

J-11015/53/ 2007- IA. II(M)  
Government of India  
Ministry of Environment & Forests

Tel no. 24363973  
E mail: [plahujarai@yahoo.com](mailto:plahujarai@yahoo.com)  
Paryavaran Bhavan, C.G.O. Complex,  
Lodi Road, New Delhi-110003.

Dated the December 26, 2007

To  
The Executive Director  
M/s Chettinad Cements Corporation Limited  
Kumararajah Muthiah Nagar  
Puliyar Cement Factory Post 639 114  
District Karur, Tamilnadu

Sub: Expansion of Alanthuraiyarkattalai limestone mine (ML area 22.26 ha and increase in limestone production from 0.04 MTPA to 0.50 MTPA) of M/s Chettinad Cement Corporation Ltd., at village Alanthuraiyarkattalai, in Ariyalur Taluk, in District Perambalur, in Tamil Nadu – reg. environmental clearance

Sir,

The undersigned is directed to refer to your letter no.CCCLA/ALANTHURAIYARKATTALAI/2153 dated 30.8.2007 on the subject mentioned above.

2. The Ministry of Environment and Forests has examined the application. It has been noted that proposal is for environmental clearance for enhancement of limestone production from 0.04 MTPA to 0.50 MTPA. The lease area of mine is 22.26 ha, which is patta land. Out of 22.26 ha of lease area, 17.63 ha is for mining, 0.01 ha for infrastructure, 4.50 ha is for waste dump, 2.47 ha is backfilled area, 1.40 ha for green belt and 0.75 ha for roads and other services. No forest land is involved. No ecologically sensitive area such as national park/ wildlife sanctuary/biosphere reserve/Tiger reserve etc is located within 10km distance of the core zone and buffer zone. No population is located within the ML area. The method of mining will be open cast manual. Life of the mine at proposed production will be 9 years. The ultimate pit depth will be 13 m BGL. Ground water table depth is 9-12 m (Post monsoon) and 14 -19 m (Pre monsoon). Mining will intersect ground water table. As per the Hydro geological Study conducted by the Dept. of Geology, National College, Trichy, the limestone aquifer has Transmitting Capacity of groundwater (18.6m<sup>2</sup>/day) & Permeability is 44.2 m/day. The study indicates that the stage of ground water development 86.0 %. Considering the transmissivity capacity of the limestone aquifer and permeability, the cone of influence may not spread beyond the proposed mining area. There is no seepage of water in the mines during pre-monsoon upto a depth of 13 m bgl. However, seepage is noticed during post monsoon at depth of 11 m bgl. The mine pit water of about 20-25m<sup>3</sup>/d will be collected in a sump and used for green belt development. The ground water potential for future development is 0.0034 mcm. Water requirement of 25m<sup>3</sup>/d will be met from the mine seepage/ground water. Total solid waste generation will be about 14.49 lakh tonnes which will be stacked temporarily and backfilled in the mined out area. The backfilled area will be stabilised with vegetation. Public hearing of the project was held on 22.8.2007. Approval of Modifications in the approved mining plan including post mine closure plan was obtained on 27.12.2006. Capital cost of the project is Rs.3.50 crores.

3. The Ministry of Environment and Forests hereby accords environmental clearance under the provisions of Environmental Impact Assessment Notification, 2006 to the Alanthuraiyarkattalai Limestone Mine by M/s Chettinad Cement with production capacity from 0.04 MTPA to 0.50 MTPA involving total lease area of 22.26 ha subject to implementation of following conditions and safeguards:

**A. Specific conditions**

- i. Top soil shall be stacked properly with proper slope with adequate safeguards and shall be backfilled for reclamation and rehabilitation of mined out area.
- ii. Over burden shall be stacked at earmarked dump site(s) only and shall not be kept active for long period. The maximum height of the dump shall not exceed 30 m, each stage shall preferably be of 10 m and over all slope of the dump shall not exceed 28°. The mine pit area shall be reclaimed by back filling the OB in a phased manner. The OB 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 on six monthly basis.
- iii. Garland drains of appropriate size shall be constructed to arrest silt and sediment flows from soil, and mineral dumps. 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. Garland drain (size, gradient and length) shall be constructed for both mine pit and for waste dump 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.
- iv. Drilling and blasting shall be by using dust extractors/wet drilling.
- v. Particle size analysis of minerals in the SPM shall be carried out and study report submitted to the Ministry within six months.
- vi. Plantation shall be raised in an area of .3.87 ha including green belt of adequate width by planting the native species around the ML area, roads, OB dump sites etc. in consultation with the local DFO / Agriculture Department. The density of the trees shall be around 2500 plants per ha. Selection of plant species shall be as per CPCB guidelines. Herbs and shrubs shall also form a part of afforestation programme besides tree plantation. Green belt development and selection of plant species shall be as per CPCB guidelines. Details of year wise afforestation programme including rehabilitation of mined out area shall be submitted to the Ministry within six months.
- vii. The project authority shall implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.



- viii. Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring shall be carried out four times in a year - pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to MOEF, Central Ground Water Authority and Regional Director Central Ground Water Board.
- ix. Prior permission from the competent authority shall be obtained for drawl of ground water ,if any.
- x. Conservation plan for wildlife shall be prepared in consultation with the Chief Wild Life Warden and duly vetted by the office of the CWLW for implementation. Necessary fund for implementation of the same shall be separately allocated.
- xi. Land-use pattern of the nearby villages shall be studied and Action plan for abatement and compensation for damage to agricultural land/ common property land (if any) in the nearby villages, due to mining activity shall be submitted to the Ministry within six months. Annual status of implementation of the plan and expenditure thereon shall be reported to the Ministry. The company shall implement income generating projects for the economically poorer section of the people in the nearby villages.
- xii. Maintenance of village roads through which transportation of ores are undertaken shall be carried out by the company regularly at its own expenses.
- xiii. Fodder farms shall be developed in the buffer zone in consultation with local NGOs/Self Help Groups.
- xiv. Rain water harvesting shall be undertaken to recharge the ground water table.
- xv. Any existing water bodies or those created during the course of mining may be utilized to develop pisci-culture by organizing fishermen cooperative society with the land losers, if any, or villagers from nearest villages as members. The poorer section of the society shall be specially inducted as members of such a society to be developed. Initial financial assistance for creation of the society shall be provided and sustainable programme shall be developed so that the members themselves can run the affairs of the society in due course. The project proponent shall also arrange marketing tie up so that the society gets fair price of their product and the profits are equitably shared by the members of the society as regular source of income.
- xvi. Water to be supplied for drinking purposes shall be treated to meet the prescribed standards. Monitoring of water quality for drinking shall be undertaken on daily basis and records maintained.
- xvii. Occupational health and safety measures for the workers including identification of work related health hazards, training on malaria eradication, HIV, and health effects on exposure to mineral dust etc. shall be carried out. The company shall engage a full time qualified doctor who is trained in occupational health surveillance. Periodic monitoring of exposure to mineral dust on the workers shall be conducted and records maintained including Health records of the workers.

- xviii. Land-use pattern of the nearby villages shall be studied and action plan for abatement and compensation for damage to agricultural land or common property land (if any) due to mining activity shall be submitted to the Ministry within six months.
- xix. Socio-economic profile of population in the nearby villages shall be studied and action plan for their rehabilitation including formation of self help groups who can facilitate promotion of economic opportunity for local people shall be submitted for record.
- xx. Maintenance of village roads through which transportation of ores are undertaken shall be carried out by the company regularly at its own expenses.
- xxi. Any existing water bodies or those created during the course of mining may be utilized to develop pisci-culture by organizing fishermen cooperative society with the land losers, if any, or villagers from nearest villages as members. The poorer section of the society shall be specially inducted as members of such a society to be developed. Initial financial assistance for creation of the society shall be provided and sustainable programme shall be developed so that the members themselves can run the affairs of the society in due course. The project proponent shall also arrange marketing tie up so that the society gets fair price of their product and the profits are equitably shared by the members of the society as regular source of income. *Repeated (see xv)*
- xxii. Water supplied for drinking purposes shall be treated to prescribe standards. Monitoring of water quality for drinking shall be undertaken on daily basis and records maintained. *Repeated (see xvi)*
- xxiii. 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. Occupational health and safety measures for the workers including identification of work related hazards, training on malaria eradication, HIV, and health effects on exposure to mineral dust etc. shall be carried out. The company shall engage a full time qualified doctor who is trained in occupational health surveillance. Periodic monitoring of exposure to mineral dust on the workers shall be conducted and records maintained including Health records of the workers.
- xxiv. 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.
- xxv. A 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.

#### B. General conditions

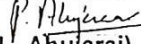
- i. No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment & Forests.
- ii. No change in the calendar plan including excavation, quantum of mineral, limestone ore and waste shall be made.



- iii. Conservation measures for protection of flora and fauna in the core & buffer zone shall be drawn up in consultation with the local forest and wildlife department.
- iv. Four ambient air quality-monitoring stations shall be established in the core zone as well as in the buffer zone for RPM, SPM, SO<sub>2</sub>, NO<sub>x</sub> monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.
- v. Data on ambient air quality (RPM, SPM, SO<sub>2</sub>, NO<sub>x</sub>) should 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.
- vi. Fugitive dust emissions from all the sources shall be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points shall be provided and properly maintained.
- vii. 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 plugs / muffs.
- viii. Industrial waste water (workshop and waste water from the mine) should be properly collected, 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. Oil and grease trap shall be installed before discharge of workshop effluents.
- ix. 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.
- x. A separate environmental management cell with suitable qualified personnel shall be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.
- xi. The project authorities shall inform to the Regional Office located at Bangalore regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
- xii. The funds earmarked for environmental protection measures shall be kept in separate account and should not be diverted for other purpose. Year wise expenditure shall be reported to the Ministry and its Regional Office located at Bangalore.
- xiii. The project authorities shall inform to the Regional Office located at Bangalore regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work. *Repeated Sec (i)*
- xiv. The Regional Office of this Ministry located at Bangalore shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.

- xv. A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom suggestion / representation has been received while processing the proposal.
  - xvi. State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office/ Tehsildar's Office for 30 days.
  - xvii. The project authorities should 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 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 located Bangalore.
5. The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
6. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
7. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

Yours faithfully,

  
(Dr. P.L. Ahujarai)  
Director

**Copy to:**

1. Secretary, Ministry of Mines, Government of India Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment, Government of Tamilnadu, Chennai.
3. Secretary, Department of Mines and Geology, Government of Tamilnadu, Chennai.
4. Secretary, Department of Forests, Government of Tamilnadu, Chennai
5. The Secretary (Environment), Govt. of Tamil Nadu, Fort. St. George, Chennai-560560.
6. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
7. The Chairman, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai - 600032.
8. The Chief Conservator of Forests (Central), Regional Office (SZ), Kendriya Sadan, IV<sup>th</sup> Floor, E&F Wings, 7<sup>th</sup> Main Road, II<sup>nd</sup> Block, Koramangala, Bangalore-560034.
9. Member Secretary, Central Ground Water Authority, A2, W3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
10. Controller General, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.
11. District Collector, District Perambular, Tamilnadu
12. Monitoring File/Guard File/Record File.

(Dr. P.L. Ahujarai)  
Director