



J-11015/149/2008- IA. II (M)
Government of India
Ministry of Environment & Forests

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Paryavaran Bhavan, C.G.O. Complex,
Lodi Road, New Delhi-110003.

Dated: August 26, 2009

To

M/s Madras Cements Ltd.
Auras Corporate Centre, 5th Floor
Dr. Radhakrishnan Road, Mylapore
Chennai – 600 004.

Sub: Expansion of Ravirala Limestone Mine (ML area 60.72 ha) from production capacity 0.50 to 1.20 MTPA at village Ravirala, in Jaggayyapeta Taluk, in Krishna Distt., in Andhra Pradesh – reg. Environmental Clearance.

Sir,

The undersigned is directed to refer to your letter dated 09.07.2009, on the above mentioned subject. The Ministry of Environment and Forests has examined the application.

2. It has been noted that the proposal is for expansion of limestone ore mining from 0.50 to 1.20 MTPA. Environmental clearance for 0.50 MTPA was accorded on 16.10.2002. Expansion will be carried out both vertically and horizontally. The mine is captive to its cement plant located at 3.5 km distance from the lease. The lease area is 60.72 ha, which is a part of Ravirala reserve forest. Forest clearance was obtained in April, 2001 for diversion of 60.72 ha forest land for mining activity. Out of total lease area of 60.72 ha, mining will be carried out in 43.64 ha only. An area of 8.93 ha will be kept for waste dump; 3.12 ha for infrastructure and roads; 3.19 ha for green belt and 1.84 ha will be unutilised. The general elevation of the lease ranges from 52 m to 70 m above MSL. Krishna and Paleru rivers flow at a distance of 2.0 and 2.5 kms respectively from the lease boundary. There are several reserve forests in the buffer zone viz. Jaggayyapeta RF, Budavada RF and Venkatayapalem Balusupadu RF. There are no Wildlife Sanctuaries, National Parks, Tiger / Elephant Reserves, Heritage sites etc. within 10 km of the lease boundary. The mineable reserves are 11.05 MT. At proposed rate of production life of the mine will be about 9 years. Method of mining will be open cast mechanised involving drilling and blasting. Ultimate depth of mining will be 10 m above MSL. Water table is at 34 m above MSL. Mining will intersect ground water table. Hydro-geological study has been carried out. The result of the study indicates the following: (i) the radius of influence due to mine pit dewatering will be 600 m from the centre of mine pit; (ii) the stage of ground water development is 15%, which is in safe limit as per CGWB norms; (iii) transmissivity is about 20 m²/day; (iv) no adverse impact on ground water regime from this sub-basin was observed due to operation of the mine. Water requirement will be 90 KLD, which will be met from ground water source. Solid waste of about 6.264 mcm will be generated. Approval for mining plan (including mine closure plan) was accorded by IBM on 13.05.2008. Public hearing was conducted on 02.06.2009. No relocation and rehabilitation of population will be involved. Cost of the project will be Rs 4.0 crores.

3. The project has been considered in accordance with the provisions of the EIA notification issued by the Ministry of Environment & Forests vide S.O. 1533 (E), dated September 14, 2006.

4. Based on the information submitted by you, as at Para 2 above and others, the Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA notification dated September 14, 2006, subject to the compliance of the following Specific and General conditions:

A. Specific conditions

- i) **The environmental clearance is subject to the condition, if any, stipulated by the IBM on the mining scheme submitted by the project proponent for its approval.**
- ii) No new two pits shall be simultaneously worked i.e before the first pit is exhausted and reclamation work completed, no mineral bearing area shall be worked.
- iii) After exhausting the first mine pit and before starting mining operations in the next pit, reclamation and plantation works in the exhausted pit shall be completed so as to ensure that reclamation, forest cover and vegetation are visible during the first year of mining operations in the next pit. This process will follow till the last pit is exhausted. **Adequate rehabilitation of mined pit shall be completed before any ore bearing area is worked.**
- iv) Adequate buffer zone shall be maintained between two consecutive mineral bearing deposits.
- v) **Hydro-geological study of the area shall be reviewed annually and results submitted to the Ministry and concerned agency in the State Govt.** In case adverse effect on ground water quality and quantity is observed mining shall be stopped and resumed only after mitigating steps to contain any adverse impact on ground water is implemented. Specific hydro-geological shall be conducted at the end of mining plan period i.e at the end of the 5th year of mining, before proceeding to undertake mining in the 6th year. The report shall be submitted to the Regional Office of the Ministry.
- vi) The following shall be undertaken: (i) the ground water observation network in the mining area shall be strengthened by constructing atleast 4 piezometers which shall be constructed upto a depth of 50 m below ground level.; (ii) atleast three piezometers may be installed with automatic water level recorders and increase the frequency of monitoring water levels to six hourly per day; (iii) water recharging from roof top in the colony (if any within the lease or nearby) shall be undertaken.
- vii) A 50 m barrier of no mining zone all along the side(s) facing the nallahs / streams passing through or adjacent the lease area shall be demarcated and thick vegetation of native species raised. Status of implementation shall be submitted to the Regional Office of the Ministry on half yearly basis. **It shall be ensured that no silt originating from mining activity is transported in the nallah/surface water course.**

- viii) Need based assessment for the near by villages shall be conducted to study economic measures which can help in upliftment of poor section of society. Income generating projects/tools such as development of fodder farm, fruit bearing orchards, vocational training etc. can form a part of such programme. Company shall provide separate budget for community development activities and income generating programmes. This will be in addition to vocational training for individuals imparted to take up self employment and jobs.

Local employable youth shall be trained in skills relevant to the project for eventual employment in the project itself to the extent feasible.

- ix) 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 Regional office of the Ministry **within six months**. Annual status of implementation of the plan and expenditure thereon shall be reported to the Regional Office of the Ministry from time to time.
- x) Maintenance of village roads through which transportation of ores are undertaken shall be carried out by the company regularly at its own expenses. The roads shall be black topped.
- xi) Rain water harvesting shall be undertaken to recharge the ground water source. Status of implementation along with detailed plan shall be submitted to the Regional Office of the Ministry **within six months** and thereafter every year from the next consequent year.
- xii) Measures for prevention and control of soil erosion and management of silt shall be undertaken. Protection of dumps against erosion shall be carried out with geo textile matting or other suitable material, and thick plantations of native trees and shrubs shall be carried out at the dump slopes. Dumps shall be protected by retaining walls.
- xiii) Trenches / garland drains shall be constructed at foot of dumps and coco filters installed at regular intervals to arrest silt from being carried to water bodies. Adequate number of Check Dams and Gully Plugs shall be constructed across seasonal/perennial nallahs (if any) flowing through the ML area and silts arrested. De-silting at regular intervals shall be carried out.

Garland drain of appropriate 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 de-silted at regular intervals.

- xiv) Ground water in the core zone shall be regularly monitored for contamination and depletion due to mining activity and records maintained. The monitoring data shall be submitted to the regional office of the Ministry regularly. Further, monitoring points shall

be located between the mine and drainage in the direction of flow of ground water shall be set up and records maintained.

- xv) Cultivable waste land (within 5 km of the lease) shall be identified and fodder farming or other suitable productive use of waste land shall be taken up in phased manner. Status of implementation shall be submitted to the Regional office of the Ministry
- xvi) Shelter Belt i.e Wind Break of 30 m width and consisting of at least 5 tiers around lease facing the school / agricultural fields / human habitation etc. (if any in the vicinity) shall be raised.
- xvii) Fugitive dust generation shall be controlled. Fugitive dust emission shall be regularly monitored at locations of nearest human habitation (including schools and other public amenities located nearest to sources of dust generation as applicable) and records submitted to the Regional Office of the Ministry.
- xviii) Monitoring of soil samples for assessment of contamination due to mining activity (as applicable) shall be regularly conducted and records maintained.
- xix) Transportation of ore shall be done by covering the trucks with tarpaulin or other suitable mechanism so that no spillage of ore / dust takes place.
- xx) 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. Periodic monitoring for exposure to respirable mineral dust on the workers shall be conducted and records maintained including health records of the workers. Awareness programme for workers on impact of mining on their health and precautionary measures like use of personal equipments etc. shall be carried out periodically. Review of impact of various health measures undertaken (at interval of five years or less) shall be conducted followed by follow up action wherever required.
- xxi) Occupational Health Cell shall be created at the mining site office under the charge of an officer of adequate seniority who is a qualified person in occupational health.
- xxii) Personnel exposure monitoring for dust shall be carried out for the workers. This shall include monitoring of mercury and hexavalent chromium.
- xxiii) Top soil / solid waste shall be stacked properly with proper slope and adequate safeguards and shall be utilized for backfilling (wherever applicable) for reclamation and rehabilitation of mined out area. Top soil shall be separately stacked for utilization later for reclamation and shall not be stacked along with over burden.
- xxiv) Over burden (OB) 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 overall slope of the dump shall not exceed 28°. The OB dump shall be backfilled. 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.

- xxv) Slope of the mining bench and ultimate pit limit shall be as per the mining scheme approved by Indian Bureau of Mines.
- xxvi) Adequate plantation shall be raised in the ML area, haul roads, OB dump sites etc. Green belt development shall be carried out considering CPCB guidelines including selection of plant species and in consultation with the local DFO / Agriculture Department. Herbs and shrubs shall also form a part of afforestation programme besides tree plantation. The density of the trees shall not be less than 2500 plants per ha. The company shall involve local people with the help of self help group for plantation programme. Details of year wise afforestation programme including rehabilitation of mined out area shall be submitted to the Regional Office of the Ministry every year.
- xxvii) 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 shall be regularly sent to MoEF, Central Ground Water Authority and Regional Director, Central Ground Water Board.
- xxviii) Adequate air monitoring stations shall be installed in areas of human habitations near the mine and the results of ambient air quality shall be maintained and regularly submitted to the Regional Office of the Ministry. The monitored data of criteria pollutants shall be **regularly uploaded on the company's website and also displayed at project site.**
- xxix) The waste water from the mine shall be treated to conform to the prescribe standards before discharging in to the natural stream. The discharged water from the Tailing Dam (if any) shall be regularly monitored and report submitted to the Ministry of Environment & Forests, Central Pollution Control Board and the State Pollution Control Board.
- xxx) Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transportation of ores and others shall have valid permissions as prescribed under Central Motor Vehicle Rules, 1989 and its amendments. Transportation of ore shall be done only during day time. The vehicles transporting ores shall be covered with a tarpaulin or other suitable enclosures so that no dust particles / fine matters escape during the course of transportation. No overloading of ores for transportation shall be committed. The trucks transporting ore shall not pass through wild life sanctuary.
- xxxi) Prior permission from the Competent Authority shall be obtained for extraction of ground water, if any.
- xxxii) Action plan with respect to suggestions/improvements and recommendations made during public consultation/hearing shall be submitted to the Ministry and the State Govt within six months.

- xxxiii) 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 and waste shall be made.
- (iii) 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.
- (iv) Four ambient air quality-monitoring stations shall be established in the core zone as well as in the buffer zone for RPM, SPM, SO₂, NO_x 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, SO₂, NO_x) 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. The monitored data of criteria pollutants mentioned above shall be **regularly uploaded on the company's website and also displayed at project site.**
- (v) 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.
- (vi) 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 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.
- (vii) Personnel working in dusty areas shall be provided with protective respiratory devices and they shall also be imparted adequate training and information on safety and health aspects.
- (viii) Provision shall be made for the housing the labourers 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.
- (ix) 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.

- (x) The project authorities shall inform to the Regional Office of the Ministry 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.
- (xi) The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year wise expenditure shall be reported to the Ministry and its Regional Office located at Bangalore.
- (xii) The project authorities shall inform 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.
- (xiii) The Regional Office of the Ministry located at Bangalore shall monitor compliance of 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.
- (xiv) **The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Bangalore, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environment of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests, Bangalore.**
- (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. **The clearance letter shall also be put on the website of the company.**
- (xvi) State Pollution Control Board shall 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 environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and shall also be put on the website of the company along with the status of compliance of environmental clearance conditions. The same shall also be sent to the Regional Office of Ministry by e-mail.**
- (xviii) 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 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 the Ministry located in 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. Concealing factual data or submission of false/fabricated data and 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. Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred, within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Authority Act, 1997.
8. 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,


(W. Bharat Singh)
Deputy Director

Copy to:

1. Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment, Government of Andhra Pradesh, Hyderabad.
3. Secretary, Department of Mines and Geology, Government of Andhra Pradesh, Hyderabad.
4. Secretary, Department of Forests, Government of Andhra Pradesh, Hyderabad.
5. Chief Conservator of Forests, Regional Office (SZ), Kendriya Sadan, 4th Floor E&F, Wings 17th Main Road, 1 Block, Koranmangala, Bangalore-560 034.
6. Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
7. Chairman, Andhra Pradesh State Pollution Control Board, Paryavaran Bhawan, A-3 Industrial Estate, Sanath Nagar, Hyderabad – 500 018
8. Member Secretary, Central Ground Water Authority, A2, W- 3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
9. Controller General, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur- 440 001.
10. District Collector, Krishna Distt., Government of Andhra Pradesh.
11. EI Division, Ministry of Environment & Forests, Paryavaran Bhawan, New Delhi.
12. Monitoring File.
13. Guard File.
14. Record File.


(W. Bharat Singh)
Deputy Director