

F. No. J-11011/235/2008- IA II (I)  
Government of India  
Ministry of Environment and Forests  
(I.A. Division)

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Tele/fax: 011 – 2436 3973  
Dated: 7<sup>th</sup> March, 2011

To,  
The General Manager – Environment  
M/s Shree Cement Limited  
122-123, Hans Bhawan,  
1, Bhadurshah Zafar Marg,  
New Delhi

E-mail: [shreebwr@shreecementltd.com](mailto:shreebwr@shreecementltd.com) .

**Sub: Proposed Green Field Integrated Cement Plant : Clinker- 2x1.5 MTPA, Cement - 5.2 MTPA, Captive Power Plant - 2x25 MW and Limestone Mining - 4.8 MTPA, (ML Area -531.126 ha) at Villages Semaradih, Bharuwadih & Chandi in Tehsil Balodabazar & Simga in District Raipur, Chhattisgarh by M/s Shree Cement Ltd. - Environmental Clearance reg.**

Sir,

This has reference to your letter no. SCL/ENV/CG/2010-11/10225 dated nil received in the Ministry on 2<sup>nd</sup> June, 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 Shree Cement Ltd. have proposed to set up of an green field Integrated Cement Plant (Clinker 2 x 1.5 MTPA, Cement 5.2 MTPA), Captive Power Plant (2 x 25 MW) and Limestone Mining (4.8 MTPA, ML Area- 531.126 Ha.) at Villages Semaradih, Bharuwadih & Chandi in Tehsil Baloda bazar & Simga, District Raipur, Chhattisgarh. The land required for proposed cement plant, captive power plant & township will be 150 ha. and 531.126 ha. for captive limestone mines. Out of 150 ha. of area of the cement plant, 17.39 ha is Government land and 132.6 ha is private land. No forest land is involved. No national Park/wild life sanctuary is located within 10 km radius of the project site. Dhabadih Reserved Forest having scrubs is located at 1.0 km distance from the in North direction from the project boundary. Tributary of Mahanadi River i.e. Khorsi Nala (at 3 km in East direction) traverse the study area. Out of 531.126 ha of mine lease area, 78.72 ha is Government land and 452.406 ha is private land. There will be 45 land oustees in the plant area and 80 oustees in the mine lease area. Total cost of the proposed project is Rs. 1100 Crores. Rs. 50 Crores and Rs. 1.6 Crores per annum will be earmarked towards the capital cost and recurring cost/annum for environmental pollution control measures.

3. Method of mining will be open cast fully mechanized. Production will be 4.8 MTPA. Mineral reserves are 134.89 MT. Life of mine will be 28 years. The approval for mining plan has been obtained from the IBM vide letter dated 26.03.2009. Ultimate working depth of mine will be 30 m below ground level. The water depth in the mine lease area is 35 m below ground level. Mining will not intersect the ground water table. Controlled blasting will be adopted. Land area earmarked for top soil dump will be 1.0 ha. and for waste dump is 30.6 ha. Afforestation will be done at the end of life of mining in 187.796 ha. area. About 50 ha of cement plant area will be brought under green belt.
4. Dry cement manufacturing process will be adopted involving calcination by state-of-the-art 5/6 stage pre-heater precalciner, rotary kiln grate cooler and high efficiency bag house. High efficiency ESP/Bag house will be provided to raw mill & Kiln. ESP for Clinker cooler and CPP. Bag house for Cement mill, particulate matter emission level will be <math><50 \text{ mg/Nm}^3</math> from all the stacks. Bag filters will be provided to coal and pet coke crushing and coal and pet coke mill section, cement grinding and storage section, material storages, packing and various material transfer points etc. water spray system will be provided to limestone crushing section, preblending, reclaiming, feeding section. Use of CFBC/AFBC boilers and limestone in CPP will reduce NO<sub>x</sub> and SO<sub>x</sub> respectively.
5. Total water requirement will be 3000 m<sup>3</sup>/d and permission for drawl of ground water has been obtained from CGWA vide letter no. 21.4 (36)/NCCR/CGWA/2008 - 1279 dated 24/10/2008. Air-cooled condensers will be provided to CFBC/AFBC boiler to reduce water consumption. Waste water generated from the CPP will be used for ash quenching and dust suppression. No industrial wastewater will be generated from the cement plant. Domestic effluent will be treated in Sewage Treatment Plant and the entire treated water will be used for green belt development.
6. Material collected from air pollution control equipments (ESPs / bag house / bag filters) will be recycled back in to the process. Fly ash from CPP will be reused in cement plant process. Sewage sludge will be used as manure for greenbelt development. Waste oil will partly be reused for lubrication of machinery and the balance will be sold to authorized recyclers. Green belt will be developed in 33% of total plant area.
7. All the cement plants (> 1.0 MTPA) have been listed at S.No. 3(b) under category 'A' of the Schedule of the EIA notification 2006 and appraised at the Central level. Public hearing/Public consultation was held on 7<sup>th</sup> April, 2010.
9. The proposal was considered by the Expert Appraisal Committee-1 (industry) in its meeting held during 26<sup>th</sup> -28<sup>th</sup> August, 2010. The Committee recommended the proposal for environmental clearance subject to stipulation of specific conditions along with other environmental conditions.
10. Based on the information submitted by you and presentation made by the Consultant J M Environet Pvt Limited, Gurgaon , 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 Chhattisgarh. A copy of mine lease approval from the Indian Bureau of Mines (IBM) and State Govt. of Chhattisgarh shall be submitted to the Ministry and its Regional Office at Bhopal before initiating any construction work at site related to mining.
- II. Rehabilitation and Resettlement Plan for the project affected population, shall be implemented as per the policy of the State Govt. in consultation with the State Govt. of Chhattisgarh. Compensation paid in any case shall not be less than the norms prescribed under the National Resettlement and Rehabilitation Policy, 2007.
- III. Continuous monitoring system to monitor gaseous emissions shall be provided and limit of SPM should be controlled within 50 mg/Nm<sup>3</sup> by installing adequate air pollution control system and energy efficient technology.
- IV. 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 Bhopal within 3 months from the date of issue of the letter.
- V. Data on ambient air quality (PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>) 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 PM<sub>10</sub>, NO<sub>x</sub> 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.
- VI. The Company shall install low NO<sub>x</sub> burner with Kiln/calciner for control of NO<sub>x</sub> emissions below 400 mg/Nm<sup>3</sup>.
- VII. 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.
- VIII. 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 should be followed.

- IX. 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.
- X. 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 should not be overloaded. Vehicular emissions shall be regularly monitored.
- XI. Rainwater harvesting measures should 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.
- XII. The project proponent shall ensure that no natural water course shall be obstructed due to any mining operations.
- XIII. 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 should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted, particularly after monsoon, and maintained properly.
- XIV. 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.
- XV. Regular monitoring of ground water level and quality should 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 Bhopal, Central Ground Water Authority and State Ground Water Board.
- XVI. 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.
- XVII. Suitable conservation measures to augment ground water resources in the area shall be planned and implemented in consultation with Regional Director, Central Ground Water Board.

- XVIII. All the bag filter dust, raw meal 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.
- XIX. An effort shall be made to use of high calorific hazardous waste in the cement kiln and necessary provision shall be made accordingly.
- XX. Efforts shall be made to use low grade lime, more fly ash and solid waste in the cement manufacturing.
- XXI. 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).
- XXII. Risk and Disaster Management Plan along with the mitigation measures should be prepared and a copy submitted to the Ministry's Regional Office at Bhopal, CSPCB and CPCB within 3 months of issue of environment clearance letter.
- XXIII. 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.
- XXIV. Wet drilling blasting method and provision for the control air emissions during blasting using dust collectors etc. shall be used.
- XXV. 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.
- XXVI. 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 Bhopal.
- XXVII. The inter burden and other waste generated should 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  $28^{\circ}$ . 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 should be submitted to the Ministry of Environment & Forests and its Regional Office, Bhopal on six monthly basis.
- XXVIII. 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°.

- XXIX. 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.
- XXX. 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.
- XXXI. As proposed, green belt shall be developed in at least 33 % in cement plant and all the mined out area except used for reservoir.
- XXXII. All the safety norms stipulated by the Director General, Mine & Safety (DGMS) should be implemented.
- XXXIII. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Cement plants should be implemented.
- XXXIV. The company shall comply with the commitments made during public hearing held on 7<sup>th</sup> April, 2010 and a separate budget for implementing the same should be allocated and information submitted to the Ministry's Regional Office at Bhopal.
- XXXV. 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 Bhopal. Implementation of such program should be ensured accordingly in a time bound manner.
- XXXVI. 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 Chhattisgarh Environment Conservation Board (CECB) 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.

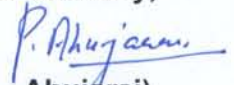
- iv. Industrial wastewater shall be properly collected and treated so as to conform to the standards prescribed under GSR 422 (E) dated 19<sup>th</sup> May, 1993 and 31<sup>st</sup> December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.
- v. 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 CECB.
- 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 Chhattisgarh Environment Conservation 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.
11. 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.
12. The Ministry may revoke or suspend the clearance if implementation of any of the above conditions is not satisfactory.
13. Any other conditions or alteration in the above conditions shall have to be implemented by the project authorities in a time bound manner.
14. Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, Second Floor, Trikoot-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.
15. 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.

Yours faithfully,

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

**Copy to:**

1. The Secretary, Department of Environment, Govt. of Chhattisgarh, Chhattisgarh.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
3. The Chairman, Chhattisgarh Environment Conservation Board, Nanak Niwas, Civil Lines, Raipur, Chhattisgarh.
4. The Chief Conservator of Forests (Eastern), Regional Office (Western Zone), E-3/240, Arera Colony, Bhopal - 462 016, M.P.
5. Adviser (IA-II), Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
6. Monitoring Cell, Ministry of Environment & Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
7. Guard file.
8. Record file.

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