -68 mmWG. The velocity in the duct was 14.48 m/s and the gas flow was 219,866 Nm^3/hr. The operational parameters at 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	-	27.03.2024 at 4.00 PM – 6.00 PM		
Kiln Feed Rate	TPH	250		
Duct Dia	m	2.8		
Cross Sectional Area	m^2	6.160		
Ambient Temp.	ºC	21		
Gas Temp.	ºC	128.6		
O_2	%	21		
Mol. Wt.	g/mol	28.84		
Dynamic Pressure	mmWG	14.48		
Static Pressure	mmWG	-68		
Velocity	m/s	14.48		
Gas Flow	Nm^3/hr	219,866		

- **Dust Concentration**

The dust concentration in the inlet of cooler ESP was in the range of 13,983 to 14,397 mg/Nm^3 with average dust concentration of 27,674 mg/Nm^3 and the dust load was measured in the range of 3.0 to 3.2 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	13,676	13,983	14,397
Avg. dust concentration	mg/Nm^3	14,018		
Dust load	TPH	3.0	3.1	3.2
Avg. dust load	TPH	3.08		

3.2.2 Outlet (Stack) of Cooler ESP

At stack of cooler ESP, the temperature of gas was around 125°C and the Static Pressure was around -105 mmWG. The velocity of gas in the stack was 14.62 m/s and the gas flow was 223,555 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	-	27.03.2024 at 10.00 am – 1.00 pm		
Kiln Feed Rate	TPH	250		
Duct Dia	m	2.8		
Cross Sectional Area	m^2	6.160		
Ambient Temp.	ºC	21		
Gas Temp.	ºC	125		
O_2	%	21		
Mol. Wt.	g/mol	28.84		
Dynamic Pressure	mmWG	12.08		
Static Pressure	mmWG	-105		
Velocity	m/s	14.62		
Gas Flow	Nm^3/hr	223,555		

- **Dust Concentration**

The dust concentration in the outlet duct of cooler ESP was in the range of 27.35 to 29.01 mg/Nm^3 and the dust emission rate was measured in the range of 0.0061 to 0.0065 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	29.01	27.35	27.86
Avg. dust concentration	mg/Nm^3	28.07		
Dust emission rate	TPH	0.0065	0.0061	0.0062
Avg. dust emission rate	TPH	0.0063		

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)	14.48	14.62
Flow (Nm^3/hr)	219,866	223,555
Avg. Dust Concentration (mg/Nm^3)	14,018	28.07
Avg. Dust Load (TPH)	3.08	0.006

Based on the above measurements, the efficiency of Cooler ESP is calculated as **99.79%** as shown below:

	Cooler ESP Inlet	Cooler ESP Outlet	Efficiency of ESP
Dust Concentration (mg/Nm^3)	14,018	28.07	**99.79**

3.2.4 Evaluation of Site Measurements Results (Observation & Recommendations)

- Emission level at cooler ESP stack is 28.07 mg/Nm^3 which is lower than the emission limit of $\leq$ 30 mg/Nm^3
- Efficiency of ESP was found to be 99.79%, 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

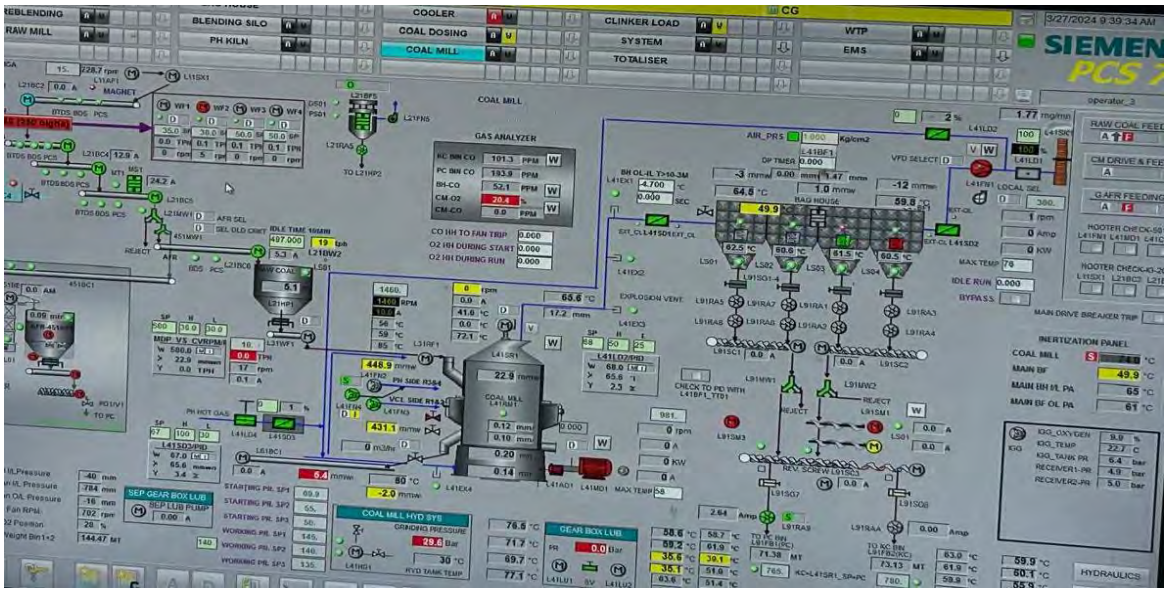

Fig 3.5: CCR Snapshot of Coal Mill

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 69°C and the Static Pressure was around -750 mmWG. The velocity in the duct was 21.50 m/s and the gas flow was 888,96 Nm^3/hr. The operational parameters 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	-	26.03.2024 at 5.00 PM to 7.00 PM		
Coal Mill	TPH	19		
Duct Dia	m	1.4		
Cross Sectional Area	m^2	1.540		
Ambient Temp	ºC	21		
Gas Temperature	ºC	69		
O_2	%	9.4		
Mol. Wt.	g/mol	31.54		
Diff. Pressure	mmWG	30.91		

Static Pressure	mmWG	-750
Velocity	m/s	21.50
Gas Flow	Nm^3/hr	888,96

- **Dust Concentration**

The dust concentration in the inlet duct of coal mill bag filter was in the range of 351,090 to 377,048 mg/Nm^3 and the dust load was measured in the range of 31.21 to 33.51 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	377,048	351,090	359,680
Avg. dust concentration	mg/Nm^3	362,606		
Dust load	TPH	33.51	31.21	31.98
Avg. load	TPH	32.23		

3.3.2 Outlet (Stack) of Coal Mill Bag Filter

At stack of coal mill bag filter, the temperature of gas was around 61°C and the Static Pressure was around -810 mmWG. The velocity in the duct was 15.99 m/s and the gas flow was 45,368 Nm^3/hr. The operational parameters at stack of coal mill bag filter are given in Table 3.14.

Parameter	UoM	1st Sample	2nd Sample	3rd Sample
Date & Time of Measurement	-	27.03.2024 at 1.00 pm – 4.00 pm		
Coal Mill	TPH	19		
Duct Dia	m	1.15		
Cross Sectional Area	m^2	1.039		
Ambient Temp.	ºC	20		
Gas Temperature	ºC	61		
O_2	%	10		

Mol. Wt.	g/mol	31.57
Dynamic Pressure	mmWG	17.40
Static Pressure	mmWG	-810
Velocity	m/s	15.99
Gas Flow	Nm^3/hr	45,368

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

- **Dust Concentration**

The dust concentration in the outlet duct (stack) of coal mill bag filter was in the range of 27.65 to 29.10 mg/Nm^3 and the dust emission rate was measured as 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	28.51	29.10	27.65
Avg. dust concentration	mg/Nm^3	28.42		
Dust emission rate	TPH	0.001	0.001	0.001
Avg. dust emission rate	TPH	0.001		

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 (%)	9.4	10
Velocity (m/sec)	21.50	15.99
Flow (Nm^3/hr)	888,96	45,368
Avg. Dust Concentration (mg/Nm^3)	362,606	28.42
Avg. Dust Load (TPH)	32.23	0.001

Based on the above measurements, the efficiency of bag filter is calculated as **99.9921%** as shown below:

	Coal Mill bag filter inlet	**Coal Mill bag filter outlet**	**Efficiency of Bag Filter**
Dust Concentration (mg/Nm^3)	362,606	28.42	**99.9921%**

3.3.4 Evaluation of Site Measurements Results (Observation & Recommendations)

- Emission level at stack outlet is 28.42 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 99.9921%
- 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 Dalmia Cement (North-East) 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	26.32
2.	Cooler ESP	28.07
3.	Coal Mill Bag Filter	28.42

Table 4.2: Efficiency of APCE

S.No.	Description of APCE	Efficiency of APCE (%)
1.	Kiln/Raw Mill RABH	99.9416
2.	Cooler ESP	99.79
3.	Coal Mill Bag Filter	99.9921

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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

Annexure-II

Report No.: ENV/DCNEL/DMH/23-24/N02

Date: 06/10/2023

Order No.: 4556001085/252

Date: : 18/11/2023

Report Issued To : DALMIA CEMENT (NE) LIMITED
Village: Jamunagar-16 Kilo, Umrangso, Dist.- Dima Hasao; Assam- 788931

STACK EMISSION TEST RESULTS

01	Stack Emission Test Ref. No.	CAL/SE/2022/06-01		
02	Date of Sampling	08.11.23		
03	Material of Construction	M. S.		
04	Stack Attached To	R.A.B.H (25.5111, 92.76494)		
05	Flue Gas Temperature (^{0}C)	55		
06	Exit Velocity of Gas (m/sec)	3.8		
07	Flow Rate (Nm^3/hr)	219977		
08	Type of Fuel Used	NA		
09	**Analysis Results of Flue Gas**			
Sl. No.	**Parameter(s)**	**Result(s)**	**Unit(s)**	**Limit(s)**
i.	Particulate Matter	10	mg/Nm^3	30
ii.	Sulphur Dioxide (as SO_2)	396	mg/Nm^3	1000
iii.	Oxides of Nitrogen (as NO_x)	216	mg/Nm^3	800
iv.	Oxygen (as O_2)	13.7	% V/V	--
v.	Hydrogen Chloride (as HCl)	2.4	mg/Nm^3	10
vi.	Hydrogen Fluoride (as HF)	BDL [MDL: 1.0]	mg/Nm^3	1
vii.	Mercury (as Hg)	BDL [MDL: 0.001]	mg/Nm^3	0.03
viii.	Hg and its compounds	BDL [MDL: 0.001]	mg/Nm^3	0.05
ix.	Cd + Tl and their compounds	0.003	mg/Nm^3	0.05
x.	Sb+As+Pb+Co+Cr+Cu+Mn+Ni+V+ and their compounds	0.034	mg/Nm^3	0.5
xi.	Total Organic Carbon (as TOC)	6.54	mg/Nm^3	10
xii.	Total Dioxins and Furans	BDL [MDL: 0.01]	$ngTEQ/Nm^3$	0.1

BDL: Below Detectable Limit, MDL: Minimum Detectable Limit

ENVIROCON Assam Recognized by Pollution Control Board, Assam

Checked By: Mr. Pankaj Baroi, **ENVIROCON**

NOTE:
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Annexure-III

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	Partially complied. 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.).**	Complied
(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.).**	**Already applied for changing in the name of EC.**

Photos 1

Photos 2

Photos 3

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ISO 45001:2018 Certified

F rmat N .: 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-21	**Issue Date**	23/03/2024
Order No.	4556002129/236	**Order Date**	12/03/2024
Report Issued To	DALMIA CEMENT (NORTH EAST) LIMITED Jamunanagar-16 Kilo, Umrangshu, Dist.- Dima Haso (N. C. Hills), Assam - 788931		

Sample Ref. No.:	DCNEL/2024/A-0703/01	Sample Source:	CCR Building	Weather Condition:	Clear & Calm
Date of Sampling:	07.03.2024	Sample Receipt Date:	11.03.2024	Instrument Used:	FPS, RDS & Gaseous Attachment
Analysis Start Date:	12.03.2024	Analysis End Date:	20.03.2024	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)	15.9	µg/m³	60 (24 Hours Average)
2.	Particulate Matter (size less than 10 µm) or PM_{10}	IS 5182 (Part 23)	40.2	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 *

Authorised Signatory: Mr. Pankaj Baroi (Director)

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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-22	**Issue Date**	23/03/2024
Order No.	4556002129/236	**Order Date**	12/03/2024
Report Issued To	DALMIA CEMENT (NORTH EAST) LIMITED Jamunanagar-16 Kilo, Umrangshu, Dist.- Dima Haso (N. C. Hills), Assam - 788931		

Sample Ref. No.:	DCNEL/2024/A-0703/02	Sample Source:	Near Dispensary	Weather Condition:	Clear & Calm
Date of Sampling:	07.03.2024	Sample Receipt Date:	11.03.2024	Instrument Used:	FPS, RDS & Gaseous Attachment
Analysis Start Date:	12.03.2024	Analysis End Date:	20.03.2024	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)	12.6	µg/m³	60 (24 Hours Average)
2.	Particulate Matter (size less than 10 µm) or PM_{10}	IS 5182 (Part 23)	36.1	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)

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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-23	**Issue Date**	23/03/2024
Order No.	4556002129/236	**Order Date**	12/03/2024
Report Issued To	DALMIA CEMENT (NORTH EAST) LIMITED Jamunanagar-16 Kilo, Umrangshu, Dist.- Dima Haso (N. C. Hills), Assam - 788931		

Sample Ref. No.:	DCNEL/2024/A-0703/03	Sample Source:	Near Shiv Temple	Weather Condition:	Clear & Calm
Date of Sampling:	07.03.2024	Sample Receipt Date:	11.03.2024	Instrument Used:	FPS, RDS & Gaseous Attachment
Analysis Start Date:	12.03.2024	Analysis End Date:	20.03.2024	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)	16.4	µg/m³	60 (24 Hours Average)
2.	Particulate Matter (size less than 10 µm) or PM_{10}	IS 5182 (Part 23)	42.7	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.

Annexure-V

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-03	**Issue Date**	23/03/2024
Order No.	4556002129/236	**Order Date**	12/03/2024
Report Issued To	DALMIA CEMENT (NORTH EAST) LIMITED Jamunanagar-16 Kilo, Umrangshu, Dist.- Dima Haso (N. C. Hills), Assam - 788931		

Sample Ref. No.:	DCNEL/2024/A-0803/04	Sample Source:	Near Raw Mill	Weather Condition:	Clear & Calm
Date of Sampling:	08.03.2024	Sample Receipt Date:	11.03.2024	Instrument Used:	RDS
Analysis Start Date:	13.03.2024	Analysis End Date:	14.03.2024	Sampled By:	Bidyut Kalita, Envirocon

TEST RESULTS

Sl. No.	Parameters	Test Method	Results	Units	Limits*
1.	Suspended Particulate Matter	IS 5182 (Part 4)	526	µg/m³	2000

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

*** Limits as per CPCB guidelines.**

***********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
Recogni e B
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

F rmat N .: ENV/R/TR/19/N-01 Rev. No.: 00

NOISE LEVEL TEST REPORT

ULR No.	NA		
Report No.	ENV/TR/DCNEL/DMH/23-24/N-05	**Issue Date**	23/03/2024
Order No.	4556002129/236	**Order Date**	12/03/2024
Report Issued To	DALMIA CEMENT (NORTH EAST) LIMITED Jamunanagar-16 Kilo, Umrangshu, Dist.- Dima Haso (N. C. Hills), Assam - 788931		

Sample Type:	Ambient Noise	**Category of Area/Zone:**	Industrial Area	**Date of Monitoring:**	08.03.2024
Sound Meter Used:	SL-4030/Lutron		**Sampled By:**	Bidyut Kalita, Envirocon	

TEST RESULTS

Sl. No.	Locations	Time Duration	Test Method	Result Leq dB (A)
1.	Near Kali Mandir	Day Time	IS 9989 (RA 2020)	53.4
2.	Near Weighbridge	Day Time	IS 9989 (RA 2020)	64.1
3.	View Point Mine	Day Time	IS 9989 (RA 2020)	46.2
4.	CCR Building	Day Time	IS 9989 (RA 2020)	57.8
5.	Near Shiv Temple	Day Time	IS 9989 (RA 2020)	55.2
6.	Near Dispensary	Day Time	IS 9989 (RA 2020)	47.3
7.	Crusher	Day Time	IS 9989 (RA 2020)	70.4
8.	Cooler Section	Day Time	IS 9989 (RA 2020)	79.5
9.	Near RABH	Day Time	IS 9989 (RA 2020)	71.2
10.	Near Coal Mill	Day Time	IS 9989 (RA 2020)	67.6
11.	Compressor Room	Day Time	IS 9989 (RA 2020)	70.8
12.	Raw Mill	Day Time	IS 9989 (RA 2020)	75.1
13.	Kiln Area	Day Time	IS 9989 (RA 2020)	75.6
14.	Landing Silo	Day Time	IS 9989 (RA 2020)	78.6
15.	Near Pre Heater	Day Time	IS 9989 (RA 2020)	78.7
16.	Near Culvert No. 1	Day Time	IS 9989 (RA 2020)	56.2
17.	New View Point Mine	Day Time	IS 9989 (RA 2020)	43.9
18.	Near New Weigh Bridge	Day Time	IS 9989 (RA 2020)	57.2
19.	Near Culvert No. 2	Day Time	IS 9989 (RA 2020)	58.1

NA: Not Applicable

Limit :

Category of Area/ Zone	Limit in dB (A) L_{eq}	
	Day Time	Night Time
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40

ENVIROCON Date: DIGBOI, ASSAM

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

Authorised Signatory: Mr. Pankaj Baroi (Director)

NOTE:
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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/N-01 Rev. No.: 00

NOISE LEVEL TEST REPORT

ULR No.	NA		
Report No.	ENV/TR/DCNEL/DMH/23-24/N-06	**Issue Date**	23/03/2024
Order No.	4556002129/236	**Order Date**	12/03/2024
Report Issued To	DALMIA CEMENT (NORTH EAST) LIMITED Jamunanagar-16 Kilo, Umrangshu, Dist.- Dima Haso (N. C. Hills), Assam - 788931		

Sample Type:	Ambient Noise	**Category of Area/Zone:**	Industrial Area	**Date of Monitoring:**	08.03.2024
Sound Meter Used:	SL-4030/Lutron		**Sampled By:**	Bidyut Kalita, Envirocon	

TEST RESULTS

Sl. No.	Locations	Time Duration	Test Method	Result Leq dB (A)
1.	Near Kali Mandir	Night Time	IS 9989 (RA 2020)	42.6
2.	Near Weighbridge	Night Time	IS 9989 (RA 2020)	53.4
3.	View Point Mine	Night Time	IS 9989 (RA 2020)	36.2
4.	CCR Building	Night Time	IS 9989 (RA 2020)	53.1
5.	Near Shiv Temple	Night Time	IS 9989 (RA 2020)	43.6
6.	Near Dispensary	Night Time	IS 9989 (RA 2020)	36.2
7.	Crusher	Night Time	IS 9989 (RA 2020)	65.1
8.	Cooler Section	Night Time	IS 9989 (RA 2020)	77.6
9.	Near RABH	Night Time	IS 9989 (RA 2020)	68.9
10.	Near Coal Mill	Night Time	IS 9989 (RA 2020)	66.3
11.	Compressor Room	Night Time	IS 9989 (RA 2020)	68.2
12.	Raw Mill	Night Time	IS 9989 (RA 2020)	73.7
13.	Kiln Area	Night Time	IS 9989 (RA 2020)	73.6
14.	Landing Silo	Night Time	IS 9989 (RA 2020)	77.1
15.	Near Pre Heater	Night Time	IS 9989 (RA 2020)	76.9
16.	Near Culvert No. 1	Night Time	IS 9989 (RA 2020)	49.3
17.	New View Point Mine	Night Time	IS 9989 (RA 2020)	37.8
18.	Near New Weigh Bridge	Night Time	IS 9989 (RA 2020)	51.6
19.	Near Culvert No. 2	Night Time	IS 9989 (RA 2020)	55.3

NA: Not Applicable

Limit :

Category of Area/ Zone	Limit in dB (A) L_{eq}	
	Day Time	Night Time
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40

ENVIROCON Date DIGBOI, ASSAM

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

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.

Annexure-VII

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

Annexure-VIII

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

Annexure-IX

of service to the nation

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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 0.96 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-11011/307/2008-IA.II (I) dated 06.05.2022 & EC identification no. EC22A009AS125343. 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/**)

অসমীয়া খবৰ

বাজহুৱা জাননী

ইয়াৰ দ্বাৰা জনোৱা হয় যে ডালমিয়া চিমেণ্ট ভাৰত লিমিটেড, অনিল প্লাজা ২, চতুৰ্থ মহলা, এবিটি, জিএছ ৰোড, কামৰূপ, গুৱাহাটী, অসম-৭৮১০০৫ৰ এক সহযোগী প্ৰতিষ্ঠান মেছাৰ্ছ কেলকম চিমেণ্ট ইণ্ডিয়া লিমিটেডক পৰিবেশ, বন আৰু জলবায়ু পৰিবৰ্তন 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 মেছাৰ্ছ কেলকম চিমেণ্ট ইণ্ডিয়া লিমিটেডক প্ৰদান কৰা হৈছে। এই গোটটো অসমৰ ডিমা হাছাও জিলা (পূৰ্বৰ উত্তৰ কাছাৰ পাৰ্বত্য জিলা)ৰ ১৬ কিলো, লাংটেংকই (যমুনা নগৰ), টেহচিল ঃ উমৰাংছু অৱস্থিত। পৰিবেশ সম্বন্ধীয় চৰ্ত আৰু সুৰক্ষাজনিত নিৰ্দেশসমূহৰ লগতে ইচিৰ প্ৰতিলিপি প্ৰদূষণ নিয়ন্ত্ৰণ পৰিষদ, অসম, ডিমা হাছাও জিলা স্থায়ৱশাসিত পৰিষদৰ কাৰ্যালয়, ১৬ কিলোৰ গাঁওবুঢ়া, ১৪ কিলোৰ গাঁওবুঢ়া, উমৰাংছু নগৰ সমিতিৰ লগতে চৰকাৰ আৰু কোম্পানীৰ সংশ্লিষ্ট কাৰ্যালয়সমূহত পোহাৰ ব্যবস্থা আছে। পৰিবেশ, বন আৰু জলবায়ু পৰিবৰ্তন মন্ত্ৰালয়ৰ ৱেবছাইট http://parivesh.nic.in আৰু কোম্পানীৰ ৱেবছাইট http://www.dalmiacement.com তো এয়া উপলব্ধ।

Annexure-X

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

Received
9.5.22
B. B. O
Umrongso Village (19Km.)
P.o Umrongso, N. C. Hills

Photographs showing display of OCEMS and CAAQMS data at Plant Gate/Public domain

Annexure-XII

Dalmia cement

cement! sugar! refractories! power!

No: CCIL/USO/EHS/2024-2025/02 Date: 09.05.2024

To

The Member Secretary,

Pollution control board, Assam

Bamunimaidam Guwahati

Subject: Submission of Annual return Environment Statement Form V for the period 1st April 2023 to 31st March 2024, in respect of **M/S Dalmia Cement (NE)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 Dalmia Cement (NE) 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 Dalmia cement North East Limited

Authorized Signatory

Enclosed - Form V

C.C Regional Office Silchar

Dalmia Cement (North East) Limited
(Formerly known as Calcom Cement India Limited)
A subsidiary of Dalmia Cement (Bharat) Limited
16 Kilo, Jamuna Nagar, PO-Umrangso, District Hasao (N.C. Hills) - 788931 (Assam) India
W www.dalmiacement.com, CIN: U26942AS2004PLC007538
Registered Office : 3rd & 4th Floor, Anil Plaza-II, ABC, G.S. Road, Guwahati 781 005 (Assam) India
T : 91 361 7156 700 F : 91 361 7156 707 Toll Free : 18002020
*A **Dalmia Bharat Group** company, www.dalmiabharat.com*

FORM – V **Year: 2023 - 24**

(See Rule 14) *

From:

M/S Dalmia Cement NE 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 2024.

PART – A

(i)	Name and address of the owner/ occupier of the industry operation or process:	**Mr. Ambuj Srivastava** Unit Head **M/s Dalmia Cement NE 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 Environmental	**31/05/2023**

	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 22-23	During the current financial year 23-24
	(1)	(2)
01. Clinker	**81 M3/Day**	**86M3/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 2022-2023	During the current Financial year 2023-2024
Raw Mix	Clinker	1.50	1.50
Lime stone	Clinker	1.41	1.44
River/ Hill Sand	Clinker	.084	0.06
Coal	Clinker	12.33	11.25

* 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 22-23	During the current financial year 23-24
(a) From Process	Used Oil-2.250 KL	Used Oil-2.71 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	3050.878 MT	Co processed in Cement Kiln
2	Plastic & RDF	NIL	

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 av111!oiding 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 (1500 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 Dalmia Cement NE Limited

Address : 16 Kilo Jamunanagar Umrongso,

Assam PIN-788931

Annexure-XIII

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

Pollution Control Board, Assam HO Guwahati-21

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

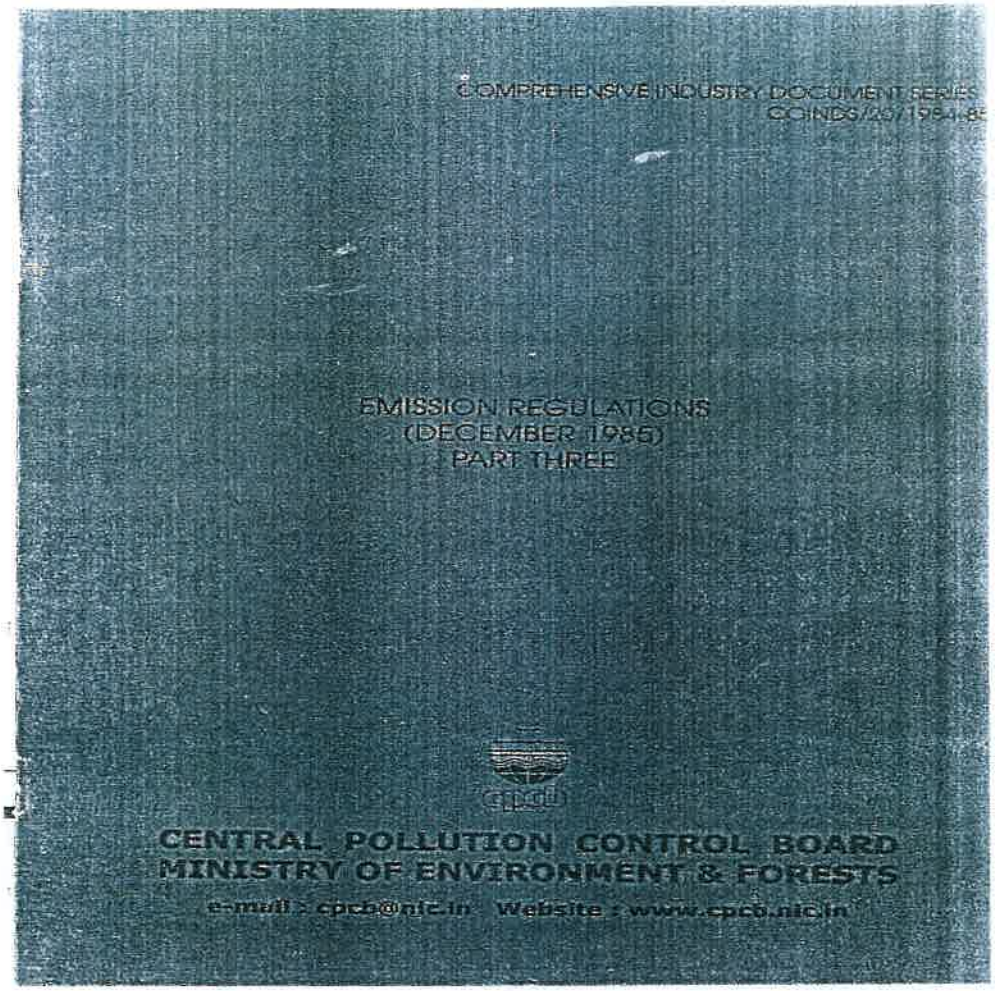
Memo No. PCBA/LGL-95/2021/Notification/01-A/993 Dated Guwahati, the 11th Nov, 2021

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
(Department of Environment & Forests, Government of Assam)
অসম প্রদূষণ নিয়ন্ত্রণ পৰিষদ
(অসম চৰকাৰৰ বন আৰু পৰিৱেশ বিভাগ)
NABL Accredited Testing Laboratory : Certificate No. TC-11384

No. WB/SLC/T-637/14-15/406 Dated Guwahati, the 22nd April, 2024

"CONSENT TO OPERATE"

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

i) Name of Industry : **M/s Dalmia Cement (North East) Limited**
(Formerly Known as 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, Jamunanagar, Umrangsho, 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 various units:

Sl. No.	Product	Capacity
1	Cement Clinker	1.52 MMTPA
2	Chips Crusher	150000 MT/Month
3	Green Power Plant (Waste Heat Recover)	8 MW (Boiler Capacity – 1 X 19.6 TPH +1 X 11.2 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= 50m,Ø= 3.8m	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

viii). DG Sets: 2 x 500 KVA.

General Conditions:

1. The Consent to Operate (CTO) has been accorded based on the particulars furnished by the applicant vide Application ID:**2350634** 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 is made in actual practice.
2. The CTO is valid for a period up to **31.03.25** unless otherwise suspended or revoked.
3. 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.
4. 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.
5. As per provisions of Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & 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.Denial of this right will cause withdrawal of the Consent Order.
6. **The project proponent shall strictly 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.**
7. The unit shall obtain prior "Consent to Establish" from the Board, for any further expansion, alteration, modification or modernization of the project.
8. Proper house keeping shall be maintained within unit premises. Burning f any wastes within the premises area is strictly prohibited.
9. 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).
10. 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.

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_xNO_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), Dtd 25.08.2014, G.S.R. (496 (E) dtd 09.06.2016** and **G.S.R 497 (E) dtd. 10.05.2016** (Appendix-**B**).
3. The unit shall comply with the Standards and Guidelines for control of Noise Pollution from Stationary Diesel Generator Set(s) notified by **MoEF& CC, GOI vide GSR 7, dated Dec.22, 1998**, (Appendix-**C**).

Contd...p/3

4. The unit shall comply with the ambient noise level standard, notified by **MoEF& CC, GOI vide GSR 7, dated Dec.22, 1998**, as mentioned here-in-under:

Limit in dB (A) Leq.	
Day Time (6:00AM - 10:00PM)	Night Time (10:00 PM - 6:00AM)
75	70

5. On line continuous emission monitoring system (OCEMS) should be provided for particulate matter (PM), SOx&NOx 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 mining and surroundingareas shall be maintained within the National Ambient Air Quality Standards, as notified by **MoEF& CC, vide G.S.R.826 (E) dtd.18.11.2009**, especially with respect to PM10, PM2.5,SO_2, NO_2as mentioned herein under;

Sr. 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 PM10 µg/m3	Annual* 24 hours**	60 100	60 100
2.	Particulate Matter (size less than 2.5µg) or PM2.5 µg/m3	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 devices (APC) devices shall be installed at all material transfer and dropping points to control fugitive emission.
8. Vehicle wheel washing shall be installed at (entry/exit) gate of the factory.

B) Water Aspects:

1. Source of Water : Surface water.
   i) Water Consumption: 975 KLD.
   ii) Effluent Generation: Nil
   iii) Capacity o KLD: 15 KLD.
2. The unit shall quantify the raw water consumption in the cement plant and shall prepare and submit water balance diagram.
3. 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 unit shall comply with the general effluent discharge parameters standard, notified by MoEF& CC, GOI vide G.S.R.422 (E) dtd. 19.05.1993.
4. Rain water harvesting facility shall be installed and maintained.

C) Solid Waste Aspect:

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

D) Plastic Waste Aspect:

1. The unit shall obtain registration as plastic producer under Plastic Waste Management Rules, 2016 as amended through the centralized EPR portal immediately.
2. The unit shall implement EPR Extended producer responsibility and submit report along with documentary evidence annually.

Contd...p/4

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.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 Hazardous and Other Waste (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 and Other Wastes (Management & Trans-boundary Movement) Rules, 2016 shall be obtained from the Board.
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/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.
   The unit should submit the annual return in Form-IV under the said rules on or before 30th June every year.
7. The unit should submit the annual return under the Rule in the Form-IV within 30th June every year.

G. Bio-medical Waste Management:

1. The unit 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 – **D**) 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.

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-637/14-15/406-A/166 Dated Guwahati, the 22nd April, 2024

Copy to:

M/s Dalmia Cement (North East) Limited (Formerly Known as Calcom Cement India Limited), 16 Kilo, Jamunanagar, Umrangsho, Dist. Dima Hasao, Assam- 788931- for information & necessary action.

(Shantanu Kr. Dutta)
Member Secretary

Appendix-A

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

रजिस्ट्री सं० डी० एल०-33004/99 REGD. NO. D. L.-33004/99

भारत का राजपत्र
The Gazette of India

असाधारण
EXTRAORDINARY
भाग II—खण्ड 3—उप-खण्ड (i)
PART II—Section 3—Sub-section (i)
प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 444] नई दिल्ली, सोमवार, अगस्त 25, 2014/भाद्र 3, 1936
No. 444] NEW DELHI, MONDAY, AUGUST 25, 2014/BHADRA 3, 1936

पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 25 अगस्त, 2014

सा.का.नि. 612(अ).—केंद्रीय सरकार, पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 6 और धारा 25 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, पर्यावरण (संरक्षण) नियम, 1986 का और संशोधन करने के लिए निम्नलिखित नियम बनाती है, अर्थात् :—

1. (1) इन नियमों का संक्षिप्त नाम पर्यावरण (संरक्षण)(पांचवां संशोधन) नियम, 2014 है।
(2) ये राजपत्र में प्रकाशन की तारीख को प्रवृत्त होंगे।

2. पर्यावरण (संरक्षण) नियम, 1986 में,—

(क) अनुसूची 1 में, क्रम संख्यांक 10 और उससे संबंधित प्रविष्टियों के स्थान पर, निम्नलिखित क्रम संख्यांक और प्रविष्टियां रखी जाएगी, अर्थात् :—

क्र.सं.	उद्योग	मापदंड	मानक		
(1)	(2)	(3)	(4)		
"10	सीमेंट मानक (बिना प्रसंस्करण के), एकल आधार का खंगर पिसाई संयंत्र या सम्मिश्रण संयंत्र		क. उत्सर्जन मानक		
			(i) धूर्णक भट्ठा – बिना प्रसंस्करण के		
			प्रारंभ की तारीख	स्थान	अधिकतम सान्द्रता, मि.ग्रा./एन.एम.^{3} में
			(क)	(ख)	(ग)
			अधिसूचना की	देश में किसी भी	30

			तारीख से ही	स्थान पर	(01.01.2016 से)
		विवक्त पदार्थ	अधिसूचना की तारीख से पूर्व	1.0 लाख से अधिक जनसंख्या वाले या उसके 5.0 कि.मी. परिधि के भीतर संकटकालीन प्रदूषित क्षेत्र या शहरी केंद्र	50 (01.01.2015 से)
					30 (01.06.2016 से)
				संकटकालीन प्रदूषित क्षेत्र या शहरी केंद्र से भिन्न	100 (01.01.2015 से)
					30 (01.01.2016 से)
		सल्फर डाई-आक्साइड (SO_2)	प्रारंभ की तारीख को ध्यान में रखे बिना	देश में किसी भी स्थान पर	100
		नाइट्रोजन डाई-आक्साइड (NO_2)	अधिसूचना की तारीख से ही	देश में किसी भी स्थान पर	600 (01.06.2015 से)
			अधिसूचना की तारीख से पूर्व	देश में किसी भी स्थान पर	800 (01.01.2016 से)
		(ii) उर्ध्वाकार शाफ्ट भट्ठा – (बिना प्रसंस्करण के)			
		विवक्त पदार्थ	अधिसूचना की तारीख से ही	देश में किसी भी स्थान पर	50 (01.06.2016 से)
			अधिसूचना की तारीख से पूर्व	1.0 लाख से अधिक जनसंख्या वाले या उसके 5.0 कि.मी. परिधि के भीतर संकटकालीन प्रदूषित क्षेत्र या शहरी केंद्र	100 (01.06.2015 से)
					75 (01.06.2016 से)
				संकटकालीन प्रदूषित क्षेत्र या शहरी केंद्र से भिन्न	150 (01.01.2015 से)
		सल्फर डाई-आक्साइड (SO_2)	--	--	200 (01.01.2016 से)
		नाइट्रोजन डाई-आक्साइड	--	--	500 (01.01.2016 से)

		(NO_2)			

टिप्पण :

क. प्रत्येक चिमनी की ऊंचाई, जिसके अंतर्गत खांगर पिसाई संयंत्र, कोयला मिल, अपरिष्कृत मिल, पिसाई, संवेष्टन अनुभाग, आदि भी है, अधिकतम 30 मीटर या $H = 14 (Q)^{0.3}$ सूत्र के अनुसार रहेगी, जो भी अधिक हो, जहां H चिमनी की ऊंचाई मीटर में और "Q" चिमनी के माध्यम से सल्फर डाई-आक्साइड SO_2 के अधिकतम उत्सर्जन की कि.ग्रा./प्रति घंटा प्रत्याशित मात्रा है, जो संयंत्र के शत-प्रतिशत रेटिंग क्षमता और गैस के उत्सर्जन के संनियम के अनुसार परिकलित होगी।

ख. यदि भट्ठे में खांगर बनाने के लिए पेट कोक को कोयले के साथ मिश्रित करके प्रदत्त किया जाता है या पेट कोक को ही प्रयुक्त किया जाता है तो वहां भी उपरोक्त संनियम लागू होंगे, वायु (प्रदूषण निवारण और नियंत्रण) अधिनियम, 1981 के अधीन राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति द्वारा पेट-कोक को "अनुमोदित ईंधन" अधिसूचित किया गया है।

ग. सल्फर डाई-आक्साइड SO_2 और नाइट्रोजन डाई-आक्साइड NO_2 की मानीटर किए सभी परिमाण को शुष्क आधार पर 10% आक्सीजन तक सुधार किया जाएगा। सल्फर डाई-आक्साइड SO_2 और नाइट्रोजन डाई-आक्साइड NO_2 के संनियम भट्ठे से संलग्न चिमनियों को लागू होंगे।

घ. उत्सर्जनों के मार्जन के लिए आशयित मार्जक को शमन करने के लिए प्रयुक्त नहीं किया जाएगा। ऐसे संयंत्र, जो मार्जक यूनिट के लिए गैस उत्सर्जन हेतु पृथक्त: चिमनी रखते हैं उसके चिमनी की ऊंचाई कम से कम मुख्य चिमनी की ऊंचाई के समान होगी।

ख—अपशिष्ट जल सफाई (बिना प्रसंस्करण के)

उद्योग के द्वारा आपूर्ति अपशिष्ट जल को 'शून्य निस्सारण' के लिए सभी प्रयास किए जाएंगे। उद्योग के आपूर्ति अपशिष्ट जल निस्सारण चाहने की दशा में निम्नलिखित सन्नियमों का पालन किया जाएगा :

	अधिकतम सान्द्रता, मि.ग्रा./एन.एम.^{3} (pH और तापमान के सिवाय)
pH	5.5 से 9.0
निलम्बित कण	100
तेल और ग्रीस	10
तापमान	प्रापक जल के तापमान से 5°C से अधिक उच्चतर न हो।

ग—वर्षाजल

(I) वर्षा जल को बहि:स्राव, उपचारित मल, मार्जक जल और/या तल घुलाई अपजल के साथ मिलाने की अनुमति नहीं दी जाएगी।

(II) वर्षा जल को 10 मिनट (प्रति घंटे औसत) की संग्रहण क्षमता रखने वाले प्रत्येक उच्च सघनता के बहुशिल्पी रेखा वाले गड्ढे के माध्यम से होकर गुजरने वाले प्राकृतिक ढाल के अनुरूप पृथक्कृत: नाले (नालों) को उद्योग की प्रवाह सीमाओं के भीतर उसके आवाह क्षेत्र के लिए प्रणालीकृत करके बहाया जाएगा।"।

(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 विवर्त 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 विवर्त 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

Note :—

a. The height of each stack including Clinker Grinding Plant, Coal Mill, Raw Mill, Grinding, Packaging Section, etc. shall be of a minimum of 30 metres or, as per the formula $H=14\ (Q)^{0.3}$, whichever is more, where "H" is the height of stack in metres and "Q" is the maximum quantity of SO_2 expected to be emitted in kg/hr through the stack at 100 per cent rated capacity of the plant and calculated as per the norms of gaseous emission.

b. Above norms shall be applicable even if pet-coke is mixed with coal or, used alone for clinker making in kiln provided, pet-coke has been notified as 'approved fuel' by the concerned State Pollution Control Board/ Pollution Control Committee under the Air (Prevention and Control of Pollution) Act, 1981.

c. All monitored values for SO_2 and NO_2 shall be corrected to 10% Oxygen, on dry basis. The norms for SO_2 and NO_2 shall be applicable to stacks attached to kiln.

d. Scrubber meant for scrubbing emissions shall not be used as quencher. Plants having separate stack for gaseous emission for the scrubbing unit, the height of this stack shall be atleast equal to the main stack.

(1)	(2)	(3)	(4)
		B.- Service wastewater- (without coprocessing)	
		All efforts shall be made by the industry for 'zero discharge' of service wastewater. In case, the industry prefers to discharge service wastewater, the following norms shall be complied with:	
			Concentration not to exceed, milligramme 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.- Stormwater	
		(I) Stormwater shall not be allowed to mix with effluent, treated sewage, scrubber water and/ or floor washings. (II) Stormwater within battery limits of industry shall be channelized through separate drain(s) as per natural gradient passing through high density polyethylene lined pit(s) each having holding capacity of 10 minutes (hourly average) of rainfall for its catchment area.".	

(b) in Schedule VI, under 'PART- D' relating to General Emission Standards, in item III relating to Load/Mass based standards, after serial number 9, and the entries relating thereto, the following serial number and entries shall be inserted, namely :—

(1)	(2)	(3)	(4)
"10	Cement Plants (without coprocessing)	Rotary kiln based plants (Particulate Matter from raw mill, kiln and pre-calciner system put together).	0.125 Kg/ tonne of clinker (with effect from 01.01.2017)
		Vertical shaft kiln based plants (Particulate Matter from raw mill and kiln put together)	0.50 Kg/ tonne of clinker (with effect from 01.01.2017) .".

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

DR. RASHID HASAN, Advisor

Note: —The principal rules were published in the Gazette of India vide number S.O. 844 (E), 19th November, 1986 and subsequently amended vide notifications numbers S.O. 433 (E), dated 18th April 1987; G.S.R. 97 (E), dated the 18th February, 2009; G.S.R. 149 (E), dated the 4th March , 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; and G.S.R. 325(E), dated the 7th May, 2014.

Printed by the Manager, Government of India Press, Ring Road, Mayapuri, New Delhi-110064
and Published by the Controller of Publications, Delhi-110054.

रजिस्ट्री सं० डी० एल०-33004/99 REGD. NO. D. L.-33004/99

भारत का राजपत्र
The Gazette of India

असाधारण
EXTRAORDINARY
भाग II—खण्ड 3—उप-खण्ड (i)
PART II—Section 3—Sub-section (i)
प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 330] नई दिल्ली, मंगलवार, मई 10, 2016/वैशाख 20, 1938
No. 330] NEW DELHI, TUESDAY, MAY 10, 2016/VAISAKHA 20, 1938

पर्यावरण वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 9 मई, 2016

सा.का.नि. 496(अ).—केन्द्रीय सरकार, पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 6 और धारा 25 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, पर्यावरण (संरक्षण) नियम, 1986 का और संशोधन करने के लिए निम्नलिखित नियम बनाती है, अर्थात् –

1. (1) इन नियमों का संक्षिप्त नाम पर्यावरण (संरक्षण) (चौथा संशोधन) नियम, 2016 है।

(2) ये राजपत्र में प्रकाशन की तारीख को प्रवृत्त होंगे।

2. पर्यावरण (संरक्षण) नियम, 1986 अनुसूची 1 में, क्रम संख्यांक 10 में SO_2 तथा NO_x से संबंधित प्रविष्टियों के स्थान पर निम्नलिखित प्रविष्टियों को अंत:स्थापित किया जाएगा, अर्थात्:--

<table>
<tr><th>क्रम सं.</th><th>उद्योग</th><th colspan="4">मापदंड</th><th>मानक</th></tr>
<tr><td>(1)</td><td>(2)</td><td colspan="4">(3)</td><td>(4)</td></tr>
<tr><td>"10.</td><td>सीमेंट मानक (बिना प्रसंस्करण के), एकल आधार का खंगर पिसाई संयंत्र या सम्मिश्रण संयत्र</td><td colspan="5">क. उत्सर्जन मानक</td></tr>
<tr><td></td><td></td><td colspan="5">(i) धूर्णक भट्ठा – बिना प्रसंस्करण के</td></tr>
<tr><td></td><td></td><td></td><td>प्रारंभ की तारीख</td><td>स्थान</td><td>अधिकतम सान्द्रता, मि.ग्रा. /एन एम^3 में</td></tr>
<tr><td></td><td></td><td></td><td>(क)</td><td>(ख)</td><td>(ग)</td></tr>
<tr><td></td><td></td><td>सल्फर डाईआक्साइड (SO_2) मि.ग्रा./ एन एम ^{3} में</td><td>प्रारंभ की तारीख को ध्यान में रखे बिना</td><td>देश में किसी भी स्थान पर</td><td>जब चूना-पत्थर में पाइरिटिक गन्धक क्रमश: 0.25% से कम, 0.25 से 0.5% और 0.5% से अधिक हो तो 100, 700 और 1000।</td></tr>
</table>

		नाइट्रोजन आक्साइड (NO_x) मि.ग्रा./ एन एम^3 में	अधिसूचना की तारीख के बाद (25.8.2014)	देश में किसी भी स्थान पर	(1) 600
			अधिसूचना की तारीख से पूर्व (25.8.2014)	देश में किसी भी स्थान पर	(2) इन-लाइन कैल्सिनर प्रौद्योगिकी सहित रोटरी किल्न के लिए 800। (3) आईएलसी, पृथक लाइन कैल्सिनर (एस एल सी) और सस्पेंशन प्रि-हीटर प्रौद्योगिकी या केवल एस एल सी प्रोद्योगिकी या बिना कैल्सिनर मिश्रित स्ट्रीम का उपयोग करते हुए रोटरी किल्न के लिए 1000।

(i) रोटरी किल्न के संबंध में बिना सह-प्रसंस्करण के सभी पैरामिटरों अर्थात् सल्फर डायक्साइड (SO_2), आक्साइड आफ नाइट्रोजन (NO_x) और पार्टिक्युलेट मैटर (PM) के लिए उत्सर्जन मानकों के कार्यान्वयन की समय-सीमा 31 मार्च, 2017 तक होगी।

(ii) सल्फर डायआक्साइड (SO_2) के लिए उत्सर्जन मानकों का पुनर्विलोकन इन नियमों की अधिसूचना की तारीख से पांच वर्ष की अवधि के पश्चात् पुनः किया जाएगा।

(iii) अधिसूचना संख्यां सा.का.नि. 612 (अ) तारीख 25 अगस्त, 2014 में जहां कहीं भी शब्द 'NO_2' आता है, उसके स्थान पर 'NO_x' रखा जाएगा।"।

[फा. सं. क्यू-15017/32/2007-सीपीडब्ल्यु]

डा. राशिद हसन, सलाहकार

टिप्पण :– मूल नियम भारत के राजपत्र, असाधारण, भाग II, खंड 3, उपखंड (i) में अधिसूचना संख्यांक का.आ. 844(अ), तारीख19 नवम्बर, 1986 द्वारा प्रकाशित किए गए थे और तत्पश्चात निम्नलिखित द्वारा संशोधित किए गए, अर्थात् :--

का.आ. 433(अ) तारीख 18 अप्रैल, 1987; सा.का.नि. 176(अ), तारीख 2 अप्रैल, 1996; सा.का.नि. 97(अ), तारीख 18 फरवरी, 2009; सा.का.नि. 149(अ), तारीख 4 मार्च, 2009; सा.का.नि. 543(अ), तारीख 22 जुलाई, 2009; सा.का.नि. 739(अ), तारीख 9 सितम्बर, 2010; सा.का.नि. 809(अ), तारीख 4 अक्तूबर, 2010; सा.का.नि. 215(अ), तारीख 15 मार्च, 2011; सा.का.नि.221(अ), तारीख 18 मार्च, 2011; सा.का.नि. 354(अ), तारीख 2 मई, 2011; सा.का.नि. 424(अ), तारीख 1 जून 2011; सा.का.नि. 446(अ), तारीख 13 जून, 2011; सा.का.नि. 152(अ), तारीख 16 मार्च, 2012; सा.का.नि. 266(अ), तारीख 30 मार्च, 2012; सा.का.नि. 277(अ), तारीख 31 मार्च, 2012; सा.का.नि. 820(अ), तारीख 9 नंवबर, 2012; सा.का.नि. 176(अ), तारीख 18 मार्च, 2013; सा.का.नि. 535 (अ), तारीख 7 अगस्त, 2013; सा.का.नि. 771(अ), तारीख 11 दिसम्बर, 2013; सा.का.नि. 2(अ), तारीख 2 जनवरी, 2014; सा.का.नि. 229(अ), तारीख 28 मार्च, 2014; सा.का.नि. 325(अ), तारीख 7 मई, 2014; सा.का.नि. 612(अ), तारीख 25 अगस्त, 2014; सा.का.नि. 789(अ), तारीख 11 नवम्बर, 2014 ; का. आ. 3305(अ), तारीख 7 दिसम्बर, 2015; का.आ. 4(अ), तारीख 1 जनवरी, 2016, सा.का.नि. 35(अ), तारीख 14 जनवरी, 2016 और अंत में सा.का.नि. 281(अ), तारीख 7 मार्च, 2016 द्वारा संशोधित किया गया।

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 9th May, 2016

G.S.R. 496(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. (1) These rules may be called the Environment (Protection) Fourth 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 in Schedule I, for serial number 10 and the entries relating to SO_2 and NO_x , the following shall be substituted, namely:-

S. No	Industry	Parameter	Standards		
(1)	(2)	(3)	(4)		
"10.	Cement Plant (without co processing), Standalone Clinker Grinding Plant or, Blending Plant	**A – Emission Standards**			
		(i) Rotary Kiln –without co processing			
			Date of Commissioning	**Location**	**Concentration not to exceed, in mg/Nm^3**
			(a)	**(b)**	**(c)**
		Sulphur Dioxide (SO_2) in mg/Nm^3	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.
		Oxides of Nitrogen (NO_x) in mg/Nm^3	After the date of notification (25.8.2014)	Anywhere in the country	(1) 600
			Before the date of notification (25.8.2014)	Anywhere in the country	(2) 800 for rotary kiln with In Line Calciner (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.

(i) The timeline for implementation of emission standards for all the parameters i.e. Sulphur Dioxide (SO_2), Oxides of Nitrogen (NO_x) and Particulate Matter (PM), with respect to Rotary Kiln without co-processing shall be up to the 31st March, 2017.

(ii) The emission standards for Sulphur Dioxide (SO_2) shall be reviewed after a period of five years from the date of notification of these rules.

(iii) The word 'NO_2' shall be substituted by 'NO_x' wherever it occurs in the notification vide G.S.R. 612(E) dated 25th August, 2014.".

[F. No. Q-15017/32/2007-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.

APPENDIX – C

1.66.0 STANDARDS AND GUIDELINES FOR CONTROL OF NOISE POLLUTION FROM STATIONARY DIESEL GENERATOR (DG) SETS.

(A) Notes standards for DG sets (15-500KVA)

The total sound power level LW of DG set should less than 94 + 10 log 10KVA, dB (A), at the manufacturing stage, whether; KVA is the nominal power rating of a DG set.

This level should fall by 5dB (A) every five years, till 2007, i.e. in 2002 and then in 2007.

(B) Mandatory Acoustic enclosure/Acoustic treatment of room for stationary DG sets (5KVA and above):

Noise from the DG set should be controlled by providing an acoustic enclosure on by treating the room acoustically.

The acoustic enclosure/acoustic treatment of the room should be designed for minimum 25 dB (A) insertion Loss or for meeting the ambient noise standards, which ever is on the higher side (if the actual ambient noise is on the higher side, it may not be possible to check the performance of the acoustic enclosure/acoustic treatment. Under circumstances the performance may be checked for noise reduction up to actual ambient noise level, preferably, in the night time). The measurement for insertion Loss may be done at different points at 0.5 from the acoustic enclosure/room, and then averaged. (See the Schematic Diagram).

The DG set should also be provided with proper exhaust muffler with Insertion Loss of minimum 25 dB (A).

Guidelines for the manufacturers Users of DG sets 5KVA and above:

- The manufacture should offer to the user a standard acoustic enclosure of 25dB (A). Insertion Loss and also a suitable exhaust muffler with Insertion Loss of 25dB (A).
- The user should make efforts to bring down the noise levels due to the DG set, outside his premises, within the ambient noise requirements by proper sitting and control measures.
- The manufacturer should furnish noise power levels of the unsalaried DG sets as per standards prescribed under (A).
- The total sound power level of a DG set, at the user's and, shall be within 2dB(A) of the total sound power level of the DG set, at the manufacturing stage, as prescribed under (A).
- Installation of DG set must be strictly in compliance with the recommendation of the DG set manufacture.
- A proper routines and preventive maintenance procedure for the DG set manufacturer which would help prevent noise levels of the DG set from deteriorating with use.

2.44.0 NOISE (AMBIENT STANDARDS)

Area Code	Category of Area	Limit in dB (A) Leq.	
		Day time	Night time
A.	Industrial area	75	70
B.	Commercial area	65	55
C.	Residential area	55	45
D.	Silence Zone	50	40

Note – 1 : Day time is reckoned in between 6.00 A.M. and 9.00 P.M.

Note – 2 : Night time is reckoned in between 9.00P.M. and 6.00 A.M.

Note – 3 : Silence zone is defined as areas up to 100 meters around such premises as hospitals, educational institutions and courts. The silence zones are to be declared by the competent Authority.

Note – 4 : Mixed categories of areas should be declared as one of the four above mentioned categories by the competent Authority and the corresponding standard shall apply.

Source: EPA, 1986
[GSR 7, dated Dec.22, 1998]

Source: EPA, Notification
[GSR 1063 (E), dated Dec., 26, 1998]

3.22.0 DIESEL GENERATOR SETS : STACK HEIGHT

1. The minimum stack height to be provided with each generator set shall be worked out as per the following formula: - $H = h + 0.2 \sqrt{KVA}$, where H = Total height of stack in meter.

   h = Height of the building in meters where generator set is installed.

   KVA = Total generator capacity.

   Adequate fire fighting measures have to be provided by the occupier of the premises. Based on the above formula the minimum stack height to be provided with different range of generator sets may be categories as follows:

Range of Generator sets	Minimum Stack Height
50 KVA	Ht. of the building + 1.5 metre.
50 – 100 KVA	Ht. of the building + 2.0 metre.
100 -150 KVA	Ht. of the building + 2.5 metre.
150 - 200 KVA	Ht. of the building + 3.0 metre.
200 - 250 KVA	Ht. of the building + 3.5 metre.
250 - 300 KVA	Ht. of the building + 3.5 metre.

Similarly for higher KVA rating a stack height can be worked out using the above formula.

Source : Evolved by CPCB
[Emission Regulations Part-IV: COINDS/26 1986-87]

4. A .32.0 Part – C

Sl. No. 1 Stack Gas : PM – 150 µg/Nm^3

B. Ambient Air Standards:

Residential Area	Industrial Area	Sensitive Area
SO_2 : 80* µg/m^3	120* : µg/m^3	30* : µg/m^3
NO_2 : 80* µg/m^3	120* : µg/m^3	30* : µg/m^3
CO : 2.0** µg/m^3	5.0** : µg/m^3	1.0** : µg/m^3
***24 hourly; ** 8 hourly**		

5. SCHEMATIC DIAGRAM OF D.G. SET IN AN ACOUSTIC ENCLOSURE No. Process/71/1998-99.

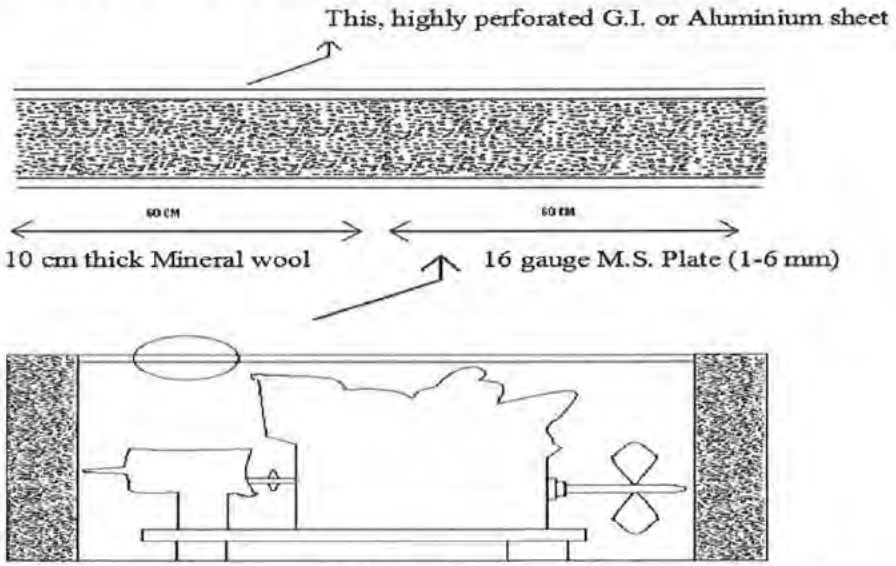


Fig. 4 Schematic Diagram of the DG set in an Acoustic Enclosure

Air required for the ventilation and breathing of the engine will have to be provided by means of intake louvers and exhaust louvers (called parallel baffie mufflers) projecting out of the enclosure.

(Shantanu Kr. Dutta)
Member Secretary
Pollution Control Board, Assam

A. **GENERAL STIPULATIIONS**

1. The issuance of this Consent does not carry any property right in either real or personal property or any exclusive privileges nor does it authorize any injury to private property nor any invasion rights nor any infringement of Central, State or Local Laws or Regulations.
2. The Consent has been given by the Board basing on the information furnished in the Consent application and the Consent will become automatically invalid if any changes or alternations or deviations except mentioned in this Consent are made in actual practice from the particulars furnished in the application form.
3. The Board reserves the right to review from time to time any of the conditions imposed in this Consent and make any reasonable variation thereof or revoke any of the conditions as it thinks fit in accordance with provisions of Air (Prevention & Control of Pollution) Act, 1981 as amended in 1987 &
4. The Consent does not authorize or approve the construction of any physical structures of facilities or undertaking or any works except to the extent of works specially instructed herein.
5. The Consent is granted subject to payment of necessary 'FEES' as per the Rule framed under Water (Prevention & Control of Pollution) Act, 1974 as amended.
6. Be it mentioned that, if any of the above conditions are not fulfilled, this consent shall be treated as cancelled.
7. The Board has the right to add, delete or modify any of the above conditions in future to protect and safeguard the environment.

B. **Duties of the Occupier – It shall be the duty of every occupier to**

1. Take all necessary steps to ensure that bio-medical waste is handled without any adverse effect to human health and environment and in accordance with these rules;
2. Make a provision within the premises for a safe, ventilated and secured location for storage of segregated biomedical waste in coloured bags or containers in the manner as specified in Schedule-I, to ensure segregated bio-medical waste in coloured bags or containers in the manner as specified in Schedule-I to ensure that there shall be no secondary handling, pilferage of recyclables or inadvertent scattering or spillage by animals and the bio-medical waste from such place or premises shall be directly transported in the manner as prescribed in Schedule-I.
3. Pre-treat the laboratory waste, microbiological waste, blood samples and blood bags through disinfection or sterilization on site in the manner as prescribed by the World Health Organization (WHO) or National AIDs Control Organization (NACO guidelines and then sent to the common bio-medical waste treatment facility for final disposal;
4. Phase out use of chlorinated plastic bags (excluding blood bags)and gloves within two years from the date of notification of these rules;
5. Dispose of solid waste other than bio-medical waste in accordance with the provisions of respective waste management rules made under the relevant laws and amended from time to time
6. Not to give treated bio-medical waste with municipal solid waste;
7. Provide training to all its health care workers and others, involved in handling of bio medical waste at the time of induction and thereafter at least once every year and the details of training programmes conducted, number of personnel trained and number of personnel not undergone any training shall be provided in the Annual Report;
8. Immunize all its health care workers and others, involved in handling of bio-medical waste for protection against diseases including Hepatitis B and Tetanus that are likely to be transmitted by handling of biomedical waste, in the manner as prescribed in the National Immunization Policy or the guidelines of the Ministry of Health and Family Welfare issued from time to time;
9. Establish a Bar- Code System for bags or containers containing bio-medical waste to be sent out of the premises or place for any purpose within one year from the date of the notification of these rules;
10. Ensure segregation of liquid chemical waste at source and ensure pre-treatment or neutralization prior to mixing with other effluent generated from health care facilities;
11. Ensure treatment and disposal of liquid waste in accordance with the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974);
12. Ensure occupational safety of all its health care workers and others involved in handling of biomedical waste by providing appropriate and adequate personal protective equipment.
13. Conduct health check up at the time of induction and at least once in a year for all its health care workers and others involved in handling of bio- medical waste and maintain the records for the same;
14. Maintain and update on day to day basis the bio-medical waste management register and display the monthly record on its website according to the bio-medical waste generated in terms of category and colour coding as specified in Schedule I;
15. Report major accidents including accidents caused by fire hazards, blasts during handling of biomedical waste and the remedial action taken and the records relevant thereto, (including nil report)in Form I to the prescribed authority and also along with the annual report;
16. Make available the annual report on its web-site and all the health care facilities shall make own website within two years from the date of notification of these rules;
17. Inform the prescribed authority immediately in case the operator of a facility does not collect the biomedical waste within the intended time or as per the agreed time;
18. Establish a system to review and monitor the activities related to bio-medical waste management, either through an existing committee or by forming a new committee and the Committee shall meet once in every six months and the record of the minutes of the meetings of this committee shall be submitted along with the annual report to the prescribed authority and the healthcare establishments having less than thirty beds shall designate qualified person to review and monitor the activities relating to bio-medical waste management within that establishment and submit the annual report;
19. Maintain all record for operation of incineration, hydro or autoclaving etc., for a period of five years;
20. Existing incinerators to achieve the standards for treatment and disposal of bio-medical waste as specified in Schedule II for retention time in secondary chamber and Dioxin and Furans within two years from the date of this notification.

C. **Treatment and disposal:**

1. Bio-medical waste shall be treated and disposed of in accordance with Schedule I, and in compliance with the standards provided in Schedule-II by the health care facilities and common bio-medical waste treatment facility.
2. Occupier shall hand over segregated waste as per the Schedule-I to common bio-medical waste treatment facility for treatment, processing and final disposal: Provided that the lab and highly infectious biomedical waste generated shall be pre-treated by equipment like autoclave or microwave.

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3. No occupier shall establish on-site treatment and disposal facility, if a service of ' common biomedical waste treatment facility is available at a distance of seventy-five kilometre.
4. In cases where service of the common bio-medical waste treatment facility is not available, the Occupiers shall set up requisite biomedical waste treatment equipment like incinerator, autoclave or microwave, shredder prior to commencement of its operation, as per the authorization given by the prescribed authority
5. Any person including an occupier or operator of a common bio medical waste treatment facility, intending to use new technologies for treatment of bio medical waste other than those listed in Schedule I shall request the Central Government for laying down the standards or operating parameters.
6. On receipt of a request referred to in sub-rule (5), the Central Government may determine the standards and operating parameters for new technology which may be published in Gazette by the Central Government.
7. Every operator of common bio-medical waste treatment facility shall set up requisite biomedical waste treatment equipment like incinerator, autoclave or microwave, shredder and effluent treatment plant as a part of treatment, prior to commencement of its operation.
8. Every occupier shall phase out use of non-chlorinated plastic bags within two years from the date of publication of these rules and after two years from such publication of these rules, the chlorinated plastic bags shall not be used for storing and transporting of bio-medical waste and the occupier or operator of a common bio-medical waste treatment facility shall not dispose of such plastics by incineration and the bags used for storing and transporting biomedical waste shall be in compliance with the Bureau of Indian Standards. Till the Standards are published, the carry bags shall be as per the Plastic Waste Management Rules, 2016.
9. After ensuring treatment by autoclaving or microwaving followed by mutilation or shredding, whichever is applicable, the recyclables from the treated bio-medical wastes such as plastics and glass shall be given to such recyclers having valid authorization or registration from the respective prescribed authority.
10. The Occupier or Operator of a common bio-medical waste treatment facility shall maintain a record of recyclable wastes referred to in sub-rule (9) which are auctioned or sold and the same shall be submitted to the prescribed authority as part of its annual report. The record shall be open for inspection by the prescribed authorities.
11. The handling and disposal of all the mercury waste and lead waste shall be in accordance with the respective rules and regulations.

D. **Segregation, packaging, transportation and storage:**

1. No untreated bio-medical waste shall be mixed with other wastes.
2. The bio-medical waste shall be segregated into containers or bags at the point of generation in accordance with Schedule I prior to its storage, transportation, treatment and disposal.
3. The containers or bags referred to in sub-rule (2) shall be labelled as specified in Schedule IV.
4. Bar code and global positioning system shall be added by the Occupier and common bio-medical waste treatment facility in one year time.
5. The operator of common bio-medical waste treatment facility shall transport the bio-medical waste from the premises of an occupier to any off-site bio-medical waste treatment facility only in the vehicles having label as provided in part 'A' of the Schedule IV along with necessary information as specified in part 'B' of the Schedule IV.
6. The vehicles used for transportation of bio-medical waste shall comply with the conditions if any stipulated by the State Pollution Control Board or Pollution Control Committee in addition to the requirement contained in the Motor Vehicles Act, 1988 (59 of 1988), if any or the rules made thereunder for transportation of such infectious waste.
7. Untreated human anatomical waste, animal anatomical waste, soiled waste and, biotechnology waste shall not be stored beyond a period of forty –eight hours: Provided that in case for any reason it becomes necessary to store such waste beyond such a period, the occupier shall take appropriate measures to ensure that the waste does not adversely affect human health and the environment and inform the prescribed authority along with the reasons for doing so.
8. Microbiology waste and all other clinical laboratory waste shall be pre-treated by sterilization to Log 6 or disinfection to Log 4, as per the World Health Organization guidelines before packing and sending to the common bio-medical waste treatment facility.
9. All plastic bags shall be as per BIS standards as and when published, till then the prevailing Plastic Waste Management Rules shall be applicable.
10. Chemical treatment using at least 1-2% Sodium Hypochlorite having 30% residual chlorine for twenty minutes or any other equivalent chemical reagent that should demonstrate $Log_{10}4$ reduction efficiency for microorganisms.
11. Mutilation or shredding must be to an extent to prevent unauthorized reuse.
12. There will be no chemical pre-treatment before incineration, except for microbiological, lab and highly infectious waste.
13. Incineration ash (ash from incineration of any bio-medical waste) shall be disposed through hazardous waste treatment, storage and disposal facility, if toxic or hazardous constituents are present beyond the prescribed limits as given in the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008 or as revised from time to time.
14. Dead Futes below the viability period (as per the Medical Termination of Pregnancy Act 1971, amended from time to time) can be considered as human anatomical waste. Such waste should behanded over to the operator of common bio-medical waste treatment and disposal facility in yellow bag with a copy of the official Medical Termination of Pregnancy certificate from the Obstetrician or the Medical Superintendent of hospital or healthcare establishment.
15. Cytotoxic drug vials shall not be handed over to unauthorized person under any circumstances. These shall be sent back to the manufactures for necessary disposal at a single point. As a second option, these may be sent for incineration at common bio-medical waste treatment and disposal facility or TSDFs or plasma pyrolysis is at temperature $>1200^0C$.
16. Residual or discarded chemical wastes, used or discarded disinfectants and chemical sludge can be disposed at hazardous waste treatment, storage and disposal facility. In such case, the waste should be sent to hazardous waste treatment, storage and disposal facility through operator of common bio-medical waste treatment and disposal facility only.
17. On-site pre-treatment of laboratory waste, microbiological waste, blood samples, and blood bags should be disinfected or sterilized as per the Guidelines of World Health Organization or National AIDS Control Organization and then given to the common bio-medical waste treatment and disposal facility.
18. Installation of in-house incinerator is not allowed. However in case there is no common biomedical facility nearby, the same may be installed by the occupier after taking authorization from the State Pollution Control Board.
19. Syringes should be either mutilated or needles should be cut and or stored in tamper proof, leak-proof and puncture proof containers for sharps storage. Wherever the occupier is not linked to a disposal facility it shall be the responsibility of the occupier to sterilize and dispose in the manner prescribed.

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20. Bio-medical waste generated in households during healthcare activities shall be segregated as perthese rules and handed over in separate bags or containers to municipal waste collectors. Urban Local Bodies shall have tie up with the common bio-medical waste treatment and disposal facility to pick up this waste from the Material Recovery Facility (MRF) or from the house hold directly, for final disposal.
Disposal by deep burial is permitted only in rural or remote areas where there is no access to common biomedical waste treatment facility. This will be carried out with prior approval from the prescribed authority and as per the Standards specified in Schedule-III. The deep burial facility shall be located as per the provisions and guidelines issued by Central Pollution Control Board from time to time.

E. Biomedical wastes categories and their segregation, collection, treatment, processing and disposal options

1. The applicant shall adhere to all procedures in handling the bio-medical wastes during incineration, segregation, packaging, transportation, storage, treatment and disposal for safe management of bio-medical wastes as per Bio-Medical Waste (Management & Handling) Rule, 2016.
2. The incinerator should be installed at appropriate location away from the neighbourhood.
3. The Health Care Facilities shall treat their wastes as per following guidelines: -

Category	Type of Waste	Type of Bag or Container to be used	Treatment and Disposal options
(1)	(2)	(3)	(4)
Yellow	(a) Human Anatomical Waste: Human tissues, organs, body parts and fet us below the viability period (as per the Medical Termination of Pregnancy Act 1971,amended from time to time)	Yellow coloured non-chlorinated plastic bags	Incineration or Plasma Pyrolysis or deep burial
	(b)Animal Anatomical Waste : Experimental animal car cases, body parts, organs, tissues, including the waste generated from animals used in experiments or testing in veterinary hospitals or colleges or animal houses.		
	(c) Soiled Waste: Items contaminated with blood, body fluids like dressings, plaster casts, cotton swabs and bags containing residual or discarded blood and blood components.		Incineration or Plasma Pyrolysis or deep burial* In absence of above facilities, autoclaving or micro-waving/ hydroplaning followed by shredding or mutilation or combination of sterilization and shredding. Treated waste to be sent for energy recovery.
	(d) Expired or Discarded Medicines: Pharmaceutical waste like antibiotics, cytotoxic drugs including all items contaminated with cytotoxic drugs along with glass or plastic ampoules, vials etc.	Yellow coloured non-chlorinated plastic bags or containers	Expired 'cytotoxic drugs and items contaminated with cytotoxic drugs to be returned back to the manufacturer or supplier for incineration at temperature>1200 ^{0}C or to common bio-medical Waste treatment facility or hazardous waste treatment, storage and disposal facility for incineration at >1200^{0}C Or Encapsulation or Plasma Pyrolysis
			at>1200^{0}C.All other discarded medicines shall be either sent back to manufacturer or disposed by incineration.
	(e) Chemical Waste: Chemicals used in production of biological and used or discarded disinfectants.	Yellow coloured Containers or non-chlorinated plastic bags.	Disposed of by incineration or Plasma Pyrolysis or Encapsulation in hazardous waste treatment, storage and disposal facility.
	(f) Chemical Liquid Waste : Liquid waste generated due to use of chemicals in production of biological and used or discarded disinfectants, Silver X-ray film developing liquid, discarded Formal in, infected secretions, aspirated body fluids, liquid from laboratories and floor washings, cleaning, house-keeping and disinfecting activities etc.	Separate collection system leading to effluent treatment system.	After resource recovery, the chemical liquid waste shall be pre-treated before mixing with other wastewater. The combined discharge shall conform to the discharge norms given in Schedule-III.
	g) Discarded linen, mattresses, beddings contaminated with blood or body fluid, routine mask, gown.	Non-chlorinated yellow plastic bags or suitable packing material.	Non-chlorinated chemical disinfection followed by incineration or Plazma Pyrolysis or for energy recovery. In absence of above facilities, shredding Or mutilation or combination of sterilization and shredding. Treated waste to be sent for energy recovery or incineration or Plazma Pyrolysis.
	(h) Microbiology, Biotechnology and other clinical laboratory waste: Blood bags, Laboratory cultures, stocks or specimens of microorganisms, live or attenuated vaccines, human and animal cell cultures used in research, industrial laboratories, production of biological, residual toxins, dishes and devices used for cultures.	Autoclave or Microwave or Hydro clave safe plastic bags or containers.	Pre-treat to sterilize with non-chlorinated chemicals on-site as per National AIDS Control Organization or World Health Organization guidelines thereafter for Incineration.

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Red	Contaminated Waste(Recyclable) (a) Wastes generated from disposable items such as tubing, bottles, intravenous tubes handsets, catheters, urine bags, syringes (without needles and fixed needle syringes) and vacutainers with their needles cut) and gloves.	Red coloured no chlorinatedplastic bags or containers.	Autoclaving or micro-Waving/hydroplaning followed by shredding or mutilation or combination of sterilization and shredding. Treated waste to be sent to registered or authorized recyclers or for energy recovery or plastics to diesel or fuel oil or for road making, whichever is possible. Plastic waste should not be sent to landfill sites.
White (Translucent)	Waste sharps including Metals: Needles, syringes with fixed needles, needles from needle tip cutter or burner, scalpels, blades, or any other contaminated sharp object that may cause puncture and cuts. This includes both used, discarded and contaminated metal sharps	Puncture proof, Leak proof, tamper proof containers.	Autoclaving or Dry Heat Sterilization followed by shredding or mutilation or encapsulation in metal container or cement concrete; combination of shredding cum autoclaving; and sent for final disposal to iron foundries (having consent to operate from the State Pollution Control Boards or Pollution Control Committees) or sanitary landfill or designated concrete waste sharp pit.
Blue	(a) Glassware: Broken or discarded and contaminated glass including medicine vials and ampoules except those contaminated with cytotoxic wastes.	Puncture proof and Leak proof boxes or containers with blue coloured marking.	Disinfection (by soaking the washed glass waste after cleaning with detergent and Sodium Hypochlorite Treatment) or through autoclaving or microwaving or hydro claving and then sent for recycling.
	(b) Metallic Body Implants	Puncture proof and Leak proof boxes or containers with blue coloured marking.	

F. **INCINERATION:**

All incinerators shall meet the following operating and emission standards-

a)Operating Standards:

1. Combustion efficiency (CE) shall be at least 99.00%.
2. The temperature of the primary chamber shall be a minimum of 800 ^{0}C and the secondary chamber shall be minimum of 1050^{0}C + or - 50^{0}C.
3. The secondary chamber gas residence time shall be at least two seconds.

b) Emission Standards:

Sl. No.	Parameter	Standards	
		Limiting concentration in mg per Nm^3 unless stated	Sampling Duration in minutes, unless stated
1.	Particulate matter	50	30 or 1NM^3 of sample volume, whichever is more
2.	Nitrogen Oxides NO and NO_2 expressed as NO_2	400	30 for online sampling or grab sample
3.	HCl	50	30 or 1NM^3 of sample volume, whichever is more
4.	Total Dioxins and Furans	0.1ngTEQ/Nm3(at 11%O2)	8 hours or 5NM^3 of sample volume, whichever is more
5.	Hg and its compounds	0.05	2 hours or 1NM3 of sample volume, whichever is more

c) Minimum stack height shall be 30 meters above the ground and shall be attached with the necessary monitoring facilities as per requirement of monitoring of 'general parameters' as notified under the Environment (Protection) Act, 1986 and in accordance with the Central Pollution Control Board Guidelines of Emission Regulation Part-III

G. **STANDARDS FOR LIQUID WASTE:**

1. The effluent generated or treated from the premises of occupier or operator of a common biomedical waste treatment and disposal facility, before discharge into the sewer should conform to the following limits.

PARAMETERS	PERMISSIBLE LIMITS
P^H	6.5-9.0
Suspended solids	100 mg/l
Oil and grease	10 mg/l
BOD	30 mg/l
COD	250 mg/l
Bio-assay test	90% survival of fish after 96 hours in 100% effluent.

2. Sludge from Effluent Treatment Plant shall be given to common bio-medical waste treatment facility for incineration or to hazardous waste treatment, storage and disposal facility for disposal.

(Shantanu Kr. Dutta)

Member Secretary

Pollution Control Board assam

Annexure-XIV

Activity wise expenditure detail of plant EC commitment

SL No	Activity	Location	Expenditure (Lakh)	
			2021-22	2022-23
1	Bamboo plantation	Mirphung, Chotolobang, Rongmepi, Dorbin, Kekrangsip, Waridiplai, Sibraidisa, Nobodi Longukro and	16.4	23.1
2	Plantation and beautification of school campus	school, Dimarazi school, Karbi club, Renbonghom school and Umrangso 19 KM school	9.66	7.05
3	Community Hall Construction	Kamala Bagan, Umrangso 19 KM	18.96	23.83
4	Sports gallery construction	Dithur playground	11.93	
5	Construction of cultural stage	Chotolanglai playground		7.9
6	Boundary wall construction of school	Umrangso 19 KM L P school, Thongnokbe M.E school, Langmeklu	13.23	16.17
7	Mid-day meal cooking house	Umrangso 19 KM L P school	12.23	
8	Construction of new school building	Dithur L.P school		16.15
9	Construction of spring water storage tank	Amramlangso & New Borolarpheng	12.62	
10	Water Tanker for community service	Near by village	26.95	
11	Village road development	Umrangso 19 KM to Hanjanglangso, Hanjanglangso to Boro Tungkrung	19.5	24.18
12	Solar Street installation	Langcherui, Hanjanglangso, Dithur	2.5	
13	Skill training for local youths	Nagaon ITI	7.14	
14	Scholarship to meritorious and economicall weaker students	Villages of Umrangso	3.6	4
15	Ring well construction- 6 Nos	Langcherui, Hanjanglangso, Borolokhindong, Thrvelangso, Khrongma	7.2	
		Total Expenditure	161.92	122.38
		Grand Total	284.3	

Activities undertaken as public commitments from Oct 2023-Mar 2024

SL No	Name of activities	No. of units	Location	Expenditure
1	Construction of boundary wall of school	1 No	Thongnokbe M.E school	1616600
2	Construction of Toilet block in school	1 No	Umrongso 19 kilo L.P school	667837
3	Construction of Toilet block in school	1 No	Bhanuprakash M.E school, Govinda Nagar	540000
4	Construction of school building	1 Nos	Renbonghom English school, Borolanglai	2370239
5	Donation of chairs to school	200 Nos	J.B Hagjer Sr. secondary school, Umrangso	130744
6	Village road development	3000 Meter	Hanjanglangso to Boro Tungkrung	2417817
7	Raising of homestead garden for SHG women	570 Nos	Langcherui, Dithur, Waridiplai, Dorbin, Longrung, Miyungpur, Amramlangso, Hanjanglangso, Umrangso 19 KM and Langmeklu	171000
8	Support to piggery farmers	137 Nos	Langcherui, Dithur, Waridiplai, Dorbin, Longrung, Miyungpur, Amramlangso, Hanjanglangso, Umrangso 19 KM and Langmeklu	61495
9	Training on Goatry for livelihood to farmers	4 Nos	Langcherui, Dithur, Waridiplai, Dorbin, Longrung, Miyungpur, Amramlangso, Hanjanglangso, Umrangso 19 KM and Langmeklu	12000
10	Celebration of international women's day	1 No	Officers' club, Umrangso plant	10000
	Total			7997732

Some of the Photographs of the activities

Boundary wall construction in Thongnokbe M.E school, Langmeklu


School building constructed in Renbonghom English school, Borolanglai


Toilet Blocks in schools- Umrangso 19 KM L.P school


Donation chairs to J.B Hagjer Sr. secondary school, Umrangso


Village road development from Hanjanglangso to Boro Tungkrung


Homestead garden developed by SHG members

Training on Goatry for the farmers of villages

Celebration of international women’s