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F. No. J-11011/399/2008- IA II (I)  
Government of India  
Ministry of Environment and Forests  
(I.A. Division)

AVP (CP)  
M. datun

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Dated: June 18, 2010

To,  
M/s Chettinad Cement Corporation Limited  
Kumararajah Muthiah Nagar  
Puliyur Cement Factory  
Karrur District - 639114  
Tamilnadu

Sub: Integrated Cement Plant (2.5 MTPA), Captive Power Plant (2x15 MW) at SF No. 5 and surroundings in Village Sangem (K) and Captive limestone mine (4.0 MTPA, 422.940 ha.) at SF Nos. 18-30, 169-209, 221-225, 227-251, Village Kallur, Taluk Chincholi, District Gulbarga, Karnataka by M/s Chettinad Cement Corporation Ltd. - reg environmental clearance.

Sir,

This has reference to your letter no. Chettinad cement/PH/2001 dated 8<sup>th</sup> February, 2010 along with copies of final EIA report and public hearing reports seeking environment clearance under the provisions of EIA Notification, 2006.

2. The Ministry of Environment and Forests has examined the proposal. It is noted that M/s Chettinad Cement Corporation Ltd. have proposed to set up an Integrated Cement Plant (2.5 MTPA), Captive Power Plant (2x15 MW) and Captive Limestone Mine (4.0 MTPA) at Villages Sangam (K) and Kallur, Taluk Chincholi, in District Gulbarga in Karnataka. The area required for the cement plant is 41.00 ha. Total land requirement for the project will be 566.810 ha which includes cement plant, captive power plant & township (143.870 ha.) and captive limestone mines (422.94 ha.). The entire area is dry agriculture and barren land owned by the company. No forest land is involved. Chincholi reserve forest is at a distance of 4 km in the North-East direction from the mine boundary. Mullamari River flows North to South at a distance of 2 km from the site in the west and confluences with Kagna River which flows in the south at a distance of 13 km from the site boundary. No rehabilitation and resettlement is involved with in the project site. No national park/wildlife sanctuary / biosphere reserve etc. is located within 10 km distance of the plant area. The site falls in seismic zone - I. Total cost of the project will be Rs. 600.00 Crores. Rs. 55.00 Crores and Rs. 9.00 Crores are earmarked towards capital cost and recurring cost/annum for environment pollution control measures.

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4. The method of mining will be opencast mechanised involving drilling and blasting. It is proposed to adopt wet drilling. Life of the mine is 57 years. The ground water table is at a depth of 10 m to 40 m. Ultimate pit limit will be 30 m below ground level. The mining will intersect water table by 5<sup>th</sup> year of operation. Water encountered in the mine will be collected in a sump and utilized for dust suppression and green belt development. The excess water will be pumped out into the natural drain. Top soil generation will be 41,20,914 Million Tons which will be stacked separately and used for green belt development. Green belt will be developed in an area of 48 ha in plant and township and 10 ha in the mine area. IBM has approved the mining plan vide letter no. VIP/JLB/LST-243-SZ dated 15.04.2010.

5. Total ground water requirement for the proposed project will be 900 KLD. RO plant is proposed for boiler feed water. No industrial wastewater will be generated from the cement plant. The effluent from the power plant after neutralization will be used for cooling in the cement plant. The domestic sewage after treatment in the STP will be used for green belt development. Waste oil will be sold to the authorized agency for further treatment and disposal. Rain water harvesting structure including check dams will be constructed. Power requirement for the plant will be about 25MW and 2 MW for the township and will be met from the Captive Thermal Power Plant of 2X15 capacity and 4 MW from KPTCL grid. 3 nos. of 2 MW DG sets will be installed for emergency power requirement.

6. The major pollutants expected from the power plant will be SPM, SO<sub>2</sub> and NO<sub>x</sub>. ESPs to cooler and CPP, bag house to kiln/raw mill and coal mill and bag filters to cement mill and packing plants will be provided to control the SPM emission below 50 mg/m<sup>3</sup>. Fugitive emissions from limestone handling, coal handling, clinker hopper, storage silos, weight feeders, grinding mills and packing machines will be controlled by providing covered sheds for storage of raw material, fully covered conveyors for transportation of materials, etc. The dust collected from the various air pollution control measures like bag houses/filters, ESPs etc. will be totally recycled in the process for cement manufacturing. Fly ash (75 TPD) will be pneumatically transported to the cement plant to be used in the PPC manufacturing. The bed ash (15 TPD) will be used as bed material in the cement plant. Other wastes like lime sludge from paper industries, ETP sludge, filter cake from iron and steel industries, fly ash from thermal power plants, red mud from Aluminum industries and agro wastes will be used in the cement kiln. Solid waste from STP (10 TPA) will be used as manure for green belt. Organic wastes (100 Kg/day) will be subjected to vermi-composting and used as manure for green belt. Inorganic wastes (papers and other wastes) will be sold to rag pickers / scrap dealers. Waste oil (100 LPD) from the plants shall be collected and sold to the CPCB/KSPCB authorized Agency for further treatment & disposal. Top soil dumps from mines will be used for blending or will be used for refilling at the end of mining.

7. All the Cement Plants and limestone mining projects are listed at S.M. 3(b) and 1(a) respectively in the schedule of Environmental Impact Assessment Notification, 2006. The cement plant more than 1.0 MTPA capacity and non-coal mine lease area above 50 ha are category 'A' projects and appraised at central level. Public hearing / Public consultation meeting was held on 30.12.2009.

8. The proposal was considered by the Expert Appraisal Committee -1 (Industry) in its 10<sup>th</sup> meeting held during 17<sup>th</sup> -18<sup>th</sup> May, 2010. The Committee has recommended the proposal for environmental clearance subject to stipulation of specific conditions along with other environmental conditions:

9. Based on the information submitted by you, presentation made by you and Environmental System Consultant, Chennai, the Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification dated 14<sup>th</sup> September, 2006 subject to strict compliance of the following Specific and General conditions:

**A. SPECIFIC CONDITIONS:**

- i). No construction work at the proposed project site shall be started without obtaining prior clearances / approvals for the linked mining component from the Indian Bureau of Mines (IBM) and State Govt. of Karnataka. A copy of the mining plan and mine lease approval from the Indian Bureau of Mines (IBM) and State Govt. of Karnataka shall be submitted to the Ministry and its Regional Office at Bangalore before initiating any construction work at site related to mining.
- ii). Rehabilitation and Resettlement Plan for the project affected population including tribals, if applicable, shall be implemented as per the policy of the State Govt. in consultation with the State Govt. of Karnataka. Compensation paid in any case shall not be less than the norms prescribed under the National Resettlement and Rehabilitation Policy, 2007.
- iii). 'Permission' and 'Récommendations' of the State Forest Department regarding impact of cement plant and mining activities on the surrounding Chincholi reserve forest shall be obtained and implemented. Further, Conservation Plan for the conservation of wild fauna in consultation with the State Forest Department should be prepared and implemented.
- iv). The gaseous and particulate matter emissions from various units shall conform to the standards prescribed by the Karnataka Pollution Control Board. At no time, particulate emissions from the cement plant including kiln, coal mill, cement mill, cooler and captive power plant (CPP) shall not exceed 50 mg/Nm<sup>3</sup>. Continuous on-line monitors for particulate emissions shall be installed. Pyrites, fluoride and Hg emissions shall be monitored. Interlocking facility shall be provided in the pollution control equipment so that in the event of the pollution control equipment not working, the respective unit (s) is shut down automatically.
- v). Possibilities shall be explored for proper and full utilization of gases generated from the kiln in waste heat recovery boiler (WHRB) and a feasibility report should be prepared and submitted to the Ministry and its Regional Office at Bangalore within 3 months from the date of issue of the letter.

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- vi). Data on ambient air quality (PM10, SO2, NOx) shall be regularly submitted to the Ministry including its Regional office located at Bangalore and the State Pollution Control Board / Central Pollution Control Board once in six months. The critical parameters such as PM10, NOx in the ambient air within the impact zone, peak particle velocity at 300m distance or within the nearest habitation, whichever is closer shall be monitored periodically. Further, quality of discharged water shall also be monitored [(TDS, DO, pH) and total Suspended solids (TSS)]. The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the company in public domain.
- vii). The Company shall install low NOx burner with Kiln/calciner for control of NOx emissions below 400 mg/Nm<sup>3</sup>.
- viii). Secondary fugitive emissions shall be controlled within the prescribed limits and regularly monitored. Guidelines / Code of Practice issued by the CPCB in this regard shall be followed.
- ix). The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 shall be followed.
- x). 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. Vehicular emissions should be regularly monitored.
- xi). Fly ash shall be utilized as per the provisions of Fly Ash Notification, 1999, subsequently amended in 2003. Fly ash shall be stored in ash silo and 100% used in the cement manufacturing.
- xii). The company shall make the efforts to utilise the high calorific hazardous waste in the cement kiln and necessary provisions shall be made accordingly. The company shall keep the record of the waste utilized and shall submit the details to ministry's Regional Office at Bangalore, CPCB and SPCB.
- xiii). Rainwater harvesting measures shall be adopted for the augmentation of ground water at cement plant, colony including check dams at mine site. The company must also collect rain water in the mined out pits of captive lime stone mine and use the same water for the various activities of the project to conserve fresh water and reduce the water requirement from the ground water. An action plan shall be submitted to Ministry's Regional Office at Bangalore within 3 months from date of issue of this letter. Efforts should be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources.

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- xiv). Total requirement of the ground water from bore wells shall not exceed 900m<sup>3</sup>/day. The water stored in the artificial reservoir made in the mine pit shall be used maximum to reduce ground water consumption. No effluent should be discharged from the mine to any water body or nearby river.
- xv). Detailed hydrological study shall be carried out since mining activities are likely to intercept ground water and implementation of recommendations of the detailed hydrological study should be ensured.
- xvi). Permission shall be obtained for drawl of ground water from the State Ground Water Board/ Central Ground Water Authority as may be applicable in this case.
- xvii). Top soil, if any, shall be stacked with proper slope at earmarked site(s) only with adequate measures and shall be used for reclamation and rehabilitation of mined out areas.
- xviii). The project proponent shall ensure that no natural water course shall be obstructed due to any mining and plant operations. The company shall make the plan for protection of the natural water course passing through the plant and mine area premises and submit to the ministry's Regional Office at Bangalore.
- xix). The inter burden and other waste generated shall be stacked at earmarked dump site(s) only and shall not be kept active for long period. The total height of the dumps shall not exceed 30 m in three terraces of 10 m each and the over all slope of the dump shall be maintained to 28°. The inter burden dumps shall be scientifically vegetated with suitable native species to prevent erosion and surface run off. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office, Bangalore on six monthly basis.
- xx). The void left unfilled shall be converted into water body. The higher benches of excavated void/mining pit shall be terraced and plantation to be done to stabilize the slopes. The slope of higher benches shall be made gentler for easy accessibility by local people to use the water body. Peripheral fencing shall be carried out along the excavated area.
- xxi). Catch drains and siltation ponds of appropriate size shall be constructed for the working pit, inter burden and mineral dumps to arrest flow of silt and sediment. The water so collected shall be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted, particularly after monsoon, and maintained properly.

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- xxii). Garland drain of appropriate size, gradient and length shall be constructed for both mine pit and inter burden dumps and sump capacity shall be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material. Sedimentation pits shall be constructed at the corners of the garland drains and desilted at regular intervals.
- xxiii). Dimension of the retaining wall at the toe of inter burden dumps and inter burden benches within the mine to check run-off and siltation shall be based on the rain fall data.
- xxiv). Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells and constructing new piezometers at suitable locations by the project proponent in and around project area in consultation with Regional Director, Central Ground Water Board. The frequency of monitoring shall be four times a year- pre-monsoon (April / May), monsoon (August), post-monsoon (November), and winter (January). Data thus collected shall be sent at regular intervals to Ministry of Environment and Forests and its Regional Office at Bangalore, Central Ground Water Authority and Central Ground Water Board.
- xxv). Wet drilling sequential and controlled blasting method and provision for the control air emissions during blasting using dust collectors etc. shall be used. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders shall be implemented.
- xxvi). Bench height, width and slope for individual bench shall be properly assessed and implemented. Adequate measures should be adopted to stabilize the slope before abandonment. The fencing around the reservoir should be provided to prevent accidents.
- xxvii). Action plan for the mining, management of over burden (removal, storage, disposal etc.), reclamation of the mined out area and mine closure should be submitted to the Ministry and its Regional Office at Bangalore.
- xxviii). As proposed, green belt shall be developed in 48 ha in plant & township and 10 ha around the mining area as per the CPCB guidelines in consultation with DFO.
- xxix). All the recommendations of the Corporate Responsibility or Environmental Protection (CREP) for the cement plants shall be strictly followed.
- xxx). Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The vehicles shall be covered with a tarpaulin and shall not be overloaded.

- xxxi). Risk and Disaster Management Plan alongwith the mitigation measures should be prepared and a copy submitted to the Ministry's Regional Office at Bangalore, KPCB and CPCB within 3 months of issue of environment clearance letter.
- xxxii). Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure, for approval.
- xxxiii). The company shall comply with the commitments made during public hearing held on 30th December, 2009 and a separate budget for implementing the same shall be allocated and information submitted to the Ministry's Regional Office at Bangalore.
- xxxiv). At least 5 % of the total cost of the project should be earmarked towards the corporate social responsibility and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office at Bangalore. Implementation of such program should be ensured accordingly in a time bound manner.
- xxxv). Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, 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.

**B. GENERAL CONDITIONS:**

- i. The project authority shall adhere to the stipulations made by Karnataka State Pollution Control Board (KSPCB) and State Government.
- ii. No further expansion or modification of the plant shall be carried out without prior approval of this Ministry.
- iii. At least four ambient air quality monitoring stations shall be established in the down wind direction as well as where maximum ground level concentration of PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>x</sub> are anticipated in consultation with the SPCB. Data on ambient air quality and stack emissions shall be regularly submitted to this Ministry including its Regional Office and SPCB / CPCB once in six months.
- iv. Industrial wastewater shall be properly collected and treated so as to conform to the standards prescribed under GSR 422 (E) dated 19<sup>th</sup> May, 1993 and 31<sup>st</sup> December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.

- v. 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 shall conform to the standards prescribed under Environmental (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
- vi. Proper housekeeping and adequate occupational health programmes shall be taken up. Occupational Health Surveillance programme shall be done on a regular basis and records maintained properly for at least 30-40 years. The programme shall include lung function and sputum analysis tests once in six months. Sufficient preventive measures shall be adopted to avoid direct exposure to dust etc.
- vii. The company shall undertake eco-development measures including community welfare measures in the project area.
- viii. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/ EMP.
- ix. A separate environmental management cell with full fledged laboratory facilities to carry out various management and monitoring functions shall be set up under the control of Senior Executive.
- x. Adequate fund shall be allocated to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. Time bound implementation schedule for implementing all the conditions stipulated herein shall be submitted. The funds so provided shall not be diverted for any other purpose.
- xi. The Regional Office of this Ministry / CPCB / KSPCB shall monitor the stipulated conditions. The project authorities shall extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports. A six monthly compliance report and the monitored data alongwith statistical interpretation shall be submitted to them regularly.
- xii. The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both on hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the KSPCB.
- xiii. The 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.



- xiv. No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment & Forests. No change in the calendar plan including excavation, quantum of limestone and waste shall be made.
- xv. Measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM etc. shall be provided with ear pluggs/ muffs.
- xvi. Industrial waste water (workshop and waste water from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluents.
- xvii. Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
- xviii. The project authorities shall inform to the Regional Office located regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
- xix. A copy of clearance letter shall be marked to concerned Panchayat / local NGO, if any, from whom suggestion/representation, if any, was received while processing the proposal.
- xx. A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila 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 put up on the website of the Company by the proponent.
- xxi. The project authorities shall advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the Karnataka State Pollution Control Board and also at web site of the Ministry of Environment and Forests at "<http://envfor.nic.in> and a copy of the same shall be forwarded to the Regional Office of this Ministry.
- xxii. The environmental statement for each financial year ending 31<sup>st</sup> March in Form-V as is mandated to be submitted by the project proponent to the 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 alongwith the status of compliance

of EC conditions and shall also be sent to the respective regional Office of the MoEF by e-mail.

10. The Ministry or any other competent authority may stipulate any further condition(s) on receiving reports from the project authorities. The above conditions shall be monitored by the Regional Office of this Ministry.
11. The Ministry may revoke or suspend the clearance if implementation of any of the above conditions is not satisfactory.
12. Any other conditions or alteration in the above conditions shall have to be implemented by the project authorities in a time bound manner.
13. Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, Second Floor, Trikot-I, Bhikaji Cama Place, New Delhi-110066, if preferred within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Authority Act, 1997.
14. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 the Air (Prevention and Control of Pollution) Act, 1981 the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

*P. Ahujara*  
(Dr. P.L.Ahujara)  
Scientist-F

Copy to :

- i. The Secretary, Department of Environment & Forests, Government of Karnataka, Bangalore, Karnataka.
- ii. The Chairman, Karnataka State Pollution Control Board, Parisar Bhavan, No. 49, 4<sup>th</sup> & 5<sup>th</sup> Floor, Church Street, Bangalore - 560 001, Karnataka.
- iii. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi -110032.
- iv. The Chief Conservator of Forests (Central), Regional Office (SZ), Kendriya Sadan, IVth Floor, E&F Wing, 17th Main Road, Koramangala, Bangalore-560034, Karnataka.
- v. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi- 110003.
- vi. Guard file/Monitoring file/Record file.

*P. Ahujara*  
(Dr. P.L.Ahujara)  
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