

CCCPL/DACHEPALLI/ENV/2022 28th May, 2022

Addl. Principal Chief Conservator of Forests (C)
Ministry of Environment, Forests and Climate Change
Regional Office (SEZ), 1st and 2nd Floor, Handloom Export Promotion Council,
Cathedral Garden Road, Nungambakkam, Chennai- 34 (Tamilanadu)

Sub: Submission of Six Monthly Compliance Report for Environmental Clearance of 3.5 MTPA Cement Plant, 8 MW WHRB Power Plant and 2X50 MW Captive Power Plant of M/s Chettinad Cement Corporation Private Limited located at Pedagarlapadu & Kesanupalli (V), Dachepalli (M), Guntur District, Andhra Pradesh for the period of October 2021 to March 2022 - Reg.

Ref: 1. F. No. J-11011/421/2011-IA.II(I) Dated 24th February, 2015 (EC). 2. F. No. J-11011/421/2011-IA.II(I) Dated 27th October, 2020 (Name Change).

Dear Sir.

Reference with the Environmental Clearance cited above, we are herewith attaching six monthly compliance report for the period of October 2021 to March 2022 for 3.5 MTPA Cement Plant, 8 MW WHRB Power Plant and 2X50 MW Captive Power Plant of M/s Chettinad Cement Corporation Private Limited located at Pedagarlapadu & Kesanupalli (V), Dachepalli (M), Guntur District, Andhra Pradesh.

This is for your information & records please.

Thanking you,

Yours faithfully.

For Chettinad Cement Corporation Private Limited,



Seetharamulu Ch

Joint President- Works (Unit Head)

CC:

- Inspector General of Forests, Integrated Regional Office, Vijayawada Green House Complex, Vijayawada – 520010, Andhra Pradesh.
- Regional Directorate, Central Pollution Control Board, A-Block, Nisarga Bhavan, 1st and 2nd Floors, 7th D Cross, Thimmaiah Road, Shivanagar, Bengaluru-560079 (Karnataka)
- Environmental Engineer, Andhra Pradesh Pollution Control Board, Regional Office, D.No: 4-5-4/5C, 4/3 Navabharath Nagar, Ring Road, GUNTUR, AP – 522006

Encl: A/a

CIN: U93090TN1962PTC004947



Pedagarlapadu & Kesanupalli (V), Dachepalli (M), Guntur District, Andhra Pradesh – 522437

Environmental Clearance F. N. J-11011/421/2011-IA.II (I) Dated 24th February, 2015

SI. No.	Condition	Compliance Status					
SPE	CIFIC CONDITIONS:						
i.	The expansion project shall comply with the new MOEF standards vide GSR 612 (E) dated 25.8.2014 with respect to particulate Matter, SO2, NOx for Cement sector.	 We have installed Air Pollution Control Devices (APCDs) designed to achieve new emission standards vide GSR 612 (E) dated 25.8.2014 and we are complying with the standards. 					
		 Details of Air Pollution Control Devices installed are as follows: 					
		Equipment APCD Qty					
		Kiln & Raw Mill RABH 1 Nos					
		Coal Mill Bag House 1 Nos					
	Continuous stack monitoring facilities to monitor gaseous emissions from the process stacks shall be provided. After expansion, limit of PM shall be controlled to meet prescribed standards by	Clinker Cooler ESP 1 Nos					
		Cement Mill Bag House 1 Nos					
		LS P. Crusher Bag Filter 1 Nos					
		LS S. Crusher Bag Filter 1 Nos					
		Material Transfer Points Bag Filters 85+ Nos					
ii. installing adequate Electrostatic precipi house to raw mill/kilr cement mill. Low No control NOx emission	installing adequate air pollution control system. Electrostatic precipitators to clinker cooler, bag house to raw mill/kiln and bag filters to coal mill and cement mill. Low NOx burners shall be provided to control NOx emissions. Regular calibration of the instruments must be ensured.	 We have installed state of art Pyro Redox Low NOx Calciner technology at our pyro processing section to reduce the NOx emissions below the prescribed standards. Continuous Emission Monitoring System (CEMS) is installed at Kiln & Raw Mill stack, Coal Mill stack, Clinker Cooler stack & Cement Mill stack. Photographs of Major APCE's & stack CEMS installed are attached as Annexure-1. Regular calibration of instruments is being ensured. 					
iii.	All the pollution control devices/equipment in raw mill/kiln, kiln feeding system, clinker cooler, coal mill, cement mil, and cement silo, shall be interlocked so that in the event of the pollution control devices/systems not working, the respective unit(s) shutdown automatically.	Prescribed Interlocking system has been provided so that in the event of the pollution control devices/systems not working, the respective unit(s) shutdown automatically.					



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Environmental Clearance F. N. J-11011/421/2011-IA.II (I) Dated 24th February, 2015

SI.	Condition	Compliance Status				
No.	Condition	We have commissioned 20 MW Waste Heat				
iv.	Proper and full utilization of gases generated from the kiln in waste heat recovery boiler (WHRB) and a feasibility report shall be prepared and implemented as part of the integrated project.	 Recovery Boiler Power Plant (WHRBPP) and obtained Consent for Operation Order on 03.07.2020 along with cement plant. As part of WHR system, we have installed PH boiler at Preheater and AQC boiler at Clinker Cooler to capture the waste heat gases. Further, these gases will move to the turbine and generates 20 MW electricity from waste gases 				
٧.	The proponent shall provide an interlocking system to ensure that whenever the ESP is not in operation, the raw material feeder will automatically stop and restart only with the restart of ESP.	Interlocking system has been provided to ensure that whenever the ESP is not in operation, the raw material feeder will automatically stop and restart only with the restart of ESP.				
vi.	Secondary fugitive emissions shall be controlled and shall be within the prescribed limits and regularly monitored. Guidelines/code of practice issued by the CPCB in this regard shall be followed.	 Fugitive emission control measures like closed raw material sheds, closed conveying system, Bag filters at material transfer points, internal CC roads & Water sprinkling on roads are in place. Photos of various fugitive emission control measures implemented are in Annexure-2. 				
vii.	Arsenic and Mercury shall be monitored periodically in emissions, ambient air and water.	 Our captive power plant establishment activities are yet to be commenced. Once the CPP comes under operation, we will monitor Mercury in the emissions. However, we are monitoring Arsenic and Mercury concentration periodically in water & reports of the same are being submitted. 				
viii.	The coal storage yard shall be lined and covered.	Construction of storage shed for coal Completed. Photograph of the same are attached as Annexure-3 .				
ix.	Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land. All the raw materials including fly ash shall be transported in the closed containers only and shall not be overloaded. The company shall have separate truck parking area. Vehicular emissions shall he regularly monitored.	 All raw material transport vehicles are reaching the plant premises with tarpaulin coverings. Fly ash transported through closed container trucks (Bunker) only. Separate truck parking area with Cement Concrete is established. Vehicular emissions are monitored by regular pollution checks. 				



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Environmental Clearance F. N. J-11011/421/2011-IA.II (I) Dated 24th February, 2015

SI. No.	Condition	Compliance Status			
x.	Total fresh water requirement after the proposed expansion of the cement and captive power plant shall not exceed 2000 m3/day to be sourced from the groundwater and River Krishna. Prior permission shall be obtained from the competent authority for water drawl. A five year water management plan shall be made so as to achieve reduction in ground water withdrawal.	Currently water requirement is met through Groundwater (Bore Wells) only and Permission for withdrawal of 1800 KLD ground water has been obtained from AP Groundwater department vide Lr. No. 298/T/SDP/GNT/2015-16 Dated 21.07.2015. Copy of permission letter attached as Annexure-4.			
xi.	Efforts shall be made to further reduce water consumption by using air cooler condensers. All the treated wastewater shall be recycled and reused in the process and/or for dust suppression and green belt development and other plant related activities etc. No process wastewater shall be discharged outside the factory premises and 'zero' discharge shall be adopted.	 Air Cooled Condensers are installed for WHRB power plant to reduce the water consumption. No wastewater generation from Cement manufacturing process. Domestic waste water generated is treated in Sewage Treatment Plant (STP) and treated water is used for greenbelt development developed within the premises. 			
xii.	Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir shall be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources.	 Roof top rainwater harvesting system has been provided in the colony area with percolation pits. System will be established shortly. Rainwater harvesting tank is under construction. 			
xiii.	Regular monitoring of influent and effluent, surface, sub-surface and ground water shall be ensured and treated wastewater shall meet the norms prescribed by the state pollution control board or described under the environment(Protection) Act,1986 whichever are more stringent. Leachate study for the effluent generated and analysis shall also be regularly carried out and report submitted to be Ministry's Regional Office at Chennai, SPCB and CPCB.	 Effluent water will not generate from cement manufacturing process. Effluent water generated from WHRB being treated in N-Pit to confirming prescribed standards during operation of the WHRBPP. Treated sewage water from STP is being analyzer. Ground water collected from nearby villages is being analyzed. The analysis results are attached as Annexure-5. 			
xiv.	All the bag filter dust, raw mill dust, coal dust, clinker dust and cement dust from pollution control devices shall be recycled and reused in the process and used for cement manufacturing. Spent oil and batteries shall be sold to authorized recyclers/ reprocessors only.	the Bag filter dust, raw mill dust, coal dust, clinker dust and cement dust from pollution control devices in to the process.			



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Environmental Clearance F. N. J-11011/421/2011-IA.II (I) Dated 24th February, 2015

SI. No.	Condition	Compliance Status
XV.	All the fly ash shall be utilized as per fly ash notification 1999 subsequently amended in 2003 and 2008. Efforts shall be made to use fly ash maximum in making Pozzolona Portland Cement (PPC). A detailed study on chemical composition of coal used particularly heavy metal and radio activity contents shall be carried out through a reputed institute and report shall be submitted to regional office of the Ministry at Chennai. Only after ascertaining its radioactive level shall fly ash be supplied for utilization in cement manufacturing.	Captive Thermal Power Plant project activities are not yet commenced. Once CPP comes under operation we will analyze the chemical composition of the coal with respect to heavy metals & radioactive elements.
xvi.	Efforts shall be made to use low-grade lime, more fly ash and solid waste in the cement manufacturing.	Condition is duly noted and will be complied.
xvii.	The proposed cement plant kiln shall be provided with a flexible fuel feeding system to enable use of hazardous wastes such as oil sludge, cut tyres, etc.	Condition is duly noted. Dedicated Hazardous waste Pre-processing & Co-processing facility will be provided for usage of hazardous wastes such as oil sludge, cut tyres, etc.
xviii.	The proponent shall examine and prepare a plan for utilization of high calorific wastes, distillation residues, refuse derived fuels, etc as alternate fuels based on availability and composition. For this, the proponent shall identify suitable industries with such wastes and enter into an MOU for long-term utilization of such wastes as per the E(P) A Rules,1986 and with necessary approvals.	We have proposed to develop dedicated Co- processing & Pre-Processing facility with an investment of 21.07 crores. We have applied CFE for Co-processing & Pre- Processing facility for utilization of high calorific wastes, distillation residues; refuse derived fuels, etc. as alternate fuels. We will identify suitable industries with such wastes and undergo MOU for long-term utilization of such wastes.



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Six Monthly Compliance Report –October 2021 to March 2022

SI. Condition **Compliance Status** No. Greenbelt development activity has been xix. started and being developed in phased manner with local/native plant species. As proposed, green belt over 33% of the total We have developed greenbelt all along the project area shall be developed within plant plant boundary, along the internal roads and premises with at least 10 meter wide green belt on in vacant places. all sides along the periphery of the project area, in As on 31.03.2022, greenbelt developed in an downward direction, and along road sides etc. area of 81.50 Acres. Selection of plant species shall be as per the Photos showing greenbelt development is CPCB guidelines in consultation with the DFO. attached as Annexure-6. • We have already started land development works for greenbelt development in another 26 Acres. Works is under progress. XX. All the recommendations made in the charter on CREP guidelines are being complied. Corporate Responsibility for Environment Protection Compliance status of the same is attached as (CREP) for the cement plants shall be implemented. Annexure -7. xxi. During Public hearing meeting held on 05.03.2014, most of the concerns raised for Job opportunities, environmental protection & infrastructure development in surrounding villages. All the commitments made to the public during the Job opportunities has been given to the Public Hearing/Public consultation meeting held nearby villagers, Advance Environmental on 05.03.2014 shall be satisfactorily implemented protection measures are under and a separate budget for implementing the same implementation to prevent the surrounding shall be allocated and information submitted to be from Pollution. Infrastructure areas Ministry's Regional Office at Bangalore. development like Concrete approach road has been made to protect the agricultural land located along the road from fugitive emission and other developmental measures are being taken based on the need raised in the phased manner.



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SI. No.	Condition	Compliance Status
xxii.	The proponent shall prepare a detailed CSR Plan for every next 5 years for the existing-cumexpansion project, which includes village-wise, sector-wise (Health, Education, Sanitation, Health, Skill Development and infrastructure requirements such as strengthening of village roads, avenue plantation etc, activities in consultation with the local communities and administration. The CSR Plan will include the amount of 2% retain annual profits as provided for in Clause 135 of the Companies Act, 2013 which provides for 2% of the average net profits of previous 3 years towards CSR activities for life of the project. A separate budget head shall be created and the annual capital and revenue expenditure on various activities of the Plan shall be submitted as part of the Compliance Report to RO, Bangalore. The details of the CSR plan shall also be uploaded on the company website and shall also be provided in the Annual Report of the company.	 Detailed CSR plan was submitted along with EIA report (Chapte-8). We are carrying out CSR activities with focus on Health, Education, sanitation and infrastructure development in nearby villages. We ensure that 2% of the profit amount is spent for CSR activities.
xxiii.	Risk Assessment and Disaster Management Plan with focus on Disaster Prevention and Safety shall be prepared and a copy submitted to the Ministry's Regional Office at Bangalore, SPCB and CPCB within 3 months of issue of environment clearance letter.	Detailed risk assessment, emergency management & Disaster Management Plan are included in the EIA report which was submitted to the ministry.
xxiv.	construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking mobile toilets, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Provisions like sheds with necessary facilities like sanitation, drinking water, electricity & health care facilities have been made for the construction labors.
i.	ERAL CONDITIONS: No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.	Condition is duly noted. Prior approval will obtained for any expansions & modifications.



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SI. No.	Condition	Compliance Status
ii.	At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM10, PM2.5, SO2 and NOx are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bangalore and the SPCB/CPCB once in six months.	 Ambient air quality is being monitored for PM₁₀, PM_{2.5}, SO₂ and NO_x parameters at 4 locations around plant boundary by engaging NABL approved third party laboratory. Monitoring results are attached as Annexure-8. Data on ambient air quality and stack emission monitoring are being submitted to MOEFCC RO, CPCB & APPCB along with six monthly compliance reports.
iii.	Industrial wastewater shall be properly collected, treated so as to conform to be standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.	 No wastewater generation is envisaged from Cement manufacturing activity. Effluent water generated from WHRB is being treated in N-Pit to confirming prescribed standards during operation of the WHRBPP. The treated wastewater being utilized for dust suppression & road wetting activities.
iv.	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70dBA (night time).	 Source noise control measures are implemented by providing acoustic hoods, silencers, enclosures to high noise generating equipment. Ambient noise levels are being monitored at plant boundary & nearby villages. Ambient & Source noise levels monitoring results are attached as Annexure-8.
V.	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Condition is duly noted & will be complied. Pre- employment health checkup of the employees is being carried out.
vi.	The company shall develop surface water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.	Roof top rainwater harvesting system has been planned in the colony area by providing percolation pits. System will be established shortly. Rainwater harvesting tank is under construction.



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SI.					
No.	Condition	Compliance Status			
vii.	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socioeconomic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	 All the environmental protection measures and safeguards recommended in the EIA/EMP report are being complied Undertaking socioeconomic development activities in the surrounding villages like community development programs, educational programs, drinking water supply and health care etc. under CSR program. We ensure that 2% of the profit amount is spent for CSR activities. 			
viii.	Requisite amount shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Regional Office of the Ministry at Bangalore. The funds so provided shall not be diverted for any other purpose.	 Required capital & recurring fund has been allocated to implement the conditions stipulated by MoEF&CC as well as APPCB. All the Bag Houses & Bag filters are installed for dust controlling. Coal Storage shed construction is completed. Storage shed for limestone, Gypsum & Additives was completed. Greenbelt is being developed in phased manner. The funds so allocated are not diverted for any other purpose. 			
ix.	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad / Municipal Corporation Urban Local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.	Condition is complied.			



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SI. No.	Condition	Compliance Status				
X.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF at Bangalore. The respective Zonal Office of CPCB and SPCB. The criteria pollutant levels namely; PM10, PM2.5, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	 Status of compliance of the stipulated environment clearance conditions are being submitted on six monthly basis to RO of the MOEFCC at Chennai, ZO of CPCB at Bangalore and APPCB at Vijayawada. Copies of compliance reports along with monitoring reports are displayed in our company website at below link: https://www.chettinad.com/cements_plants.php?site=Dachepalli Real time board for display of critical parameters at main gate was installed. Display Board Photograph attached as Annexure-9. 				
xi.	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry at Bangalore/CPCB/SPCB shall monitor the stipulated conditions.	Compliance of the stipulated environmental conditions and results of monitored data are being submitted to RO of the MOEFCC at Chennai, ZO of CPCB at Bangalore and RO of APPCB at Guntur on every six months.				
xii.	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to be concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Office of the MOEF at Bangalore by email	Environmental Statement (Form-V) for the financial year 2020-21 has been submitted on 24.09.2021 to APPCB & RO of the MOEF at Chennai (by e-mail).				



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SI. No.	Condition	Compliance Status
xiii.	The Project proponent shall inform the public that the project has been accorded environmental clearance of the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in This shall be advertised within seven days from the date of issue of the clearance letter, at lease in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office at Bangalore.	EC accorded Advertisement given in the local newspaper (Telugu and English) which are presented in the Annexure-10 . > English – The Hindu dt.06.03.2015. > Telugu – Eenadu (Guntur edition) dt 06.03.2015.
xiv.	Project authorities 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 and the date of commencing the land development work.	 Project Land development was commenced from Nov' 2016 after obtaining Consent for Establishment order from APPCB. Consent for Operation was obtained from AP Pollution Control Board for 3.5 MTPA Cement & 20 MW WHRB on 03.07.2020.



(Formerly Chettinad Cement Corporation Limited)

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Six Monthly Compliance Report –October 2021 to March 2022

ANNEXURE-1

Major Air pollution control system installed at our plant such as RABH & ESP are designed to achieve the prescribed emission standards.



RABH for Kiln & Raw Mill



ESP for Clinker Cooler



Bag House for Coal Mill



Bag House for Cement Mill



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Continuous Emission Monitoring System (CEMS)



PM & Gaseous CEMS for Kiln & Raw Mill RABH Stack



PM CEMS for Coal Mill Bag House Stack



PM CEMS for Clinker Cooler ESP Stack



PM CEMS for Cement Mill Bag House Stack



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ANNEXURE-2

Fugitive Emissions Control Measures

Provided adequate bag filters at different material transfer points, closed conveying systems, constructed clinker silo, fly ash silo etc. for avoiding fugitive emissions.



Bag Filter at L/S primary crusher and closed building



Bag Filter at L/S secondary crusher



Closed limestone conveying system circuit



Closed Coal Conveyinfg System



Bag Filters at Flyash silo Top



Bag Filters at Blending silo Top



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Water spraying through tankers



Water spraying by mechanical sprinklers



Road sweeping machine



Road sweeping machine



Internal CC roads



Internal CC roads



(Formerly Chettinad Cement Corporation Limited)

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Provided dedicated closed sheds for Limestone, Coal, Gypsum, additives Storing the raw materials in the sheds to avoid fugitive emissions







Closed Additive Storage Shed



Gypsum storage shed & Closed conveying system

ANNEXURE-3

Coal Storage Shed



Coal Storage Shed Construction Completed



(Formerly Chettinad Cement Corporation Limited)

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Six Monthly Compliance Report –October 2021 to March 2022

ANNEXURE-4

1800 KLD Ground Water Withdrawal Permission

GOVERNMENT OF ANDHRA PRADESH GROUND WATER DEPARTMENT

From:

To:

Sri M. Rama Prasad, M.Sc., Deputy Director, Ground Water Department, ¼ Ramannapet,G U N T U R, Phone No. 0863-2230767 Fax No. 0863-2250930 M/s. Chettinad Cement Corporation Limited, Pedagarlapadu (V), Dachepally(M), Guntur District.

Lr.No. 298/T/SDP/GNT/2015-16/

Dated: 21.07.2015

Sir.

Sub:- Ground Water Department, Guntur - Single Window - Furnishing the Approved report of M/s. Chettinad Cement Corporation Limited, Pedagarlapadu (V) of Dachepally (M) in Guntur District - Regarding.

Ref:- Head Office Memo No. 1218/Hg-II/2015, Dated:- 20.07.2015.

With reference to the subject and reference cited above, I am herewith furnishing the ground water investigation report of M/s. Chettinad Cement Corporation Limited, Pedagarlapadu (V) of Dachepally (M) in Guntur District—is approved by the Director, Ground Water Department, Hyderabad. The firm is permitted to draw 1800 kld from 20 newly recommended Bore wells at V₁,V₂, V₃, V₄, V₆,V₇, V₈, V₉, V₁₀, V₁₄, V₁₅, V₁₆, V₁₇, V₁₈, V₁₉, V₂₀, V₂₁, V₂₄, V₂₅ and V₂₆ @ 10 hours of pumping in a day.

Encls: 1) Report Copy

Yours Faithfully.

DEPUTY DIRECTOR.

Copy submitted to the Director, Ground Water Department, Hyderabad for favour of information.

Copy submitted to the Commissioner of Industries, Government of Andhra Pradesh, Chirag Ali Iane, Hyderabad for favour of information.



(Formerly Chettinad Cement Corporation Limited)

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Six Monthly Compliance Report –October 2021 to March 2022

ANNEXURE-5

Treated Sewage Water Analysis Report

SI. No.	Parameter	Standards	Oct'21	Nov'21	Dec'21	Jan'22	Feb'22
1	pH @ 25°C	6.5-9.0	8.26	8.6	8.2	8.3	8.1
2	Total Suspended Solids (TSS)	<100 mg/L	11.1	10.5	11.6	8.7	8.4
3	Oil and Grease	1	BDL	BDL	BDL	BDL	BDL
4	Biochemical Oxygen Demand (BOD) at 27°C for 3 days	30 mg/L	8	8.2	12.4	6	5
5	Chemical Oxygen Demand (COD)	100 mg/L	42	48	58	36	34
6	Fecal coliforms	<1000 MPN/100mL	170	90	130	140	170

Treated WHRB Outlet Water Analysis Report

SI. No.	Parameter	Standards	Oct'21	Nov'21	Dec'21	Jan'22	Feb'22
1	pH @ 25°C	6.5-9.0	8.9	7.1	7.4	6.8	6.6
2	Total Suspended Solids (TSS)	<100 mg/L	8	6.5	5.6	4.9	4.2
3	Oil and Grease		BDL	BDL	BDL	BDL	BDL
4	Biochemical Oxygen Demand (BOD) at 27°C for 3 days	30 mg/L	BDL	BDL	BDL	BDL	BDL
5	Chemical Oxygen Demand (COD)	100 mg/L	21	BDL	BDL	BDL	BDL
6	Fecal coliforms	<1000 MPN/100mL		220	300	350	280



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Ground Water Quality (Requirement Limits as per IS 10500-2012)

Post-Monsoon Season (Oct'21 - Dec'21)

SI. No.	Parameter Name	UoM	Loc-1	Loc-2	Loc-3	Loc-4	Loc-5	Loc-6	
MICROBI	MICROBIOLOGICAL ANALYSIS								
1	Total coliforms	MPN	<2	<2	<2	<2	<2	<2	
ORGANO	LEPTIC AND PHYSICAL PARAMET	ERS							
2	Colour	Hazen	<1	<1	5	2	<1	5	
3	Odour		Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	
4	Turbidity	NTU	0.2	4.5	2.2	4.2	0.3	0.3	
5	pH @ 25°C		7.35	7.90	6.5	7.80	7.82	7.45	
6	Taste								
7	Total Dissolved Solids @180°C	mg/L	1028	1415	708	175	755	1670	
GENERA	L PARAMETERS CONCERNING SUI	BSTANCES	UNDESIRA	BLE IN EXC	ESSIVE AMO	DUNTS			
8	Boron as B	mg/L	0.122	0.243	0.15	0.243	0.218	0.041	
9	Calcium Hardness (as CaCO3)	mg/L	232	550	265	50	208	240	
10	Chloride as CI	mg/L	208	430	145	32	214	274	
11	Copper as Cu	mg/L	BLQ	BLQ	BLQ	BLQ	BLQ	BLQ	
12	Fluoride as F	mg/L	0.31	0.48	0.65	0.10	0.35	0.27	
13	Iron as Fe	mg/L	BDL	BDL	0.12	BDL	0.10	BDL	
14	Magnesium Hardness (as CaCO3)	mg/L	104	305	100	19	140	160	
15	Manganese as Mn	mg/L	BLQ	0.048	0.012	0.019	0.026	0.008	
16	Nitrate as NO ₃	mg/L	5.9	27	15	18	40	24	
17	Selenium as Se	mg/L	BLQ	BLQ	BLQ	BLQ	BLQ	BLQ	
18	Sulphate as SO ₄	mg/L	314	314	65	27	160	160	
19	Total Hardness as CaCO ₃	mg/L	338	560	375	75	345	410	
20	Total Alkalinity as CaCO ₃	mg/L	269	315	205	59	304	445	
21	Anionic SurfaceActive Agent as MBAS	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	
22	Sodium as Na	mg/L	19	62	25	27	30	110	
23	Conductivity @ 25°C	μS/cm	2184	2574	1202	333	1455	2928	
PARAME	TERS CONCERNING TOXIC SUBST	ANCES							
24	Cadmium as Cd	mg/L	BLQ	BLQ	BLQ	BLQ	BLQ	BLQ	
25	Cyanide as CN	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	
26	Lead as Pb	mg/L	BLQ	BLQ	BLQ	BLQ	BLQ	BLQ	
27	Mercury as Hg	mg/L	BLQ	BLQ	BLQ	BLQ	BLQ	BLQ	
28	Total Arsenic as As	mg/L	BLQ	BLQ	BLQ	BLQ	BLQ	BLQ	
29	Total Chromium as Cr	mg/L	BLQ	BLQ	BLQ	BLQ	BLQ	BLQ	
30	Pesticide Residues	mg/L	BLQ	BLQ	BLQ	BLQ	BLQ	BLQ	

Loc-1: Mine Site, Loc-2: Plant Site, Loc-3: Takkellapadu, Loc-4: Veerapuram, Loc-5: Pedagarlapadu, Loc-6: Kachavaram, BLQ-Below the Limit of Quantitation, BDL-Below the Detectable Limit, AB – Absent

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Ground Water Quality (Requirement Limits as per IS 10500-2012) Winter Season (Jan'22 - Mar'22)

SI. No.	Parameter Name	UoM	Loc-1	Loc-2	Loc-3	Loc-4	Loc-5	Loc-6	
MICROBI	OLOGICAL ANALYSIS								
1	Total coliforms	MPN	<2	<2	<2	<2	<2	<2	
ORGANO	ORGANOLEPTIC AND PHYSICAL PARAMETERS								
2	Colour	Hazen	<1	<1	5	<1	<1	<1	
3	Odour		Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	
4	Turbidity	NTU	0.4	4.0	2.0	4.0	0.5	0.4	
5	pH @ 25°C		7.28	7.82	6.20	7.64	7.70	7.52	
6	Taste			-		-			
7	Total Dissolved Solids @180°C	mg/L	484	478	464	184	482	490	
GENERA	L PARAMETERS CONCERNING SUE	STANCES	UNDESIR	ABLE IN EX	CESSIVE A	MOUNTS			
8	Boron as B	mg/L	0.22	0.352	0.13	0.188	0.222	0.030	
9	Calcium Hardness (as CaCO3)	mg/L	134	122	88	44	128	86	
10	Chloride as CI	mg/L	124	150	70	30	84	110	
11	Copper as Cu	mg/L	BLQ	BLQ	BLQ	BLQ	BLQ	BLQ	
12	Fluoride as F	mg/L	0.27	0.39	0.58	0.12	0.31	0.25	
13	Iron as Fe	mg/L	BDL	BDL	0.1	BDL	0.09	BDL	
14	Magnesium Hardness (as CaCO3)	mg/L	36	57	24	17	32	40	
15	Manganese as Mn	mg/L	BLQ	0.50	0.011	0.016	0.027	0.007	
16	Nitrate as NO ₃	mg/L	5.2	15	10	7	12	12	
17	Selenium as Se	mg/L	BLQ	BLQ	BLQ	BLQ	BLQ	BLQ	
18	Sulphate as SO ₄	mg/L	120	84	28	14	38	40	
19	Total Hardness as CaCO ₃	mg/L	170	179	112	61	160	126	
20	Total Alkalinity as CaCO ₃	mg/L	154	112	76	54	112	108	
21	Anionic Surface Active Agent as MBAS	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	
22	Sodium as Na	mg/L	17	14	13	8	14	20	
23	Conductivity @ 25°C	μS/cm	984	858	768	324	842	848	
PARAME	TERS CONCERNING TOXIC SUBSTA	ANCES							
24	Cadmium as Cd	mg/L	BLQ	BLQ	BLQ	BLQ	BLQ	BLQ	
25	Cyanide as CN	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	
26	Lead as Pb	mg/L	BLQ	BLQ	BLQ	BLQ	BLQ	BLQ	
27	Mercury as Hg	mg/L	BLQ	BLQ	BLQ	BLQ	BLQ	BLQ	
28	Total Arsenic as As	mg/L	BLQ	BLQ	BLQ	BLQ	BLQ	BLQ	
29	Total Chromium as Cr	mg/L	BLQ	BLQ	BLQ	BLQ	BLQ	BLQ	
30	Pesticide Residues	mg/L	BLQ	BLQ	BLQ	BLQ	BLQ	BLQ	

Loc-1: Mine Site, Loc-2: Plant Site, Loc-3: Takkellapadu, Loc-4: Veerapuram, Loc-5: Pedagarlapadu, Loc-6: Kachavaram, BLQ-Below the Limit of Quantitation, BDL-Below the Detectable Limit, AB - Absent



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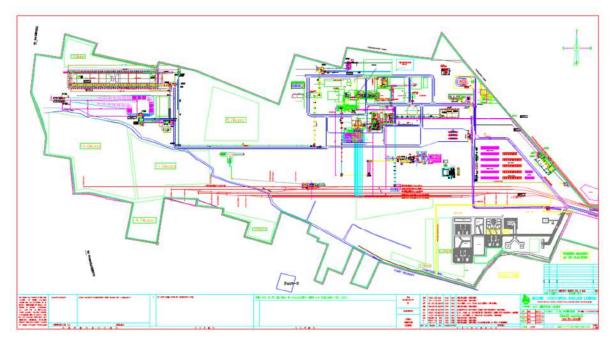
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ANNEXURE-6

Greenbelt Development

Year of Plantation	No's Saplings Planted	Area in Ha	Area in Acres	Survival Rate (%)
2017-18	4500	4.05	10.00	96%
2018-19	2800	2.52	6.22	96%
2019-20	3411	1.82	4.49	98%
2020-21	2705	2.43	6.01	98%
2021-22	24186	22.17	54.77	90%
Total	37602	32.99	81.50	



Plant Layout Showing Greenbelt Development Details

Type of Saplings: Native

Neem (Azadirktha Indica)

Pacha Sunkesula, Konda Chintha (Peltophorum Pterocarpum)

Badam (Terminalia Catappa)

Turayi, Gulmohar (Delonix Regia)

Seema Thangedu (Senna Ariculata)

Kanuga (Pongamia Pinneta)

Conocopus (Dubai)

Silver Oak

Bignonia mega potanica

Spathodia



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ANNEXURE-7

<u>Charter on corporate responsibility for Environmental protection (CREP)</u> (Cement Industry)

6:	(Cement Industry)					
SI. No.	Description of Condition	Status of Compliance				
I.	Cement Plants, which are not complying with notified standards, shall do the following to meet the standards. Augmentation of existing Air Pollution Control Devices - by July 2003. Replacement of existing APCD - by July 2004.	We have installed Air Pollution Control Devices (APCDs) are designed to achieve new emission standards vide GSR 612 (E) dated 25.8.2014 and we are complying with the standards.				
II.	Cement Plants located in critically polluted or urban areas (including 5 km distance outside urban boundary) will meet 100 mg/ Nm3 limit or particulate matter by December 2004 and continue working to reduce the emission of particulate matter to 50 mg/Nm3.	We are complying with Particulate Matter emission standards of 30 mg/Nm3.				
III.	The new cement kilns to be accorded NOC/Environmental Clearance w.e.f 01.04.2003 will meet the limit of 50 mg/Nm3 for particulate matter emissions.	We are complying with Particulate Matter emission standards of 30 mg/Nm3.				
IV.	CPCB will evolve load-based standards by December 2003.	Noted.				
V.	CPCB and NCBM will evolve SO2 and NOx emission standards by June 2004.	Noted.				
VI.	The Cement industries will control fugitive emissions from all the raw material and products storage and transfer points by December 2003. However, the feasibility for the control of fugitive emissions form limestone and coal storage areas will be decided by the National Task Force (NTF). The NTF shall submit its recommendations within three months.	Fugitive emissions are controlled by establishing closed raw material sheds, closed conveying system; Bag filters at material transfer points, internal CC roads & Water sprinkling on roads.				
VII.	CPCB, NCBM, BIS and Oil refineries will jointly prepare the policy on use of petroleum cokes as fuel in cement kiln by July 2003.	Noted.				
VIII.	After performance evaluation of various types of continuous monitoring equipment and feedback form the industries and equipment manufacturers, NTF will decide feasible unit operations/ sections for installation of continuous monitoring equipment. The industry will install the continuous monitoring systems (CMS) by December 2003	Continuous Emission Monitoring System (CEMS) is installed at our Kiln & Raw Mill stack, Coal Mill stack, Clinker Cooler stack & Cement Mill stack and connected to APPCB & CPCB websites.				
IX.	Tripping in kiln ESP to be minimized by July 2003 as per the recommendations of NTF.	This condition may not applicable to us as we are having Reverse Air Bag House for Kiln as APCD. No trappings were observed at Clinker Cooler ESP.				
X.	Industries will submit the target date to enhance the utilization of waste material by April, 2003.	We have proposed to develop dedicated Co-processing & Pre-Processing facility with an investment of 21.07 crores. We have applied CFE for Co-processing & Pre-Processing facility for utilization of high calorific wastes as AFR.				
XI.	NCBM will carry out a study on hazardous waste utilization in cement kiln by December 2003.	Noted.				
XII.	Cement industries will carry out feasibility study and submit target dates to CPCB for co-generation of power by July 2003. *Noncomplying units shall give bank guarantee to respective SPCB's.	We are having 20 MW Waste Heat Recovery Boiler Power Plant.				

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ANNEXURE-8

Ambient Air Quality Monitoring Data

Particulate Matter Less than 10 Microns (PM 10) - µg/m³

SI. No.	AAQ Location	Oct'21	Nov'21	Dec'21	Jan'22	Feb'22
1	Near Main Gate	44.0	52.3	49.7	50.4	48.4
2	Near CAAQMS Upwind	46.7	48.3	50.6	51.9	54.2
3	Near CAAQMS Downwind	45.4	50.1	52.8	53.2	51.4
4	North West Corner	50.9	58.2	55.7	55.8	52.5
N	IAAQMS:2009 Standards:			100 μg/m ³		

Particulate Matter Less than 2.5 Microns (PM 2.5) - µg/m³

SI. No.	AAQ Location	Oct'21	Nov'21	Dec'21	Jan'22	Feb'22
1	Near Main Gate	16.5	24.1	22.8	22.4	21.2
2	Near CAAQMS Upwind	15.9	19.6	23.1	17.9	21.3
3	Near CAAQMS Downwind	25.5	18.2	21.3	17.1	16.2
4	North West Corner	20.0	20.5	17.8	22.6	18.4
N	IAAQMS:2009 Standards:	60 μg/m³				

Sulphur Dioxide (SO2) - μg/m³

SI. No.	AAQ Location	Oct'21	Nov'21	Dec'21	Jan'22	Feb'22
1	Near Main Gate	6.4	9.9	10.6	10.5	11.2
2	Near CAAQMS Upwind	9.7	11.2	10.9	12.9	11.4
3	Near CAAQMS Downwind	7.7	10.6	12.1	9.8	8.4
4	North West Corner	7.4	12.4	14.6	10.9	13.4
N	IAAQMS:2009 Standards:			80 μg/m ³		

Nitrogen Dioxide (NO2) - μg/m³

SI. No.	AAQ Location	Oct'21	Nov'21	Dec'21	Jan'22	Feb'22
1	Near Main Gate	13.5	13.4	12.1	14.6	15.4
2	Near CAAQMS Upwind	11.2	13.4	14.5	14.8	17.3
3	Near CAAQMS Downwind	11.5	12.8	15.4	13.9	12.2
4	North West Corner	12.2	15.8	17.2	16.9	15.2
N	NAAQMS:2009 Standards:	80 μg/m³				



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Ambient Noise Monitoring Data

	Parameter	Oct'21		Nov'21		Dec'21	
SI. No.	i arameter	Day	Night	Day	Night	Day	Night
	Standards	75 dB(A)	70 dB(A)	75 dB(A)	70 dB(A)	75 dB(A)	70 dB(A)
1	CCCPL Colony	66.2	62.4	69.2	58.3	67.3	52.8
	Standards	55 dB(A)	45 dB(A)	55 dB(A)	45 dB(A)	55 dB(A)	45 dB(A)
2	Pedagarlapadu Village	39.6	42.0	50.7	41.8	51.5	43.4
3	Takkellapadu Village	38.4	43.2	52.9	42.3	48.6	41.5
4	Veerapuram Village	37.9	43.8	51.6	40.6	52.1	43.6
5	Budawada Village	49.3	38.7	50.8	41.4	51.7	40.4
6	Kachavaram Village	48.9	42.2	49.7	42.6	49.6	40.8
7	Gadawaripalle Village	44.0	40.5	52.5	43.8	50.4	41.4
8	Tummala Chervu Village	47.4	41.1	53.8	40.5	51.8	42.4

	Parameter	Jar	n'22	Feb'22		
SI. No.	Farameter	Day	Night	Day	Night	
	Standards	75 dB(A)	70 dB(A)	75 dB(A)	70 dB(A)	
1	CCCPL Colony	71.2	60.3	67.8	61.2	
	Standards	55 dB(A)	45 dB(A)	55 dB(A)	45 dB(A)	
2	Pedagarlapadu Village	51.8	40.8	52.5	42.5	
3	Takkellapadu Village	50.6	41.2	48.3	41.8	
4	Veerapuram Village	52.8	42.2	50.4	40.6	
5	Budawada Village	51.8	41.2	51.6	41.4	
6	Kachavaram Village	51.4	42.5	50.8	43.2	
7	Gadawaripalle Village	52.4	41.8	52.8	42.8	
8	Tummala Chervu Village	53.5	43.4	53.2	42.0	

Work Zone Noise Monitoring Data

SI. No.	Parameter	Standards	Oct 21- Dec 21 Noise Levels dB(A)	Jan'22 - Mar'22 Noise Levels dB(A)		
1	Kiln Area		72.8	72.6		
2	Cooler Fans Area		78.2	73.9		
3	Coal Mill Area		77.5	71.7		
4	Coal Mill Compressor Area	85 DB (A)	80.6	70.2		
5	Cement Mill Area	65 DB (A)	72.6	84.4		
6	Cement Mill Compressor Area		78.5	83.3		
7	Central Control Room		62.8	62.9		
8	Raw Mill/Preheater Area		73.4	68.2		
Measured 3 Meter away from Source						



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ANNEXURE-9

Digital Display Board at Main Gate











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ANNEXURE-10

EC accorded advertisement in News Papers

