

F. No. J-11011/518/2009- IA II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

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Dated: August 2nd, 2010

To,
The President
M/s Chettinad Cement Corporation Ltd
Puliyur Cement Factory,
Puliyur, Karur-639114
Tamilnadu

Sub: Expansion of Cement plant (Clinker 1.22MTPA to 2.80 MTPA, Cement 2.00 MTPA to 4.50 MTPA) along with Captive Power Plant (18MW to 48 MW) at Village Karikkali and Dholipatti and Limestone Mine (Seethainagar Mines, 379 ha and 2.00 MTPA to 4.50 MTPA) at village Alambadi, Mallapuram and Karikkali, Taluk Veda sandur, District Dindigul, Tamilnadu by M/s Chettinad Cement Corporation Ltd - req. environmental clearance

Sir,

This has reference to your letter no. CHETTINAD CEMENT/PH/206 dated 30.1.2010 along with copies of final EIA /EMP 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 for expansion of Karikkali Cement Plant (Clinker from 1.22 MTPA to 2.80 MTPA and Cement from 2.00 MTPA to 4.50 MTPA) along with Captive Power Plant (from 18 MW to 48 MW) at Village Karikkali and Dholipatti and Limestone Mines (from 2.00 MTPA to 4.5 MTPA at Seethainagar mines over and extent of 379.49 ha) at Villages Alambadi, Mallapuram and Karikkali, Taluk Veda sandur, District Dindigul, Tamil Nadu. Total project area for the cement plant is 58.35 ha. Total limestone mine area is 379.490 ha. Environment clearance for the existing cement plant (2.0 MTPA) was accorded vide letter no. J-11011/111/2008-IA II (I) dated 15th October, 2008 and for existing limestone mines (2.0 MTPA) was accorded vide letter no. J-11011/115/2006 IA-II(M) dated 10th April, 2007. 'Consent to Establish' for the cement plant has been accorded by the Tamil Nadu Pollution Control Board vide letter Nos. 4876 & 4933 (Exp.) vide letter dated 1st June, 2009. 'Consent to Operate' for mines have been accorded by the TNPCB vide letter Nos. 17540 & 21503 dated 21st May, 2008. Thoppasamymalai RF and Kadavur RF are located at a distance of 7 km. Total cost of the proposed expansion is Rs. 565.0 Crores, Rs. 8.00 Crores and Rs. 2.00 Crores will be the capital cost and recurring cost/annum earmarked towards pollution control measures.

3. Following are the details of the existing and proposed plant:

Production	Production capacity, MTPA			
	Existing MTPA	Proposed MTPA	Addition	Total Expansion MTPA
Clinker				
Line-I	1.22	-		1.58
Line-II	-	1.58		1.58
Total	1.22	1.58		2.80
Cement				
Line-I	2.00	-		2.00
Line-II	-	2.50		2.50
Total	2.00	2.50		4.50
Captive Thermal Plant	1x18	1x30		48
Seethainagar Limestone mines	379.49 ha	Nil	(vertical	379.49 ha
Extent	2.03 MTPA	exploitation)		4.50 MTPA
Production		2.47 MTPA		
TNEB supply	11	4 (in emergency)		15
DG sets	2x1.5	2x1.5		4x1.5

4. Total life of the mine is 16.63 years with the proposed production enhancement of 4.50 MTPA. No additional land will be required for mine. Seethainagar mines are at a distance of 0.6 - 4.05 km from the plant. Other Captive mines viz. Dholipatti mines and Devarmalai mines are located at a distance of 1.2-3.0 km and 10.0-11.00 km respectively, from the eastern boundary of the plant. There are 3 leases in Seethainagar mines. For the mine lease area of 251.59 ha, mining lease was granted vide letter no. G.O.Ms Nos. 81 dated 13th August, 2003 and IBM approval was obtained vide letter no. TN/DN/Lst/MS/383/-SZ dated 2nd August, 2006. For the mine lease area of 125.485 ha, mining lease was granted vide letter no. G.O 22/Ind/D2 Dept. dated 9th January, 1989 and IBM approval was obtained vide letter no. TN/DGL/MP/Lst-1683-SZ dated 5th May, 2008. For the mine lease area of 2.415 ha, mining lease was obtained vide letter no. G.O (3D) No. 26 dated 29th July, 2002 and IBM approval was obtained vide letter no. TN/DN/Lst-1630-A/SZ dated 25th April, 2006. Open cast mechanized method will be adopted for mining involving drilling and blasting.

Existing plant and mine water requirement of 1400 m³/day is being met from the mine pit of Seethainagar Alambadi pit / Mallapuram mine pit reservoir. Permission has been accorded by the State Ground Water Board to draw water from Alambadi reservoir vide letter no G1/13599/consultancy/2000 dated 17th July, 2000. Total water requirement for the expansion project will be 800 m³/day. Central ground water board has granted NOC for abstraction of 800 m³/d of ground water in addition to

existing withdrawal of 1400 m³/d vide letter no. 21-4(186) SECR/CGWA/2010 -60 dated 13th April, 2010. The total water requirement after expansion will be 2200 m³/d. The pit storage would supply the required quantity of 2200 m³/d of water for about 2.2 years. Cooling tower blow downs and boiler blow downs will be neutralized and settled in existing ETP and the treated effluent will be used for cooling. All the effluent from proposed expansion will be treated and used for cooling, ash handling, dust suppression and green belt development. Sewage will be treated in sewage treatment plant and used for green belt development. No effluent will be discharged and 'zero' discharge will be adopted. Mining will intersect ground water table and a detailed hydrological study will be carried out. Sewage generation from mines after expansion will be nil.

5. Fly ash from captive power plant will be used to manufacture PPC. All the dust from APCS like bag house / filters, ESPs etc. will be totally recycled in the process and used for cement manufacturing. Solid wastes from the mine will be stacked separately in earmarked area. STP sludge will be vermi-composted and used as manure for green belt development. Inorganic wastes like papers and other wastes will be sold to rag pickers. Waste oil will be sold to authorized recyclers / re-processors.

6. Out of 58.35 ha of plant area, 19.43 ha area is already developed as green belt development. Green belt will be developed in 7.60 ha in the mines area. Acoustic enclosures will be provided to D.G. Sets. Drilling and blasting in mining operation will be carried out during daytime only. Total power requirement will be 83 MW and 48 MW will be sourced from the captive power plant. Remaining 15MW will be met from the TNEB. Coal / pet coke /lignite will be used as fuel. Furnace oil (0.5 KLD) and HSD (5 KLD) will also be used as fuel.

7. All the cement plants with ≥ 1.0 MTPA production capacity have been listed at S.No. 3(b) under Category 'A'. As the capacity of the cement plant is > 1.0 MTPA, proposal has been appraised by the Expert Appraisal Committee at the Ministry level.

8. The proposal was considered by the Expert Appraisal Committee-1 (industry) in its meeting held during 24-26th June, 2010. The Committee recommended the proposal for environmental clearance subject to stipulation of specific conditions along with other environmental conditions. Public hearing of the project was held on 29th January, 2010.

9. Based on the information submitted by you, presentation made by you and your consultant: Ensyscon Environment laboratory, Chennai, the Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification dated 14th September 2006 subject to strict compliance of the following Specific and General conditions:

A. SPECIFIC CONDITIONS :

1. The company shall comply with the condition stipulated in the environmental clearance letter no.. J-11011/11/2008-IA-II (I) dated 15.10.2008.
2. Continuous monitoring system to monitor gaseous emissions shall be provided and limit of particulate emissions shall be controlled within 50 mg/Nm³ by installing adequate air pollution control system and energy efficient technology.
3. Possibilities shall be explored for the 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.
4. The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 should be followed.
5. Secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.
6. Asphaltting/concreting of roads and water spray all around the critical areas prone to air pollution and having high levels of SPM and RPM should be ensured.
7. Efforts should 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 should be transported in the closed containers only and shall not be overloaded. Vehicular emissions shall be regularly monitored.
8. Rainwater harvesting measures shall be adopted for the augmentation of ground water at cement plant, colony and 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 pressure from the river. An action plan should be submitted to Ministry's Regional Office at Bangalore within 3 months from date of issue of this letter
9. The project proponent shall ensure that no natural water course shall be obstructed due to any mining operations.
10. 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 should be regularly desilted, particularly after monsoon, and maintained properly.

11. Garland drain of appropriate size, gradient and length shall be constructed for both mine pit and inter burden dumps and sump capacity should 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 should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals.
12. 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 should 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 State Ground Water Board.
13. 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 should be based on the rain fall data.
14. Suitable conservation measures to augment ground water resources in the area should be planned and implemented in consultation with Regional Director, Central Ground Water Board.
15. 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.
16. An effort shall be made to use of high calorific hazardous waste in the cement kiln and necessary provision shall be made accordingly.
17. Efforts shall be made to use low grade lime, more fly ash and solid waste in the cement manufacturing.
18. All the fly ash shall be utilized as per Fly Ash Notification, 1999 subsequently amended in 2003 and 2010. Efforts should be made to use fly ash maximum in making Pozollona Portland Cement (PPC).
19. Risk and Disaster Management Plan along with the mitigation measures should 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.

20. Blasting operation shall be carried out only during the daytime. Controlled blasting should be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.
21. Wet drilling blasting method and provision for the control air emissions during blasting using dust collectors etc. shall be used.
22. Bench height, width and slope for individual bench should be properly assessed and implemented. Adequate measures should be adopted to stabilize the slope before abandonment. The fencing around the reservoir shall be provided to prevent accidents.
23. Action plan for the mining, management of over burden (removal, storage, disposal etc.), reclamation of the mined out area and mine closure shall be submitted to the Ministry and Its Regional Office at Bangalore.
24. The inter burden and other waste generated shall be stacked at earmarked dump site(s) only and should not be kept active for long period. The total height of the dumps should not exceed 30 m in three terraces of 10 m each and the over all slope of the dump should be maintained to 28° . The inter burden dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. Monitoring and management of rehabilitated areas should 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.
25. The project proponent shall modify the mine plan of the project at the time of seeking approval for the next mining scheme from the Indian Bureau of Mines so as to reduce the area for external over burden dump by suitably increasing the height of the dumps with proper terracing. It should be ensured that the overall slope of the dump does not exceed 28° .
26. The void left unfilled in the mining area shall be converted into water body. The higher benches of excavated void/mining pit should be terraced and plantation done to stabilize the slopes. The slope of higher benches should be made gentler for easy accessibility by local people to use the water body. Peripheral fencing shall be carried out along the excavated area.
27. Top soil, if any, shall be stacked with proper slope at earmarked site(s) only with adequate measures and should be used for reclamation and rehabilitation of mined out areas.
28. As proposed, green belt shall be developed in at least 33 % in cement plant and all the mined out area except used for reservoir.
29. All the safety norms stipulated by the Director General, Mine & Safety (DGMS) should be implemented.

30. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Cement plants shall be implemented.
31. The company shall comply with the commitments made during public hearing held on 29th January, 2010 and a separate budget for implementing the same should be allocated and information submitted to the Ministry's Regional Office at Bangalore.
32. 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 should 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.

B. GENERAL CONDITIONS:

- i. The project authority shall adhere to the stipulations made by SPCB and State Government.
- ii. No further expansion or modification of the plant shall be carried out without prior approval of this Ministry.
- iii. The gaseous emissions from various process units shall conform to the load/mass based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The SPCB may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time, the emission level shall go beyond the prescribed standards. Interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit.
- 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 shall conform to the standards prescribed under Environmental (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
- v. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- vi. All the environment management measures given in the EIA/EMP shall be implemented and complied with.
- vii. The company shall develop rain water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.

- viii. Proper house keeping and adequate occupational health programmes shall be taken up as per the Factory Act.
- ix. The company shall undertake eco-development measures including community welfare measures in the project area.
- x. A separate environmental management cell to carry out various management and monitoring functions shall be set up under the control of Senior Executive.
- xi. The requisite funds shall be earmarked towards total capital cost and recurring cost/annum for environmental pollution control measures and used judiciously to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.
- xii. 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.
- xiii. 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 be put on the web site of the company by the proponent.
- xiv. 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, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; RSPM, SO₂, NO_x (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.
- xv. 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 respective 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.
- xvi. The environmental statement for each financial year ending 31st 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 along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MOEF by e-mail.

- xvii. The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at the Website of the Ministry of Environment and Forests at <http://envfor.nic.in>. This should be advertised within seven days from the date of issue of the clearance letter at least 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 shall be forwarded to the Regional office at Bangalore.
10. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
11. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
12. 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 Act, 1997.
13. The above conditions shall 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, Hazardous Wastes (Management and Handling) Rules, 2008 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules.

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

Scientist 'F'

Copy to:

1. The Secretary (Environment), Govt. of Tamilnadu, Fort. St. George, Chennai-600009.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
3. The Chairman, Tamil Nadu Pollution Control Board, 100, Anna Salai, Guindy, Chennai - 600032.
4. The Chief Conservator of Forests (Central), Regional Office (SZ), Kendriya Sadan, IVth Floor, E&F Wings, 7th Main Road, IInd Block, Koramangala, Bangalore-560034.
5. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
6. Guard File.
7. Monitoring File.
8. Record File.

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(Dr. P. L. Ahujara)
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