



MEGHALAYA CEMENTS LIMITED

CIN- U26942ML2003PLC007125

Ref: MCL/ENV/MsPCB/Compliance/11-01/2016-17

Date:-28/11/2016

To

The Member Secretary Meghalaya State Pollution Control Board, 'ARDEN' LYMPYNGGAD Meghalaya, Shillong

Sub:- Submission of half yearly compliance report.

Dear Sir,

We are hereby furnishing the half yearly compliance report (hard copy and soft copy) for the period from June'2016 to Nov'2016 on Environmental Stipulation for Expansion of Cement Plant (from 900 TPD to 2600 TPD) along with 10MW Captive Power Plant at Village- Thangskai, East Jaintia Hills District, Meghalaya, vide your Environment Clearance letter no SEIAA/PROJECT-2/2007/18 dated: 25th March'2009.

This is for your kind information and perusal. You are requested to kindly acknowledge the receipt of the same.

Thanking You,

Yours Faithfully. For Meghalaya Cements Limited

(Authorized Signatory)

Enc: As stated above

Copy to:

1) The Joint Director (S), Ministry of Environment and Forest, North Eastern Regional Office Shillong, Meghalaya.

2) The Member Secretary, State Environment Impact Assessment Authority, Shillong







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MEGNALAYA, SHILLONG





Half yearly Compliance Report on Environmental Stipulations for Expansion of Cement Plant (from 900 TPD-2600 TPD), along with 10 MW Captive Power Plant at Thangskai, Jantia Hills District by M/s Meghalaya Cements Ltd. - Environmental Clearance Letter No. SEIAA/PROJECT-2/2007/18; Dated 25th March 2009.

3	. as per letter dated	Action to be taken	Compliance		
	.2009 of State				
4	onment Impact				
	ssessment Authority				
SPEC	IFIC CONDITIONS				
(i)	A stack of 100 m height	The online	Complied with.		
	shall be provided with	monitoring system	A stack of 100m is		
	continuous on-line	(CEMS) of our	provided and opacity		
	monitoring system in	stacks has been	meter for continuous		
	respect of Thermal Power	commissioned and	online monitoring		
	Plant [TPP] The data	working properly.	(CEMS) is provided. The		
2	collected shall be		data transmission of		
	analyzed and submitted		online data to MsPCB		
	regularly to the	The state of the s	and CPCB are being		
	Meghalaya State		monitored in the		
	Pollution Control Board.		system.		
(ii)	High efficiency	ESPs being installed	Complied with.		
	Electrostatic	are to be certified by	ESP is provided for		
	Precipitators [ESPs] of	a third party for	thermal power plant		
	not less than 99.98%	99.98% efficiency	and it is working		
	efficiency shall be	and emission level	satisfactorily.		
	installed in the TPP to	to be max. 50	ū		
The second secon	limit particulate emission	mg/Nm ³ .			
	to 50 mg/Nm ³				
(iii)	Sorbent limestone shall	Such limestone is	Complied with.		
	be fed (12% of coal by	being used in the	We have provision for		
	weight) along with coal in	process.	lime feeding in boiler		
	the boiler of the TPP to		and feeding the lime		
-	reduce formation of SOx		through over bed		
Albeitenississe	and thus help neutralize		feeding system to		
	the impact of sulphur in	eg:	reduce the formation of		
- continue de la cont	coal.		Sox.		
			We are using limestone		
Williams and a second			for above purpose, as		
The state of the s		AL SO	and when required for		
		(8) MJ (8)	the process.		
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(iv)	Space provision shall be made for Flue Gas Desulphurisation [FGD] unit of requisite efficiency for removal of SO2 when required at a later stage.	At the project stage Flue Gas De- sulphurisation provision to be made	Complied with. Provision for flue gas De-sulphurisation has made at kiln inlet and system is in use.
(v)	Dust extraction and suppression system along with water sprinklers shall be provided for controlling fugitive dust during transportation, in coal storage area and other vulnerable area of the TPP.	Mist type water sprinklers shall be provided.	Complied with. We have made the provision of water sprinkling system at coal storage area and other vulnerable area of TPP.
(vi)	Water requirement for the Thermal Power Plant shall be met from the existing water source. No ground water shall be extracted for the power plant at any stage.	No ground water is applicable in our system.	Complied with. No extraction of ground water.
(vii)	Closed Cycle Cooling system with induced draft cooling towers shall be provided in the Thermal Power Plant.	To confirm in the project proposal.	Complied with. Closed cycle cooling system has been adopted and recirculation of cooling water is being practice.
(viii)	Fire protection system shall be made in coal stock yard and other vulnerable areas of the TPP. Fire protection equipment and machinery should be tested periodically and shall always be kept in operational mode. Mock drills shall be conducted regularly.	Suitable water hydrant systems for fire protection shall be provided. Mock drills shall be conducted regularly.	Complied with. Regular safety training is being provided. Fire protection system along with fire extinguisher of various types is already installed within the entire premises as well as other vulnerable areas of TPP. The fire protection equipments and machineries are being tested
		THANGSKAI)	periodically and kept in operation mode. Mock

(ix)	The treated effluents shall be re-circulated and reused within the plant area. There shall be no waste water discharge outside the plant boundary.	Arrangements to be made at the project stage.	drills also conducting every year by our Safety & Vigilance Department. Details of Mock drills and trainings are attached herewith. Annexure-1 Complied with. The treated water is being utilized for greenbelt development around the plant and colony. Also a groundwater sump is made for recycle/Treatment.
(x)	Rain water harvesting shall be practiced. A detailed scheme for rain water harvesting to recharge the ground water aquifer shall be prepared in consultation with Central Ground Water Authority/State Ground Water Board within six months of receipt of Environmental Clearance.	Rain water harvesting scheme preparation in consultation with Central Ground Water Authority/State Ground Water Board.	Partially Complied with. We are in process to upgrade the system. Scheme for rain harvesting pit is already made, the lay out copy is submitted earlier. The method of water collecting also in process.
(xi)	Permission for drawal of water of the required quantity from the streams in favor of the Cement – Thermal Power Plant complex shall be secured from the competent Authority within 6 (six) months of receipt of Environmental Clearance.	Permission for drawal of water.	Complied with. Permission for drawing of water has been obtained from Executive Engineer (Irrigation), Jaintia Hills Dist; vide letter no.AID (J) 223/2007-2008, Dated Jowai 24/03/08 was enclosed earlier.

vel in TTP s is under limit. ry PPEs to
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are being
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(xiv)	Dry ash collection system shall be provided in the Thermal Power Plant. 100% ash utilization shall be ensured from the very first day of commissioning of the Thermal Power Plant.	Dry ash collection and transportation system to be given in the project.	Complied with. The fly ash generated in our Thermal Power Plant is completely collected by the ESP to its hoppers and it is being loaded into tankers for feeding to cement mill hoppers pneumatically. Hence 100% consumption of the ash generated is achieved in our cement plant.
(xv)	The stack emission from various sources shall not exceed 50 mg/Nm3	The regular monitoring to be done by Environment Department.	Complied with. (Six month's report is enclosed) as an Annexure- II
(xvi)	The project proponent shall get the optimum functioning of the environmental protection equipment certified by a technical institution of repute.	The necessary certification of Pollution Equipment to be done.	Complied with. Performance assessment has been conducted as per as the norms by the NCCBM, New Delhi, Authorities. The test results is been enclosed along with it. Further we are in process to increase the efficiency. Annexure-III
(xvii)	Bag House/Filters shall be provided to control the fugitive emission during loading and unloading of raw materials/intermediate and finished products.	Fugitive emission while loading and unloading of raw materials etc.	Complied with. Nuisance bag filters has been provided to control fugitive emission at Raw Mill, Coal Mill, Kiln and Cement mill. And water sprinkler has also install at transportation area, Coal storage area and other vulnerable area of the plant.

(xviii)	The project proponent shall store all the raw materials except limestone in covered sheds to control fugitive emission. The coal storage facility should have water sprinkling facility in order to arrest	Suitable sheds if necessary further sheds are to be constructed at the project stage itself.	Complied with. Proper water sprinkling on the places of fugitive dust generation is implemented and controlled.
(xix)	fire hazard, if any. The ambient air quality monitoring stations shall be set up as per statutory requirement in consultation with the Meghalaya State Pollution Control Board (MSPCB) and additional stations shall be installed, in the downwind direction as well as where maximum Ground level concentrations are anticipated.	The ambient air quality monitoring has to be done and if necessary additional monitoring stations to be purchased.	Complied with. Ambient Air Quality monitors – Installed as required having one point at crusher area where maximum concentration is anticipated. (Six month's report is enclosed) Annexure-II
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Quarterly reports on emission levels, surface and ground water quality shall be submitted to Meghalaya State Pollution Control Board, Chromium (VI) level in nearby surface water bodies flowing in the eastern site of the Plant, and ground water shall be monitored and reported to the MSPCB. Water in the Common Effluent Pit of the TPP shall be monitored monthly for Chromium (VI) toxicity and ensured that its level dose not rise beyond 0.05 mg/t.

(XX)

Emission levels, surface and water quality shall be submitted to MSPCB

Quarterly reports on Testing for Chromium (VI) level in nearby surface water bodies monitoring.

Monthly monitoring of Chromium (VI).in effluent pit.
Provision of effluent treatment plant.

Complied.

Monitoring of surface water from River pumped to CPP and ground water from water harvesting pit near primary crusher is being tested and reports submitted to MsPCB, Chromium (VI) level testing from the effluent is also been tested on monthly basis and reports are attached herewith.

Annexure-IV



Total water requirement shall not exceed 2000 cum/day linclusive of the water requirement of the TPP]. The project proponent shall install sewage treatment plant of minimum 120 m³ /day capacity employing suitable and appropriate technology to treat domestic sewage and treated sewage shall be utilized for green belt development. No waste water shall be discharged outside the premises and zero discharge shall be ensured. No surface runoff from the factory premises shall either reach/contaminate Umlunar River or any other stream flowing near the industrial location.

(xxi)

Total water requirement shall not exceed 2000cum/day including TPP and zero discharge shall be ensured.

Complied.

We are regularly intimating the water consumption reports to the Board and consuming water under the limit. (Half yearly report is enclosed) *Annexure-II*



[A	731	TTAILL ALL CITE	D4:-11 O1:-1
(xxii)	The project proponent	Utilization of high	Partially Complied
	shall make all out effort	calorific value	with.
	to use high calorific value	hazardous waste -	We have made the
	hazardous waste in the	refer MePCB letter	provision to feed
	kiln towards which	dated 14.04.2009	manually hazardous
	necessary provision shall	on the subject.	waste in pre- calciner.
	be made.		We have conducted the
			trail, we found SO ₃
			Content is very high
			percentage and also
			damaged our Pyro-
			Process and
			equipments is been
			coated. That report is
			also been included in
			an Annexure - V
			Further we are also
			1
			collecting saw dust
			from nearby locations
*			to take trails in kiln.
4			NB: The third party
			also have conducted
			the tests, found the
			same results with
			little variation.
(xxiii)	The project proponent	Transportation of	Complied with.
	shall transport raw	raw materials by	Raw materials like coal
	materials and industrial	covered means.	and industrial products
	products through		like clinker are being
	covered means.		transport from one
			location to other
		The state of the s	location by properly
			covered with tarpaulin
			to avoid any spreading
			of fugitives.
9		and the state of t	
		(BOLDE)	
		W M	TOTAL
		(E) THANGERA (O)	
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Thirty three percent of the core project area i.e. 20.143 Ha of land shall be developed as green belt by the project proponent as per the guidelines of Central Pollution Control Board to mitigate the effect of fugitive emission, incurring the expenditure as stated by the project proponent. The program ought to be completed within 5 years from the date of issue of prior Environmental Clearance, Suitable species in respect of the same for the stated area shall be approved by the project proponent from the DFO (Territorial) of Jaintia Hills District.

(XXIV)

Development of green belt up to 33% of the project area i.e. 20.143 Ha of land shall be developed as green belt.

Complied with.

Development of Green belt has been started since 2009and 100% of the project area (i.e. 20.44 Ha) plantation has already been completed. Suitable local species are being planted as per the suggestions given by the Sr. Engineer, (CPCB) & DFO (Territorial), East Jaintia hills Dist. Jowai. The details are enclosed herewith.

Annexure - VI



(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)			
(8380)	The project proponent shall provide a Health Care Center with all emergency medicines and ambulance along with regularly serving doctors complete with emergency unit that would function round the clock. Occupational health surveillance of the workers shall be carried out on a regular basis and records shall be maintained in compliance of provisions contained on Chapter III and V of the Factories Act, 1948.	Provision of Health Care Centre.	Complied with. The Health Care Centre is functioning under qualified Doctor, Nurses and staffs. We have also an Ambulance facility to meet up the emergency.
(xxvi)	The salaries of the Cleaners shall be raised by 30% from the present Rs.2500/- p.m. as assured by the project proponent at p.0.15 of the EIA/EMP report in response to concern raised during the Public Hearing.	Annual review is completed increments given to employees and this has reflected in salary.	Complied with. The salaries of Cleaners have arisen. The details are attached herewith. Annexure-VII
(xxvii)	Measures shall be taken to prevent impact of particulate emission/fugitive emission, if any, from the proposed plant on the surrounding private forest areas depicted in their land use study.	We are taking preventive measures for emission of particulate matters to the surrounding private forest area.	Complied with. Necessary measures such as bag filter maintenance, dust separation is being practiced. We are planning for Ambient Air Quality Analysis nearby plant area to verify the air quality.

(Naviii) The project proponent shall take all such measures as are necessary in the matter of utilization of limestone towards ensuring that no unscientific extraction of limestone is encouraged in the process.

This is regarding purchase of lime stone.

Complied with.

During the renewal of mines lease, we are in practice with to verify the environmental clearance.

(xxix) | Meghalaya has been recognized as a cradle for several endemic species and an important constituent of the biodiversity hotspots spread over North East India. Therefore, as a measure of protection of rich biodiversity of the region, the project proponent shall cover an area of not less than 2 ha where would be located green house, mist chamber etc. (within the green belt area already stipulated above), locate conservation plots in respect of at least two of the following species of endangered and endemic plants reported to have been occurring within the region:

i) Pteracanthus griffithianus, Acanthaceae

- ii) Nepenthes Khasiana, Nepenthaceae
- iii) Argostemma khasianum, Rubiaceae
- iv) Fimbristylish nigrobrunnea,

Protection of biodiversity of the region and provision of green house etc. A scheme with the help of Botanical Survey of India to be made and activity to be made and activity to be shown within one vear.

Partially complied with.

We have started the work in coordination with NEHU, Shillong. The NEHU have already appointed a Project Fellow for the Project and he is now working at our site. TOR has been attached for your kind reference and progress will be updated time to time.

Annexure -VIII



Cyperaceae v) Trivalvaria kanjilali, Annonaceae vi) Begonia rubrovenia, Begoniaceae vii) Ceologyne ovalis, Orchidceae		ys.
A scheme /conceptual plan of raising such threatened species shall be prepared in consultation with a reputed institution such as Botanical Survey of India complete with cost and activity schedule within one year from date of issue of prior Environmental Clearance.		
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The project proponent (XXX) shall sponsor research and development for conservation of threatened category of species occurring locally such Hedychium dekianum, [Zingiberaceae], Cymbidium eburneum (Orchidceae), or Dendrobium denonianum (Orchidceae) which would be carried out by an appropriate research or academic institution located in Meghalaya within a year of issue of prior Environmental Clearance. The research project shall be instituted

> at an expenditure of a minimum of Rs.5 lakh per year spread over at

least 3 years.

Research and
Development Project
for conservation of
threatened category
of species – with the
help of Research or
Academic
Institution of
Meghalaya to be
done.

Partially complied with.

We have started the work in coordination with NEHU, Shillong. The NEHU have already appointed a Project Fellow for the Project and he is now working at our site. TOR has been attached for your kind reference and progress will be updated time to time **Annexure -VIII**

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	A Conservation Plan for conservation of wild fauna in consultation with a reputed institution such as Wildlife Institute of India, Dehradun shall be prepared and implemented. Such conservation plan drawn in respect of wild life shall be completed within a maximum of 1 year from the date of issue of prior Environmental Clearance and implemented thereafter by the project proponent.	Conservation of wild fauna – the plan to be made with the help of Wildlife Institute of India, Dehradun and submit.	Partially complied with. We have started the work in coordination with NEHU, Shillong. The NEHU have already appointed a Project Fellow for the Project and he is now working at our site. TOR has been attached for your kind reference and progress will be updated time to time Annexure –VIII
(xxxii)		Capital expenditure and revenue expenditure of the project and environment.	Complied with. An expenditure detail is enclosed herewith. Annexure -IX
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A sum of Rs.50 lakh shall be utilized annually by the project proponent till the project subsists towards socioeconomic/ecodevelopment activities in the area part of which shall be spent towards distribution of free medicines, malaria eradication program etc. in the nearby villages. A portion of the sum (5%) shall be set apart annually towards creation of employees' welfare fund. Details of expenditure incurred under this Para shall form part of the compliance report to be submitted to the SEIAA/SEAC. Further, a comprehensive long term eco-development plan shall be prepared by the project proponent within six months of receipt of prior Environment Clearance.

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Socio-Economic development.
An eco-development plan to be prepared and submitted.

Complied with.
Implementation done and the expenditure details are enclosed

herewith. Annexure -X



A GENERAL CONDITIONS

In respect of the Cement Plant – Thermal Power Plant project the following general conditions shall be adhered to by the project proponent:

	The project proponent shall strictly adhere to the stipulations of the MSPCB/State Government or any other statutory body as framed/modified from time to time.	Following the stipulation of MSPCB.	Complied.
(ii)	At no point of time, either the clinker production or cement production of either PPC or OPC type shall exceed the limit of 2600 tons per day.	Limits of production capacity.	Agreed for compliance.
(iii)	No further expansion or modification in the plant shall be carried out without prior approval of the Ministry of Environment & Forests or their nominated authority as the case may be. In case of deviation or alteration in the project proposal from those submitted to the Committee for clearance, a fresh reference shall be made to the SEAC through SEIAA to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	No further expansion or modification without clearance.	Agreed for compliance.

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	The gaseous emissions (SO2, NOx) and particulate matter levels from various process units shall conform to the standards prescribed by the concerned authorities from to time. At no point of time, the emissions shall exceed the prescribed limits. Interlocking system of equipment shall be chosen such that in the event of failure of any pollution control system adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.	Interlocking system of machines to control SO2, NOx levels in case of failure.	Complied. ABB make SCADA based Interlocking is in system and working properly.
(v)	The project authorities should adhere to the provisions stipulated in the fly ash notification of September, 1999 as amended in August, 2003 with regard to fly ash utilization.	Adhering to the provision in the fly ash notification.	Complied with. The fly ash generated in our Thermal Power Plant is completely collected by the ESP to its hoppers and it is being loaded into tankers for feeding to cement mill hoppers pneumatically. Hence 100% consumption of the ash generated is achieved in our cement plant.

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	The industry shall undertake the following waste minimization measures: • Reuse of byproducts from the process as raw materials or as raw material substitutes in other process. • Use of closed pneumatic system for transport of fine material. • All venting systems shall be connected with dust or particulate arresting equipments. • Dust/particulate matter collected in pollution control equipments shall be reused.	It is an ongoing process and has been implemented.	Complied with. We are not generating any kind of by product in our plant. Closed pneumatic system is installed for transport of the fine material in the manufacturing process. All venting systems are connected with dust or particulate arresting equipments such as Bag Filters.
(vii)	Fugitive emissions in the work zone environment, product and raw materials storage area shall be regularly monitored. The emissions shall conform to the limits imposed by the State Pollution Control Boards/Central pollution Control Board.	Monitoring fugitive emissions.	Complied with. Monitoring of fugitive emission is already been under taken and the tests were conducted in-house with our team and also by the third party. We are submitting monthly report to MsPCB that's been generated by the third party for supporting documents.

, , , , , , , , , , , , , , , , , , ,			Dust/particulate matter collected in pollution control equipments shall be reused. Spares would be maintained in respect of all pollution control equipment. Maintenance and optimum functioning of the pollution control equipment shall be ensured by the project proponent.	Use of dust collected in pollution control equipments.	Complied with. We have provided different types of Environmental Protection Equipments for collection of dust/particulate matter and to reuse the same in our process. The required spares parts are also maintaining for optimum functioning of the said equipments.
	(1)	*	with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989, as amended from time to time. Authorization from the MSPCB shall be obtained for collection, treatment, storage and disposal of	Authorization for Hazardous materials.	21-2007/ 2015- 2016/10; dated 21 ST December 2015 obtained from MSPCB. Valid up to 30 th Nov' 2020 was enclosed

<u> </u>	A	Formation of	Complied with
	A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Environmental Quality Monitoring functions. A state of the art Chromium testing kit shall be maintained in the laboratory.	Environmental Management Cell with laboratory and Chromium testing kit.	Complied with. Dedicated environmental Management Cell functioning. We have developed some more infrastructures like B.O.D and C.O.D testing facilities as well as an expansion of laboratory building for monitoring the desired test parameters. The existing list of laboratory equipments and chemicals were enclosed earlier.
(xi)	All pollution control equipment in STP of the type specified by the project proponent shall be duly installed and manned full time by trained personnel appointed for the purpose.	Sewage Treatment Plant.	Complied with. The STP project has been commissioned and using the same for suppresses the fugitive dust of our internal roads. Drainage system and STP map are enclosed earlier.
(xii)	A six monthly compliance status report shall be submitted to SEIAA/SEAC and Regional Office, Ministry of Environment & Forests, Govt. of India, Shillong apart from posting the same on the website of the Company.	Six monthly reports to SEIAA/SEAC and posting in website.	Complied with. Six monthly compliance reports along with monitoring data is been submitting to concerned officials on the regular basis and posting the same data on the website also.
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Implementation of the project vis-à-vis environmental action plans shall be monitored by the Regional Office, Ministry of Environment & Forests duly assisted by the SPCB.

The Regulatory
Authority may revoke
or suspend the
clearance on the
recommendation of the
SEAC, if
implementation of any
of the above conditions
is not satisfactory.

The Regulatory
Authority may on the recommendation of SEAC reserve the right to stipulate additional conditions, if found necessary. The company in a time bound manner shall implement these conditions too.

The above conditio0ns will be enforced, interalia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981, the Environment

(Protection) Act, 1986, Hazardous Waste Concerned Authorities particularly MSPCB regularly visited the project area as per their requirements and we have been submitting all the reports accordingly from the very beginning.

Agreed for compliance.



(Management & Handling) Rules, 2003 and the Public Liability Insurance Act, 1991 along with their amendments and Rules.

EARTHQUAKE DISASTER TRAINING REPORT

Date: 02/08/2016

❖ THEME: DISASTER AWARENESS ON EARTHQUAKE TO FAMILY MEMBERS OF RESIDENTIAL COLONIES WITH STUDIED EARTHQUAKE PREPAREDNESS AND EMERGENCY CONTACT NUMBERS.

* TRAINER'S NAME: - SHRI B. BHAGAVAN SINGH & MR. PRAJJAL RAJKUMAR.

❖ VENUE: -

COMMUNITY HALL

❖ DATE: -

31.07.2016

TIME: -

3:30 PM TO 4:30 PM

❖ DURATION: -

1:00 HOURS.

❖ NUMBER OF PARTICIPANTS: - [51] FIFTY ONE PARTICIPANTS WERE ATTENDED.

On 31ST JULY'2016 from 3:30 PM to 4:30 PM at Community hall we have conducted "EARTHQUAKE DISASTER AWARENESS PROGRAMME". Training was conducted for family members of employees who reside in residential colonies. Total 51 participants were attended the program. Main motto of the Program was pre-preparation before earthquake happens also activation during and after emergency.

It was discussed in training about Emergency Number which can be used during and after Emergency as well as precautions how to evacuate the building if it is necessary. Also discussed what is Earthquake? When & how it is happen? How we can survive?

- Why plan is required? Generally plan is essential accordingly practice also for those who reside in home/outside particularly for Earthquake zone peoples.
 - Disasters can strike quickly and without warning.
 - You may be separated from one another.
 - Emergency personnel may be overwhelmed, so you need for planning.

Why don't we prepare?

- "It will never happen to me."
- · Unaware of hazards or how to prepare
- Fear
- Costs involved

* Prepare Home Earthquake Emergency kit.

- 3 Days of Food and water, Portable Radio, Flashlights, & Batteries
- Extra Glasses, House/Car Keys, Essential Medications.
- Blankets/Sleeping Bag, Water Purification Kit, Essentials for Infants, Elderly, or Pets

Earthquake Emergency Preparedness

- Secure Pictures; Secure Hot Water Heater, Secure Heavy Items.
- Know Safe Spots in Every Room (Sturdy Tables, Desks).
- Know Dangerous Spots in Every Room (Windows, Hanging Objects, Fireplace).

During an Earthquake if you are in indoor

- Stay There! Do NOT Run Outside, Stay Calm & Remember the Phase, "Duck, Cover, and Hold"
- Duck And Look for Cover, Cover Under a Sturdy Desk or Table, Hold –
 Onto the Furniture Leg Until Shaking Stops.
- Face Away from Windows, Stay Clear of Tall Objects that May Topple Over, Watch for Falling Objects.

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Page 1 of 2

During an Earthquake if you are in an Elevator

- May Lose Power, May Stop & Lights May Go Out, Use Emergency Alarm,
- Await Emergency Crew & Follow Directions

* During an Earthquake if you are in public area

- Steer Clear of Panicking Crowds & Structural Hazards
- Theatre Crouch in Seat.
- Ball Park or Stadium Go to the Open Play Field Not the Exits.
- Shopping Malls Avoid Glass Displays, Head to Back of Shop.

During an Earthquake if you are in outdoor

- Get into the Open, Stay Clear of Buildings, hoarding & Power Lines, Do Not Smoke or Light Matches or Lighters.
- In Mountainous Area Falling Rocks & Other Debris.

During an Earthquake if you are driving

- Stop If Safe, But Stay Inside Car.
- Avoid Stopping Under Trees, Light Posts, Power Lines, or Signs.
- Stay Away from Bridges, Overpasses & Tunnels.

After Earthquake (After Initial Shock Have Subsided)

- · Remain Calm & Be Prepared for Aftershocks.
- Check for Injuries & Administer First Aid to the Degree You Are Trained for.
- Check for Obvious Hazards & Damage on Your Floor.
- Do Not Turn on or Off any Lighting or Electrical Devices.
- Use Emergency Supplies If Necessary.
- Follow Directions Over the Building PA System.

* After Earthquake duty of Floor warden

- Gather Occupants at Pre-Selected Gathering Place & Perform Head Count-Is Everyone Accounted For? Search Floor for Missing or Injured Personnel and Attend Injured Persons (if anybody injured or any abnormal).
- Turn- On Battery-Operated Radio Assign Someone to Keep Track on What is Going on in the Surrounding Community, Listen for Emergency Instructions.
- Take Inventory of Emergency Supplies May Be Needed to Last Several Days.
- Conserve Supplies.
- · Await for O.K. to Evacuate

Finally we have shown the practical scenario in projector through slide show and earthquake videos.

SAFETY OFFICER

THANGSKA.

DGM [SAFETY]

--Meghalaya Cements Ltd.

Vill: Thangskai, P.O.Lumshnong, East Jaintia Hills, Meghalaya-793210

Attendance Sheet for IMS/EnMS/External Agency Training

Doc.No:MCL/ IMS &EnMS/MR/C10
Rev.No:00

Rev No.:00 Date:01.03.2016

Training Details

: Earthquake Disaster Management

Agency

: In House

(a) Date

: From: 31.07.2016

To: 31.07.2016

(b) Time

: From 03.30 pm

To: 04:30 pm

Names of Trainer

: Mr. B. Bhagavan Singh (HOD-Vig & Safety)

Mr. Phaypert Raykumar

Attendance Record:

S/	Employee Name	Department	Designation	Signature
1	Shilpi Math Deb.	HRLA	NWVSI CANH	Sour
2	Nomita Sen		The state of the s	N.Sen
3		THE PROPERTY OF THE PROPERTY O		
4	19			
5	Nidhe choudhoury			Nedhi
6	* The state of the	As meriminados de la constanción constanción de la constanción de		parties of residence of company of the company of t
7	scapna pay.			www.hu
8	Loxine Bouistinab			
9	June Sagracry			A Valida Maria
10	Mahima Baro.			
11	Jeli Bosumotaren			
12	Jeli Bosumotary Ansumwi Narzary			



SI	Employee Name	Department	Designation	Signature
13	Ev.	en manuelle en en	A00	er yang dan yer e yang a
14	Kainl Singh	Orregation con a time a responsible come. Although the a service of		
15	Neelam Pandry			Об
16	Reeta singh	The state of the s	Advanced to the second	Marie Marie - Constitution of Assertation (Constitution of Constitution of Con
17	Rosy singh	and description of the second		Chapter and Company of Company of Company
18	Maya De VI	Monor expenses as the components of all all administrations		
19	Pipa Kanayi	and the control of th		**************************************
20	शमा नेवी			PRESIDENT CONTRACTOR C
21	निमेत्वा			Allen and the state of the stat
22	swapom. Hith			Phonysolatholia (abit tyrnninkus yakr - , avollagjay) yintu w
23	Aloy Sen.	Electrical	To Technician	خد
24	Rajosh Du	Electical	Sh Technician	soch.
25	Anand Ko Das	Civil	Mub in Change	Show
26	Annad Kumarlandy	. В.с.	JR officer	Ale La
27	chilismon your	Mining	18 Poput	Luciay
28	Jarfykr. Siral	*	Sir. Sup	
29	A PAPE	9		
30	L. Khomdon Suph	Electrical	Electorian	भ्रि .
31	Rahul malakar			Rahus
32	thenout between:		Podis-	Kajal
persons, 787 *** volume		THANG	SKA S	Notes the second

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	AND THE PROPERTY OF THE PROPER			And the second s
Si	Employee Name	Department	Designation	Signature
33	Swigit Deb	satety & vi	Penntey	Spel
34	Vishor no Magumder	C PP	and class Boiler	<u> </u>
35	Balwams Pal	mines		13aj
36	Satyendora Giumi	rigibunce.	Supervicor	
37		James Tom	Gwant	Plan
38	Simbo Bern Smil Gogan) (must	Gwar	5
39	Rix Randey	Q.C		24
40	Anar Singla	Safety & vigilance		
41	Anont Shah	safety Evigibne	office Assistant	Anandstah
42	Royú Sharma.	Bicelinical-	ehongehand.	RSout.
43	Ganesh Quia	ediffica 419902	As st. Fine figures	G. Luin
44	Rajest Kane	Safety & Vigit	Supervisor	D
45	Sunil Choudharry	Frady (M	Sn. thuragen	44
46	SUMI Choudhary. SK SINZU	GW HARA		CIEC 1
47	Manta Ranjan	HL	DY. Mg. Wel	lere St
48	Manta Ranjan Rtamon Bora.	7, +	n d	•
49	Sarchayella Bara.) Gum		
50	Bapain Dels	Electrical	& Cactricums	13/1
51.	Georgen Barumate	ny IIR-A	Emperivisors.	BY 131167
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	-	E THANGSI	HOI	D
		THE THE PERSON	77	
		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		

FIRE FIGHTING TRAINING REPORT

Date: 30/09/2016

♦ THEME: FIRE FIGHTING TRAINING CONDUCTION TO EMPLOYEES & SECUERITY STAFF WITH STUDIED EMERGENCY PREPAREDNESS AND SIREN ALARMING PROCEDURE.

TRAINER'S NAME: - SHRI B. BHAGAVAN SINGH, MR. PRAJJAL RAJKUMAR & Mr. GANESH QUILA.

VENUE: -

COMMUNITY HALL

♦ DATE: -

30.09.2016

TIME: . .

3:00 PM TO 6:00 PM

DURATION: -

3:00 HOURS.

❖ NUMBER OF PARTICIPANTS: - [31] THIRTY ONE PARTICIPANTS WAS ATTENDED.

On 30th June'2016 from 3:00 PM to 6:00 PM at Community hall we have conducted "FIRE FIGHTING TRAINING ALONG WITH TRAINING STUDIED EMERGENCY PREPAREDNES FUNCTION AND ACCIDENT INDICATOR SIREN ALARMING PROCEDURE" i.e. SIREN CODE OF PRACTICE. Training was conducted for attend of employees of various department as well all for security staff. Total 31 participants were attended the program. Main motto of the Program was how to operate Fire Extinguishers, to know different type of Fire extinguishers, classification of Fire, Introduction of fire fighting tanker & its operation. Also It was discussed in training after hearing the sound of emergency Siren how & where will rush & gather and what is the next function after gather at Emergency Assembling Point.

- At the time of any Fire emergency how to fight with fire & what precaution to be taken during that situation.
- Which type of Fire extinguishers can to use on what type of Fire (On Different Fire).
- Classification of Fire and according to it explanation of types of fire.
- Explanation of Emergency preparedness as per the reference of MCL Emergency preparedness.
- Firstly know where we kept our Fire extinguishers that explanation as per reference of extinguishers report.
- Communication procedure during emergency.
- During Fire what can do or do not.
- Explanation of location where Fire can catch at our factory premises.
- Introduction and function of Fire fighting tanker along with Fire equipments.
- During fire accident siren alarming procedure.
- Operating procedure of Fire extinguishers & Fire fighting tanker.
- Explanation about fire hydrant pipe line & riser as well as introduction of locations.

Finally we have conducted practical demo programme on fire by use of fire fighting equipments like Fire extinguishers, Fire fighting tanker & given the training to attended employees & Security staff each and every one can operate the extinguishers and understood fire fighting process. Finally we have seen most of the persons learnt well & satisfactory.

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Meghalaya Cements Ltd.

Vill: Thangskai, P.O. Lumshnong, East Jaintia Hills, Meghalaya-793210

Attendance Sheet for IMS/EnMS/External Agency Training

Doc.No:MCL/ IMS &EnMS/MR/G10 Rev No.:00 Date:01.03.2016

: Fine fighting Training. **Training Details**

Agency : In House

(a) Date

: From: 20.09.16 To: 30.09.16

: From: 81,00 pm - To: 05:00 pm. (b) Time

2. Mr. B. Bhagawan Singh .- HOD (Safety of Visitarce) Names of Trainer Attendance Record:

3.116.	you wash quite	
Employee Name	Department	Signature
Navneet Rai	срр	Navanutky. Par
Santosh Suman	срр	Bosh:
Pranjai Mazumdar	Logistics	Der
Mukesh Sharma	Logistics	20
Abdul Hamid.	Logistics	Juni
Prakash Mishra	QC	Pringrals
Maheswar Das	QC	(Chin
Bendrose Dhakar	Geology	Behon
Indraswar Bora	Geology _	4
Krishna Kumar Sinha	Mines	(B)8·
Subhas Sharma	Mines	Some,
Biswajit Barman	Electrical	Bornan.
Mr. Bappan Deb	Electrical C.F.	B2.
	Employee Name Navneet Rai Santosh Suman Pranjai Mazumdar Mukesh Sharma Abdul Hamid. Prakash Mishra Maheswar Das Bendrose Dhakar Indraswar Bora Krishna Kumar Sinha Subhas Sharma Biswajit Barman	Employee Name Navneet Ral cpp Santosh Suman cpp Pranjal Mazumdar Logistics Mukesh Sharma Logistics Abdul Hamid. Logistics Prakash Mishra QC Maheswar Das QC Bendrose Dhakar Geology Indraswar Bora Krishna Kumar Sinha Mines Subhas Sharma Mines Biswajit Barman Electrical Mr. Bappan Deb

FIRE FIGHTING TRAINING ON 30th SEPTEMBER 2016						
SL NO	NAME OF TRAINEE	DEPARTMENT	SIGNATURE			
16	Pratim Banerji	MECHANICAL	Trateri Donyos			
17	Saiket Bhunia		Gaikat Bhria			
18	Suman 🕊 as .		Swim Jam			
19	Ranju Das					
20	Paresh Basumatary		Bony.			
21	Rajen Kalita		Magana			
22	Priyaram Gogol					
23	Birinchi Gegoi Boruss.		Bircinetis Buil			
24	Raju Basumatary		Ruse Runtung			
25	Nikolash Choraí		Nixotas			
26	Solomon Khiangte	BSS	B2301146			
27	Rebot Hazarika		Sublesuan mine			
28	Sokleswar Daimary		sublesuan Inique			
29	Mintu Malakar		(VID)			
30	Dipak Basumatary	NA CEME	Breenteway			

THANGSKAI

FIRE FIGHTING TRAINING ON 30th SEPTEMBER 2016							
SL NO	NAME OF TRAINEE	DEPARTMENT	SIGNATURE				
31	Liladier Saikia		Devilly ia				
32	Khogen Nath		30(9)16				
33	Sudemsa Boro		30/69/16				
34							
35			-				



HOD

INTERNAL FIRE MOCKDRILL & EMERGENCY PROGRAMME

DATE: 28th August'2016

THEME: MOCKDRILL ON FIRE & CHEMICAL EXPLOSION

CONDUCTED BY

NDUCIEDBY

VENUE DATE

TIME

LIME

NUMBER OF ATTENDED PERSONS

NAME OF INFORMER

ALARM RAISED BY

poiler opt.)

FIRE CAUGHT

FIRE-FIGHTING & RESCUE TEAM REACHED

TOTAL WORKING PERSONS

PERSONS EVACUATED TO

LAST PERSON EVACUATED

'FALLING THREE' PROCESS

simultaneously.

DECLARATION

: SAFETY DEPARTMENT

: AT CAPTIVE POWER PLANT

: 27/08/2016

: 4:00PM - 6:00 PM

: Eighty [80] persons.

: Laboratory Attendee.

: CCR Operator (after get the information from

: At around 4:20 PM.

: At around 4:22 PM

: In laboratory area 06 persons.

: Safe zone within 4 minutes.

: At around 4:26 PM.

: Head counting started during evacuation

: After getting everyone in counting as well as extinguished the fire, the area was declared safe and total 06 persons are safely evacuated.

On 27th August'2016 at sharp 4:00 PM to 6:00 PM at Captive Power Plant in laboratory we had conducted "Mock Drill on Fire & Chemical Explosion" total eighty persons were involved from CPP and others.

Main Motto of the training programme was, in case of chemical explosion and any fire emergency how to fight and extinguish the fire and how to handle the situation and evacuate the persons from chemical spillages area, As well as practically the drill shown to involved persons along with rescue systems of casualty. We shown to participants about rescue procedure, if found senseless due to fire accidents then immediately how to rescue the persons? We have shown its procedure. Where the case is chemical related so particularly shown after evacuate the casualty from burning area i.e. 'HOT ZONE'. The casualty shifted to wash point for washing the body why because the casualty may contact with chemical. So before shipment of casualty to the dispensary their washing is essential for remove of chemical hazard.

Mock Drill - Suddenly Alarm was raised by CPP control Room after got the information from laboratory attendee. Alarm was raised by CCR operator & within 4 minutes workers were evacuated from Hot Zone to Cold zone (Assembling point), one worker at around 4:26 PM he evacuated from there he was last men. During rescue in safe Zone at assembling point head counting also continued by helping of 'Fälling Three' procedures. Inside the Fire caught area (where chemical container fallen) there total 06 persons were worked.

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Page 1 of 2

After got the information & heard of Alarm as per code of practice immediately Fire Fighting Tanker and Fire Fighting team had reached the spot place. According to procedure of Emergency Preparedness activate to Medical team also for ready position. After extinguished and controlled, Safety officer observed all workers/employees were evacuated safely total 06 persons and taken the report of property lost & damage as well as after mitigation Safety officer had declared that it is now safe.

- 1) TURN QUT: Employees were taught how to fight with fire at the time of Emergency and given knowledge about evacuation process & First Aid knowledge also imparted them.
- 2) SAFE ZONE ASSEMBLY: Employees were taught about why and how gathered at assembling point also introduced "COLD / SAFE ZONE".
- 3) VICTIMS: Demonstrations for treating victims & shown to everyone. All the victims were treated & transported for Medical Aid to the nearby facility by the employees of MCL and they were aided by the Medical staff.
- 4) ATTANDANCE & CHECKING OF DAMAGE PROPERTY & LIVES LOST AND REPORTING. After the drill Safety officer with his team visited the area & estimated the damages
- 5) COMMUNICATION: Safety officer makes the communication to concern as well as informed to unit head about the incident and for further action.

CONCLUSION: Training is important part for help to educate of employees for make potential and competent in this connection the Fire Mock drill with Chemical explosion drill was held which help knowledge spread to our employees as well as they can understand and gain the knowledge about Fire mock drill and Chemical explosion also it was observed most of the workers activated while siren alarm and every involved person can learnt the lesson and became active.

Safety Officer

THANGSKAI CO

DGM Safety

Meghalaya Cements Ltd.

Vill: Thangskai, P.O. Lumshnong, East Jaintia Hills, Meghalaya-793210

Attendance Sheet for IMS/EnMS/External Agency Training

Doc.No:MCL/ IMS &EnMS/MR/G10

Rev No.:00 Date: 01-03-2016

Training Details	:	Mock	Don	//	on Fire	ДS	Ch	emical	Explosion

Agency : Safety Deparetment *

Duration : 2 H75

(a) Date/s From: 29/08/2016 To:

(b) Time From: 4 PM To: 6 PM

Names of Trainers:

2. Strijal Rejssernay, 3. Granesh Quila

Attendance Record:

	<u> </u>		Y''	T
SI.	Employee Name	Department	Designation	Signature
Os.	Highpert Kro. Singl	CPP	A.G.M	- Harrian
	Mr. Bipropett Bhetteliju	CPP	Dy. Ngm.	- Mount
	Mr.K. S. Verma	CPP	Asst. Algr.	- (9/3
84.	per. Kambel Kr. Claudby	CPP	Sr. Engineer	- fc.
05.	Mr. Royat Kr. Halapata	CPP	Engineer	- Fight
	Hr. Zeya Afooz Khan	CPP	Engineer	- Para
1	Mr. Himangohu Ray	CPP	Shiff Inch.	- Hamanger
	Mr. Lagnisharsuin	CPP	Sr-Chemist	- Buria
	Ur. Gautam Kumar	EPP	Turbine field	Ou.
1	Hr. Pawan Lor. Paw	CPP	Heanightfilm	-Times
1	Mr. Astik Dath	CPP	FH4 (DG)	- 4000
12.	Mr. Sameer Kunwe	CPP	GET (Her)	2 Steen.
13.	Mr. Chandan Kumare	EPP	GET.	Chandan human
14.	Hr. Harnestles Rai	SPP	DET	Lovanet Fili
<u> </u>		AT TO SOLVE	^	

THANGSKAI

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HOD

Vill: Thangskai, P.O. Lumshnong, East Jaintia Hills, Meghalaya-793210

Attendance Sheet for IMS/EnMS/External Agency Training

Doc.No:MCL/ IMS &EnMS/MR/G10

Rev No.:00

Date: 01-03-2016

Training Details: Mick Drill on First & Chearzech Explosion

Agency: Styling Dept.

Duration: 2 Has:

(a) Date/s: From: 27/08/2016 To:

(b) Time: From: 49M To: 6 Port.

Names of Trainers:

1. B. Rhagavar, Singh: 2. Fight higherman. 3. Greatesh Quick

Attendance Record:

SI. Employee Name: Department: Designation: Signature

15. Hr. Ranadap Kaux: CPP GET Formatha.

16. Mar. Cantach Suma. CPP GET Townstreen.

			D	
SI.	Employee Name	Department	Designation	Signature
12	Mr. Ramados Kaur	CPP	GET	Kanadeha.
16.	Mr. Santost Suman	EPP	GET	- Lantes Sunav
12.	Ur. Nihal Singl	CPP	GET	-Nekal singh
B.	Mr-Deopak Lai	CPP	A. Arsa.	World
19.	Mr. Pijush Nameoudx	CPP	Bre Brma	- Philippes
20.	Mr. Postalla Kr. Tiwais	EPP	- Do -	- proglatic
	U			
		YA CE		
		E THANGSI	(AI)	Vienne)
		WE THE		HOD

Vill: Thangskai, P.O. Lumshnong, East Jaintia Hills, Meghalaya-793210

Attendance Sheet for IMS/EnMS/External Agency Training

Doc.No:MCL/ IMS &EnMS/MR/G10

Rev No.:00

Mack Droil on Free 18 Chemical explosion Training Details

Agency

Safety Dept.

Duration

2 As.

(a) Date/s

27/08/2016 From:

(b) Time

From:

7/08/2016 To: 6 Pm

Names of Trainers

1. B. Bhagwan

2. Frajset Rajkuman 3. Granest Ruiss

Attendance Record:

	The state of the s			
SI.	Employee Name	Department	Designation	Signature
Oi	Mr. D.S. Kapoor	Velicle	Dry. Mgr.	- Blogge
02.	Mr. C's Rai	Vehicle	Executive sect.	~ 3 4.
03.	Mr. Sanjay Singl	velick	Sr. Superixon	
04.	Mr. Aman susangiang	Vehicle	Auto Electricia	- 18mj
05-	Mr Udey Tha	Mines	Supervisor	ALC.
	Mr. Vakil Pondit	Mines	Mining Heat	VOIC!
07.	Mr. Pranab Sarkare	Greology	Supervisor.	Parer.
07.	Mr. Honeman sharm	Dispatch.	Officer	Ra
08	Hr. Slivsakar	Dispatch.	Superison,	Sher.
29.	Mr. Topunesh Tiwan	Production	Supervisor	(18 pund
10.	Mr. Rojma Purtia	Productia	Patooller.	२ । प्रम्त
11.	Mr. Hakeswar Das	Q.e	Supervisor	Mbon.
12.	Mr. Safindae Tiverio	Safetya Visil.	supervisor	Sat
Account to the second	Mr. Suraji+Der	-20-	Painter	- Jum
-		SIA CEN	1	7.

THANGSKAL

HOD

Vill: Thangskai, P.O. Lumshnong, East Jaintia Hills, Meghalaya-793210

Attendance Sheet for IMS/EnMS/External Agency Training

Training Details

Doc.No:MCL/ IMS &EnMS/MR/G10

Rev No.:00 Date: 01,03-2016

Mock Drill on Fire & Chemical explosion

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genc	ý		Safety	Rept.		
Duratio	n		: 2 Hrs	,		
a) Dat	e/s		From:	27/08/2016	Го:	
b) Tim	ne		From:	49m	To: 6 Pro	
i. _B ,	Pony	ainers Mm Sin Record:	: 8h	Dept. 29/08/2016 48m 2. Projekt	Richemm 3	. Groush &
SI.		Employee	Name	Department	Designation	Signature
	W.	Praset		Cat - B. J. God.	Fetos llar	
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			-			
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Viil: Thangskai, P.O. Lumshnong, East Jaintia Hills, Meghalaya-793210

Attendance Sheet for IMS/EnMS/External Agency Training

Training Details

Agency 3

Doc.No:MCL/ IMS &EnMS/MR/G10 Date: 03-03-2016

Mick drill on First & Chinical Explosion.

Sofety Dept.

SI.	Employee Name	Department	Designation	Signature
01 1	IR. Salah uddin Khan_	ASR Socurety	Workman	de-
02 .	Jiten Oh Muth	*	Sacuti ly Gund	Rest .
03 0	Tusheswar Nuth	lų .	•	greatly
04	a Kutub uddin Lasker		•	Kuth
05	11 Amay Lahkar	ч	*	And
06.	· Ramu Ray borgshi	,	,	10114
	Nejam uddin Topaday	*		
	Jajendan Chufin	¥	•	Thuli
	Montu 13079		~	mes
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Vill: Thangskai, P.O. Lumshnong, East Jaintia Hills, Meghalaya-793210

Attendance Sheet for IMS/EnMS/External Agency Training

Doc.No:MCL/ IMS &EnMS/MR/G10

Rev No.:00

Date: 01-03-2016

Training Details

: Mack Doill on Fire & Chemical Explosion

Agency

Safely Dept.

Duration

2 HOJ.

(a) Date/s

From:

27/08/2016 To: -28m To: 68m

(b) Time

From:

Names of Trainers

1. B. Bhagavan

2. Projjal Rejkumar 3. Gamesh Quile.

Attendance Record:

SI.	Employee Name	Department	Designation	Signature
01	MR Bhaben ch Nath	B. S. S.	In change	was
02	" Sabin Doimany	- de -	4/9	Salein
03	" Jogeswar Kalita	- do -	3/9	youlife
04	· Bipul Das-	-de-	-ds-	D203.
05	" Ratul Bhuyan	- 20 -	-de-	DR.B.
06	" Pradip Mishra	da_	-do-	-th.
07	+ Lalogal Baikchere	_de-	-do-	S
08	" Athon Basumatary		- do -	Aton
09	. Hirem Hazarika	de	- de -	15
10	"Thimalal chorei	-00-	- 06-	The same
//	" Sukleswar Daimary	_de-		Server
12	· Priyaram Gogai	-de-	- 06 -	2. hogu
13	. Chamebra kor Bingha	_ <	~ ds	CAKS
			CE	

MEGHALAYA CEMENTS LIMITED Stack Emission and Ambient Air Quality, 2016

Chimney		Suspende	d Particul	ate Matte	r (SPM):	mg/Nm ³	
CITAMILEY	June 2016	July 2016	August 2016	Sept 2016	Oct 2016	Nov 2016	Avg.
Pr. Crusher	29.1	28.2	23.2	28.40	28.64	29.60	27.80
Sec. Crusher	29.2	28.5	29.4	29.10	27.60	28.90	28.78
Coal mill 1	28.7	28.4	27.5	28.30	28.93	29.10	28.40
Coal mill 2	27.9	28.4	27.5	28.90	29.56	28.00	28.37
RABH 1	28.3	24.3	28.3	28.80	27.90	26.10	27.28
RABH 2	23.9	22.8	28.6	27.40	27.60	27.20	26.25
ESP 1	27.4	27.6	26.0	27.40	23.80	25.20	26.23
ESP 2	28.8	28.2	28.4	25.30	25.60	24.70	26.83
Packing House	28.6	28.8	28.9	29.40	28.42	29.90	29.00
Cement Mill	28.9	29.4	29.6	29.30	29.03	28.50	29.12

Locat	tion		Amb:	ient Air Qu	ality (A	AAQ): μg/n	<u>n</u> 3	
Loca		June 2016	July 2016	August 2016	Sept 2016	Oct 2016	Nov 2016	Avg.
5.0	PM 10	51.8	60.20	54.7	49.40	73.46	69.39	59.82
DG House	PM 2.5	34.7	39.70	33.3	29.30	46.16	35.04	36.36
	PM 10	47.6	54.30	29.8	32.50	45.66	72.34	47.03
Guest House	PM 2.5	19.4	21.20	23.2	25.40	37.31	38.45	27.49
	PM 10	59.4	77.30	73.2	69.20	64.04	72.26	69.23
Crusher	PM 2.5	42.7	49.60	46.8	40.70	41.70	37.07	43.09

Analyzed by

Sunil Kunwar

THANGSKAI OF

Verified by

Sunil Kumar Choudhary

MEGHALAYA CEMENTS LIMITED

Six Monthly Report: Noise Intensity and Water Consumption, From Dec' 2015 to May' 2016

			Noise Intensity: (Db)							
Locat	ion	June 2016	July 2016	August 2016	Sept 2016	Oct 2016	Nov 2016	Avg.		
DG	Day	68	70	62	65	76	74	69.16		
House	Night	65	63	59	55	70	69	63.50		
Guest	Day	55	57	53	52	57	54	54.66		
House	Night	44	42	41	40	46	42	42.50		
Crusher	Day	77	77	74	75	82	80	77.50		
	Night	68	67	69	68	69	68	68.10		

			Water Con	nsumptio	n: M ³		
Location	June 2016	July 2016	August 2016	Sept 2016	Oct 2016	Nov 2016	Avg.
Domestic	4102	4279	4344	4084	3757	2134 Till 20 th Nov'16	3783.33
Industrial	34704	37055	31568	37997	38601	20782 Till 20 th Nov'16	33451.10

Analyzed by

Sunil Kunwar

THANGSKAI OF

Verified by

de la

Sunil Kumar Choudhary

MEGHALAYA CEMENTS LIMITED Six Monthly Report (CPP): SPM, AAQ and Water Consumption, 2016

	ં	Su	spended I	Particula	te Matte	r (SPM)	:mg/Nm ³	
Chimne	y: CPP		T = 7 = -	T 3		1 0-1	T 37.	T
CIIIMIC	.y. 011	June	July	August	Sept	Oct	Nov	Avg.
		2016	2016	2016	2016	2016	2016	
		28.4	29.2	29.4	29.2	29.1	28.9	29.03
					- 7 : 1		3	
			Ambler	nt Air Qu	ality (A	AQ) :μg/:	<u>m</u>	
Location	on: CPP	June	July	August	Sept	Oct	Nov	Avg.
		2016	2016	2016	2016	2016	2016	
	PM 10	49.1	58.40	38.6	39.60	56.02	66.78	51.41
S↔E	PM 2.5	24.5	22.60	21.4	22.40	36.49	32.15	26.59
	PM 10	51.4	52.10	42.1	44.60	59.46	73.92	53.93
S↔W	PM 2.5	28.1	29.20	29.8	28.60	37.29	39.33	32.05
	PM 10	42.4	46.30	66.2	68.40	72.79	71.23	61.22
N↔E	PM 2.5	22.4	26.80	28.7	29.40	45.70	43.70	32.78
					<u> </u>			
				Water Cor	sumption	1:M ³		·
Locati	on: CPP	June	July	August	Sept	Oct	Nov	Avg.
		2016	2016	2016	2016	2016	2016	
		21726	20441	25421	25284	27901	13240	22335
						į	Till	
							20 th	
							Nov'16	

Analyzed by

Sunil Runwar

THANGSKAI)

Verified by

Sunil Kumar Choudhary



Centre for Mining, Environment, Plant Engineering & Operation

National Council for Cement and Building Materials (Under the Administrative Control of Ministry of Commerce & Industry, Government of India) 34 Km Stone, Delhi-Mathura Road (NH-2), Ballabgarh - 121 004, Haryana, India (180 9001 : 2008 Certified)

Phone: 0129-4192222, 2242051 • Fax: 0129-2242100, 2246175 • E-mail: noticine@gmail.com Direct Nos.: Telefax: 0129-2244883; Phone: 91-129-4192242 <u>By Speed Post</u>

Sh V K Pant
Vice President (Technical)
M/s Meghalaya Cements Ltd.
Corporate Office
BE-77, Salt Lake City
Sector-1, Kolkata-700 064

Ref: CME-ENV/SP-4569
20th October 2016 pro-

Sub: Performance Assessment Study for Existing Air Pollution Control Equipments (APCE) at M/s Meghalaya Cement Ltd.

Dear Sir.

This has reference to the study on "Performance evaluation of Air Pollution Control Equipments (APCEs)" carried out by National Council for Cement and Building Materials (NCB) at M/s Meghalaya Cement Limited, Village Thangskai, Lumshnong, Dist East Jaintia Hills, Meghalaya from 24th June to 7th July 2016. The dust separation efficiency of various pollution control devices is as given below:

S. No.	Description of APCE	Efficiency of APCE (%)
1.	RABH 1	99.91
2.	RABH2	99.74
3.	Cooler ESP 1	99.71
4.	Cooler ESP 2	99.40
5.	Coal Mill-1 Bag Filter	99.98
6.	Coal Mill-2 Bag Filter	99.98
7.	Cement Mill Bag Filter	99.97
8.	Packing Plant Bag Filter	99.31

With the optimisation of process parameters, periodical checking of APCE, scheduled preventive maintenance and regular monitoring, the dust separation efficiency of APCEs can be improved further.

Thanking you,

Yours faithfully for National Council for Cement and Building Materials

Dr N K Tiwary

General Manager - Environment Management Tel No. (0129)-4192469(D), Email: cme1b@ncbindia.com,

Centre's Core Activities

- Geology, Mining & Haw Materials
- · Energy Management
- * Environmental Management
- * Plant Maintanage
- Process & Productivity
- Project Engineering and System Design

Styderabed : NCB Bhavan, Old Mumbai Road, Near Gachi Boyll, Hyderabed - 500 008, Telangaria, INDIA

Phones: +91-40-23180426, 23180400

E-mail: hyd2_ncbhyd@bani.in



Ahmedabad : Smeet Bungalows, Behind Planet House-2 (PH-2) Bodakdev, Ahmedabad - 380 054, Gujarat, INDIA

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E-mail : broncb@rediffmail.com

visit us at www.nchindia.com

TOPCEM

MEGHALAYA CEMENTS LIMITED CAPTIVE POWER PLANT: 10 MW

WATER ANAL SIS REPORT

Date:-	
22	
111	
1/2	
31	

ST NO	PARAMETER	PINU	DM WATER	MFAC	FEED WATER	REAC DE	Cap	NEAS D	SAT. STEAM	1 -4 1	EAM		15 H/S	S.H. STEAM	S.H. STEAM CONDEN	S.H. STEAM CONDENCER MEAS	S.H. STEAM CONDENCER RAW WATER	S.H. STEAM CONDENCER RAW WATER WEST
2E 30		931	NORM.	MEAS URED	NORM.	URED	NORM.	MEAS URED	NORM.	MEAS URED	NORM.	MEAS URED	NORM.	URIN	MEAS	NORM.	(Shift A)	MEASURED (Shift B)
_	рн		8.5-8.8		8.8-9.2		9.8-10.2	10.12	8.8-9.2		8.8-9.2		8.8-9.2			7.0 - 8.0		
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4	Total hardness	ppm						מונמ										
S)	Ca Hardness	ppm						3							Total Additional Control			
6	Mg Hardness	ppm						"										
7	P- Alkalinity	ppm						7		*								
30	M- Alkanity	mqq						12										
ç	Silica	ppm	<0.02		<0.02		ŝ	61.0	<0.02		<0.02		<0.02					
10	Phosphate	ppm					10 - 20	424										
11	Iron	ppm												ł				
12	Hydrazine	ppm			<0.1													
13	Chloride	ppm																
14	FRC	ppm													1000			
15	Turbidity	UTIN																
16	Cr+6							0021										PROPERTY AND THE PROPER







ANNEXURE-TU

TOPCEM

MEGHALAYA CEMENTS LIMITED CAPTIVE POWER PLANT - 10 MW WATER ANALYSIS REPORT

Mile

Date: 10: 10: 2016

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			DM	2	FEED	1 0	CBD	D	SAT. STEAM	TEAM	S.H. STEAM	MA	COND	CONDENCE	RAW		COOLING	
SI, NO	PARAMETER	UNIT	NORM.	MEAS URED	NORM.	MEAS	NORM.	MEAS	NORM.	MEAS	NORM.	MEAS URED	NORM.	H	MEAS URED	NORM.	MEASURED (Shift A)	MEASURED (Shift B)
-	PH		8.5.8.8		8.8-9.2		9.8-10.2	10.14	8.8-9.2		8.8-9.2		8.8-9.2	\$ p. 4	THE RESERVE OF THE PERSON NAMED IN COLUMN 1	7.0 - 8.0		
2	Conductivity	µs/ cm	5		10		200	20	5		5		5	, 95				
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4	Total hardness	mdd						1113						-51				
U1	Ca Hardness	ppm						"										
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10	Phosphate	ppm					10 - 20	420										
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16	Cr+6							0.019							Marries de l'agression de l'agressio			



10.10.16 10.10.16





MEGHALAYA CEMENTS LIMITED CAPTIVE POWER PLANT - 10 MW WATER ANALYSIS REPORT

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Date: 0.6.09:2016		

				WATER	F. 3	WATER	£ 5	СВД	ם	SAT. STEAM	TEAM	S.H. STEAM	EAM	CONDENCER	NCER	RAW		COOLING	
	ST NO	PARAMETER	UNIT	NORM.	MEAS	NORM.	MEAS URED	NORM.	MEAS	NOKM.	MEAS	NORM.	MEAS URED	NORM	URB.	MEAS URED	NORM.	MEASURED (Shift A)	MEASURED (Shift B)
	-	Нф		8.5-8.8		8.8-9.2		9.8-10.2	10.04	8.8-9.2		8.8-9.2		8.8-9.2	31 ³⁷ 3		7.0 - 8.0		
	2	Conductivity	µs/cm	и		10		200	20	5		sı		5					
r	ω	TDS	ppm	3		5		100	17.4	3		မ		3					
	4	Total hardness	ppm						חווג										
	ر.	Ca Hardness	ppnı						"										
	a a	Mg Hardness	ppm						"										
r	7	P. Alkalinity	ppm						7										
	æ	M- Alkanity	ppm						77										
1	9	Silica	ррш	<0.02	Reference consumptions of the second of the	<0.02		S	0.26	<0.02		<0.02		<0.02			The state of the s		AND THE PROPERTY OF THE PROPER
Γ	10	Phosphate	mdd					10 - 20	625										
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	12	Hydrazine	ppm			40.1													
·	13	Chloride	ppm															è	
	14	FRC	ppm																
Γ	5	Turbidity	NTU																The second secon
	16	Cr+6							0.024		The second secon					Modern ANY to November 1			











Date:-11.08.2016

To, Sr. Manager (EIE)

Sub: - Utilization of high calorific hazardous waste

Attn: - Mr. Sunil Kumar Choudhury, Sr. Mgr (EIE)

⊶Dear Sir,

With reference to your letter no - MCL/ENV/2015-16/01-08 dated 8.08.2016 on the above subject, we inform you that some trial operations are taken in our rotary kiln during <u>June'2016</u> and the observations are given for your reference:-

- 1) We have collected various plastic wastes available at some of the packaging industries near Guwahati.
- 2) About a truck load of the material is procured for trials. And it is cleaned for dirt etc.
- 3) The above samples are tested by laboratory for their burnability and calorific value.

 The burnability is tested in lab furnace is found to be very fast and at 700°C the material has completely hurnt
 - The calorific value as tested by the bomb calorimeter is found to be 6429 Kcal/Kg.
- 4) As the material is easily combustible, further discussions were had in our technical meeting with Sr. V.P (Production & Operations), V.P (Project & Maintenance), D.G.M (Electrical), and D.G.M (Instrumentation) for evolving a system of utilization in the rotary kiln pyro-processing.
- 5) Even though shredded material of small size is required for the trial purpose, we have manually reduced the size of the waste material to about 1 inch pieces and lifted to our pre heater section. The pre heater section at the 4th cyclone, the temperature will be + 800°C and hence a provision is made for manual feeding during the trials. If the trials are successful, at the same place mechanized feeding can also be planned.
- 6) The entire quantity of waste material received by us is fed at a rate of 1 MT/hr along with our regular fuel to the system. We have reduced about 0.8 % of our total fuel input to the system and found the required temperature profiles are satisfactory.
- 7) The obtained clinker is tested chemically, where we have found that SO₃ content has increased to 2.72 % while as it was 0.34% only in our corresponding Kiln feed. The additional SO₃ content is obtained from local Meghalaya coal and the hazardous waste. After the consumption of above material we have checked the system machinery and found a considerable coating in the rotary kiln and at the ID fans .The coating was analyzed from the ID fans and found to properly in a heavy deposit of SO₃ up to 5.81%.



Sales & Merketing Office : Mega Plaza, 4th Floor, Christian Basti G.S. Road, Guwahati - 781 005 Tel.: 0381 2345421/22/23, Fax: 0361 2345419 E-mail: guwahati@kpopern.in

HELPLINE NO: 18001233666

Registered Office: Village Thangskai, P.O. Lumshnong Pin - 793 200, District Jaintia Hills, Meghalaya Tel.: 03655 278324 / 363 / 364

Fax: 03655 276327 E-mail: meghalaya@topcem.ii



MEGHALAYA CEMENTS LIMITED



The testing report of the fan coating taken immediately after the trial during June'16 and after receiving the coating report the corresponding Clinker and Kiln feed which are preserved in the laboratory are also sent for external testing and the report received on 15 July'16 is enclosed.

As per the observations of coating formation in the rotary kiln and at the ID fans, utilization of the hazardous waste is not feasible in our plant process. The usage of the hazardous waste is damaging the machinery also besides quality of clinker and clinkering process.

Regards,

D.L.N Sharma V.P (Operations)





Seles & Marketing Office: Mega Pleza, 4th Floor, Christian Basti G.S. Road, Guwahati - 781 005 Tel.: 0361 2345421/2273, Fax: 0361 2345419 E-mail: guwahati@topoem.in Web: www.topoem.in

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Kolkata: BE-77, Salf Lake City Sector-1, Kolkata - 700 064 Tel.: 033 2334 0666 / 0004 Fax: 033 2334 0505 Registered Office: Village Thangskai, P.O. Lumahnong Pin - 793 200, District Jaintia Hills, Meghalaya Tel.: 03655 278324 / 363 / 364 Fax: 03655 278327

Fax : 03000 276327 E-mail : mechalava@topcam.in



Shanker Laboratories

F-277, Flatted Factory Complex, Okhla, New Delhi 110020
Known for Excellency in Testing

Dated June 27, 2016 Report No: SL 6641

Source: Meghalaya Cements Limited, Meghalaya

Sample: MCL/COC/016 Sample: Said to be Coating Laboratory Mark: SL 6641

Test as per: IS:1727

S. No	Constituent	Results %
1.	LOI	28.41
2.	Silica SiO ₂	9.45
3.	Iron Fe ₂ O ₃	4.75
4.	Aluminum Al ₂ O ₃	6.71
5.	Calcium CaO	41.08
6.	Magnesium MgO	2.30
7.	Sulphate SO ₃	5.81
8	Sodium Na ₂ O	0.20
9	Potassium K ₂ O	0.64
10.	Free Lime CaO _f	Traces
11	Free Silica SiO ₂	7.74

Conditions

1. Results given above refer only to the sample supplied.

2. The report is being issued on the specific understanding that Shanker Laboratories will not in any way be involved in any action following the interpretation of the above results.

THANGSKA

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> Dr N. K. Katyal CEO

Ex Incharge "Analytical Lab Services"

National Council for Cement and Building Materials

Phones: 01165820651, 9999993311,9999990481, 9999552799, 9811505398

Email: shankerlaboratories@gmail.com

www.shankerlaboratories.com

Shanker Laboratories

F-277, Flatted Factory Complex, Okhla, New Delhi 110020

Known for Excellency in Testing

Dated July 15, 2016

Source: Meghalaya Cements Ltd., Meghalaya Ref.: Sh D.L.N.Sharma, VP (Op.) Dt 01.07.2016

Sample: Said to be Clinker & KF Date of Receipt: 04.07.2016 Test Period: 08 – 14 July 2016

Tested as per: IS:4032

Laboratory Mark: SL 6854 & 6856

S No	Constituent	Samp	le ID
2,00	%	MCL/CLK/XRD/016	MCL/KF/CA/016
1	LOI	1.44	35.23
2	SiO ₂	20.70	12.73
3	Fe ₂ O ₃	3.87	2.28
4	Al ₂ O ₃	4.01	2.79
5	CaO	63.39	42.95
6	MgO	2.92	2.20
7	SO ₃	2.72	0.34
8	Na ₂ O	0.33	0.44
9	K ₂ O	0.28	0.24
10	Free SiO ₂	0.98	9.74
11	Free CaO	3.44	

Conditions

- 1. Results given above refer only to the sample supplied.
- 2. The report is being issued on the specific understanding that Shanker Laboratories will not in any way be involved in any action following the interpretation of the above results.
- 3. This report shall not be reproduced, except in full, without the written permission of CEO, Shanker Laboratories, New Delhi.

Dr N. K. Katyal
Authorized Signatory (CEO)
Ex Incharge "Analytical Lab Services"
National Council for Cement and Building Materials

505398

Phones: 01165820651, 9999993311, 99925

Email: shankerlaboratories@gmail.com

THANGSKA

Annexure: - VI

YEAR WISE PLANTATION DETAILS

MEGHALAYA CEMENTS LIMITED

Date:-19.11.2016

Year	Saplings planted	Area covered	Saplings Survive	Survival Rate	Remarks
2009-10	(Nos.)	(Hect.)	(Nos.) 6909	65%	Planted near Office Campus, residential blocks, Children park, Guest house Temple and Road side.
2010-11	4485	0.4485	3304	73%	CPP Campus,
2011-12	1425	0.1425	1271	89%	CPP Campus.
2012-13	1725	0.1725	1609	93%	CPP Campus, Lawn of residential blocks & Dispensary.
2013-14	1793	0.1293	1365	76%	Planted in the Topcem Public School Campus, Children Park & Approach Road side.
2014-15	7904	0.8	5532	70%	CPP Campus, Along Plant Boundary & Crusher Road side.
2015-16	12905	1.70	9290	72%	Approach Road side, CPP Campus, Along Plant Boundary & Dispensary Campus.
2016-17 (upto August'2016)	52641	1.79	42112	80%	Along Plant Boundary & Behind Scrap Yard near Civil Office by 'Akira Miyawaki' Method.
Total=	93508	6.2458	71392	77%	

Note: - 1. We have natural green belt area of 2.45 hectares and 10.5 hectares situated at north eastern and south-eastern part of the plant area and we are maintaining the said area regularly. Therefore, the total area under green belt is 19.20 hectares.

2. Another three Blocks such as near mines no. 1 (0.26 ha), near mines no- 3 (0.23 ha) and near main Gate no-1 (0.26 ha) = 0.75 Hectares.

Total Plantation as on 31.08.2016 = 20.44 hectares.







MEGHALAYA CEMENTS LIMITED

CIN- U26942ML2003PLC007125



3/75	NAME		2.11.2016 GROSS SALAR
1111			
1	DISWONLANG BAREH	CLEANER	9474
2	EDEN LALOO	CLEANER	8809
3:	PRAS BAREH	CLEANER	11022
4	SABINA SYIH	CLEANER	7979
5	KHALMISS SUTING	CLEANER	9295
6	PHINIAL DHAR	CLEANER	7863
7	SHNGAIN PALE	CLEANER	9590
8	TNGENMON SYIH	CLEANER	9191
9	IBASHISHA KHARSATI	CLEANER	8514
10	ESTAR PUSIEN	CLEANER	8346
11	DIL PHAWA	CLEANER	7080
12	PHIMAI SUTNGA	CLEANER	9089
13	HILDIS SYRTI	CLEANER	6621
14	LILY POHBAN	CLEANER	6662
15	KYRSOI SYIH	CLEANER	8439
16	PHYRNAI SYRTI	CLEANER	6737
17	RIDAMON SUCHEN	CLEANER	6824
18	JUBLI LAPASAM	CLEANER	6945
19	OMEGA SUTING	CLEANER	6516
20	METHILDA SYIEMLIEH	CLEANER	6367
21	SPELBHA SUCHIANG	CLEANER	6662
22	PRAYSILLA RYMBAI	CLEANER	6565
23	CHEBARIMA BAREH	CLEANER	7055
24	MEYOKI RYMBAI	CLEANER	6232
25	MINU RAI	CLEANER	7659







Mega Pisza, 4th Floor Christian Basti G.S. Road, Guwahati - 781 005 Tel.: 0361 2345421/22/23, Fax: 0361 2345419 E-mail: guwahati@topcem.in

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Sector-1, Kolkata - 700 064
Tel.: 033 2334 0666 / 0004
Fax: 033 2334 0505

rwgistered Umice: Vilage Thengskai, P.O. & P.S. Lumshnong District, East Jainte Hills, Meghaleya, PIN: 793210 Tel.: 9402198262 Fax: 9402198192



NORTH-EASTERN HILL UNIVERSITY DEPARTMENT OF ENVIRONMENTAL STUDIES

Umshing, SHILLONG - 793 022, INDIA

Tel: 0364 2721157(O); 9436732431 (M); e-mail <pauld97@rediffmail.com>

D. Paul Professor

To

Shri R. K. Pareek President Meghalaya Cements Ltd. 19/10/16

Sub: Submission of Work Plan

Sir.

As stipulated in your work order, please find enclosed, the detailed work plan and Activity chart. This is for your perusal and further necessary action

Thanking you,

Sincerely

D. Paul

Cc

PIProfessor Dibyendu Paul Department of Deveronmental Studies North Adversity

Miller 10 10 10 12 12.

Shri V. Saraf, Vice President -Commercial, Meghalaya Cements Ltd,



Project Title: Biodiversity inventorization and conservation through assisted regeneration of RET species in limestone mining area of Meghalaya Cements Ltd.

Work Plan:

Survey and inventorization of flora and fauna in project area: An intensive survey will be conducted within the project area to create an inventory of the flora (tree species) and fauna (mammals).

Selection of species for propagation: Based on the inventory, plant species will be selected. For conservation of bird and mammals, food plant species (grasses, wild fruit trees etc.) will be selected based on assessment of camera trap data

Setting up of nursery: A nursery will be established for propagation of species selected through the survey and also in consultation with TOR and recommendations of SEIAA.

Afforestation: Afforestation and or tree regeneration / gap filling of the allocated area of the project site will be undertaken.

Formulation of Eco Development Plan: An Eco Development plan and recommendations for medium/ long term upkeep of project area will be developed.



ACTIVITY CHART

Work component		YEA	R 1			YE	AR2			YE.	AR3	
<u> </u>	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Recruitment of staff	٧											
Preparation of Land use map	٧											
Survey of flora and fauna	٧	٧	٧	٧								
Selection of species for afforestation			٧	٧	٧	٧	٧					
Establishment of nursery			٧	٧	٧	٧	٧					
Procurement of seed/ seedlings etc			V	٧	٧	٧	V					
Germination trials			٧	٧	٧	٧	٧	٧	٧			
Production of planting materials			٧	٧	٧	٧	٧	٧	٧			
Transplantation in allocated area								٧	٧	٧	٧	٧
Cultural operations and aftercare								٧	٧	٧	٧	٧
Preparation of Ecodevelopment plan											٧	٧
Report writing & finalisation												V

D. Paul, PI

Professor Dil vendu Paul Department of 12 - mamental Studies North Eastern Hall University Shillong - 793022.







WORK ORDER

Ref.: MCL/WO/NEHU /16-17/223

Date: 9th August' 2016.

M/s. North-Eastern Hill University

Umshing, Shillong-793 022 Phone: 0364 2721157. Mobile: 094367 32431.

E-mail: paul97@rediffmail.com

Kind Attn. :

Prof. D. Paul (Principal Investigator)

Sub.

Work Order/ Letter of Award for Study & Compliance of our

Environmental Clearance conditions and Preparation of Plan/reports for

execution in project mode.

Ref

Your final email offer dated 5th August'2016, previous discussions,

Minutes of meetings to this effect we had during your visit.

Dear Sir/s,

With reference to your above offer and discussions we had with your good-self, we are pleased to place a Work Order/Letter of Award for study/compliance of EC Stipulation and Preparation of Plant/repots:

Work Order Value:

Total Work Order value shall be Rs. 16, 27, 200/- (Rupees Sixteen Lacs Twenty Seven Thousand Two Hundred only).

✓ All Taxes and duties shall be extra. TDS shall be deducted as applicable.

Project title:

BIO-DIVERSITY INVENTORISATION AND CONSERVATION THROUGH ASSISTED REGENERATION OF RET SPECIES AND OTHERS FOR MEGHALAYA CEMENTS LIMITED AS PER EC STIPULATIONS.

A. Detailed break up of Payment:

Head	Year 1	Year 2	Year 3	Total (Rs)
Technical assistance	344000	344000	344000	1032000
Travelling allowance	20000	20000	20000	60000
Consumables (Chemicals/ Fertilizers/ planting material)	60000	60000	60000	180000
Contingency	60000	60000	60000	180000
Institutional overheads (10%)	175200			175200
Total				1627200





Salas & Marketing Office : Mega Plaza, 4th Floor: Consuan Bast G.S. Road, Guwahati - 781 905 Tel - 0361 2345421/22/23, Fax - 0361 2345413

E-mail griwahati@topcem.m

Corporte Outer De St. Sait Lake Chy Sait Lake Chy Sait Lake Chy Sait Chy Sa

Registered Office

Vellage Thengskal, P.O. Lumshnung Pro. 793-200 Distrot Jaintia Hills, idegholay Tel.: 03655-278324 r 363 : 064 Fax: 03655-279327

E-mail : meghalaya@topcem =

Working towards a greener Earth since 2006

B. Non-Recurring

✓ Nursery/Green House

The Nursery/Green House shall be made by us as per guidance provided by you. The expenses on the same will be directly born by the company. However, guidance and supervision shall be on your scope.

✓ Camera Traps

Cameras for Traps shall be a provided by Meghalaya Cements Limited on your requirement. If it is at your cost then the cost will be Rs. 1,00,000 (extra).

Brief Scope of Work:

- ✓ Survey and inventorization of project area: An intensive survey of the project area will be conducted to create an inventory of the flora (tree species) and fauna (mammals).
- ✓ Setting up of nursery for propagation of species as per TOR and recommendations of SEIAA.
- ✓ Afforestation / regeneration/ gap filling of the project area as allocated by MCL.
- ✓ Planting and conservation of bird and mammal food plant species (grasses wild fruit trees etc.) based on assessment of camera trap data.
- ✓ Formulation of Eco Development Plan and recommendations for medium/long term upkeep of project area.

The above mentioned scope shall cover the following points as mentioned in our Environment Clearance, reproduced below for your ready reference:

- Meghalaya has been recognized as a cradle for several endemic species and an important
 constituent of the biodiversity hotspots spread over North East India. Therefore, as a
 measure of protection of rich biodiversity of the region, the project proponent shall cover
 an area of not less than 2 ha where would be located green house, mist chamber etc
 (within the green belt area already stipulated above), locate conservation plots in respect
 of <u>atleast two</u> of the following species of endangered and endemic plants reported to
 have been occurring within the region:
 - i) Pteracanthus griffithianus, Acanthaceae
 - ii) Nepenthes khasiana, Nepenthaceae
 - iii) Argostemma khasianum, Rubiaceae
 - iv) Fimbristylis nigrobrunnea, Cyperaceae
 - v) Trivalvaria kanjilali, Annonaceae
 - vi) Begonia rubrovenia, Begoniaceae
 - vii) Ceologyne ovalis, Orchidceae

A scheme / conceptual plan of raising such threatened species shall be prepared in consultation with a reputed institution such as Botanical Survey of India complete with cost and activity schedule.

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MCL/WO/NEHU /16-17/223, Dated: 09.09

Page 2

- The project proponent shall sponser research and development for conservation of threatened category of species occurring locally such Hedychium dekianum, (Zinglberaceae), Cymbidium eburneum (Orchidceae), or Dendrobium devonianum (Orchidceae) which would be carried out by an appropriate research or academic institution located in Meghalaya.
- À conservation plan for conservation of wild fauna in consultation with a reputed institution such as wildlife Institute of India, Dehradun shall be prepared and implemented thereafter by the project proponent.
- A comprehensive long term eco-development plan shall be prepared by the project proponent.

Time Frame:

The time period for Completion of Work Order for study/compliance/execution of EC Stipulations will be within 'Three Years' from the date of this Work Order.

Commercial Terms:

Payments:

- 10% Token Advance paid along with the Work Order. (On basic)
- 5% shall be paid after the work order acceptance from your end.
- 10% shall be paid on the submission of Plan & subsequent approval from MOEF against Invoices/Bills.
- Balance 75% with all taxes and duties shall be paid on Pro-rata basis against submission of Invoices/Bills.

Other Commercial terms:

- ✓ We shall provide free boarding & lodging, fooding at our Plant Site for your qualified team (Investigators & project fellows) on as suitable/available basis.
- ✓ You shall intimate your programme/s to our Plant personnel as detailed below in advance for making necessary arrangements for convenience.
- ✓ We shall provide for required Labour, maintenance and protection of the nursery, plantations etc.
- ✓ Local travel will be provided by MCL free of cost. However, intimation for the same shall be given well in advance. Project fellows should also co-operate with Plant /Guwahati management on timings of pickup/drop with vehicles etc and sharing the same with Company employees, if so required.

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MCL/WO/NEHU /16-17/223, Dated: 05

Following learned persons from North Eastern Hills University shall look after the project :

- i) Principal Investigator: Dr. Dibyendu Paul, Department of Environmental Studies, NEHU.
- ii) Co-Principal Investigator: Dr. S S Chaturvedi, Department of Environmental Studies, NEHU.

Alog with the team of qualified personnel and assistants as felt necessary time to time.

Following personel will be deputed from our site for coordination with NEHU and over all implementation of the project in the specified time schedule:

Mr. Sunil Kumar Choudhary, Sr. Manager Environment (M: 9485099330) Email: skchoudhary@topcem.in

Periodical updates and communication shall be made through mails to:

1. R. K. Pareek (President)

rkpareek@topcem.in

2. Vijay Kumar Pant (Vice President – Technical)

vkp@topcem.in

3. Vikash Saraf (Vice President – Commercial)

vsaraf@topcem.in

Thanking you,

Yours faithfully,

For Meghalaya Cements Limited

Vikash Saraf

Vice President-Commercial

+91 9903099080

Copy for information to:

✓ ALL CONCERNED.



ANNEXURB-IX

Expenditure Incurred for Socio-Economic Deverlopment under CSR From 16.05.16 to 15.11.16

SL.NO. HEADING **AMOUNT Emphasis on Education** 1 90,000 Encouraging/Felicitation prog. For Students. 2 3,648 3 Awareness campaign (Free Medical Camp/swach Bharat) 59,590 4 Polio Immunization Camps, Family planning, etc. 369,351 Infrastructure development of Hospitals/Schools 5 6 Cement Distribution Programme. 2,136,300 7 363,002 Plant Distribution Programme. 8 Donation to Churches, Road & House Repairing etc. 126,000 9 Drinking water supplying scheme. 152,635 10 Village Development Funds. 300,000

MEGHAYA CEMENTS LTD

Total



3,600,526



M/s MEGHALAYA CEMENTS LIMITED

Thangskai, Meghalaya

The revenue expenditure incurred on an environmental protection equipments/Machineries from 16.05.2016 to 15.11.2016.

Sl.No	Heading	Amount in Rs.
1.	Bag Filter (Cement mill,	1820225.81
	Raw Mill, Coal Mill &	
	Crusher)	
2.	ESP	514165.41
3.	RABH	571568.18
4.	Raw Material Yard	372780.57
	Gross Total	Rs.3278739.97

For M/s, MEGHALAYA CEMENTS LIMITED

Meghalaya Cements Limited

AUTHORIZED SIGNATORY

Authorized Signatory

