

F. No. J-11011/00/2008-IA II (I)  
Government of India  
Ministry of Environment and Forests  
(I.A. Division)

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New Delhi – 110 003  
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Dated: 23<sup>rd</sup> March, 2010

To,

M/s Reliance Cementation Pvt. Ltd.  
I Block, 1<sup>st</sup> Floor, South Wing  
Dhirubhai Ambani Knowledge City  
Koparkhairane, Navi Mumbai - 400 710

Sub: Integrated Cement Plant (Clinker 3.6 MTPA; Cement 5.0 MTPA) along with Captive Power Plant (75 MW) near Villages Bharauli & Itahara and Limestone Mines (Sadhera Mine, 3.5 MTPA, 539.561 ha) near Village Sadhera at Tehsil Maihar, District Satna, in Madhya Pradesh by M/s Reliance Cementation Private Limited. (Unit Maihar-I) reg. Environmental Clearance

Sir,

This has reference to your letter no. RCPL/ENV/Maihar dated 1.02.2010 along with copies of final EIA report and public hearing report seeking environment clearance under the provisions of EIA Notification, 2006.

2. The Ministry of Environment and Forests has examined the application for the above project. It is noted that M/s Reliance Cementation Private Limited have proposed to set up an Integrated Cement Plant (Clinker 3.6 MTPA; Cement 5.0 MTPA) along with Captive Power Plant (75 MW) at Villages Bharauli and Itahara Limestone Mine (Sadhera Mine, 3.5 MTPA, 539.561 ha) near Village Sadhera at Tehsil Maihar, District Satna in Madhya Pradesh. Out of 539.561 ha. of mine lease area, minable reserves will be in the 66.359 ha. of forest area. The first stage clearance approval for the diversion of 66.359 ha of forests land has been obtained under the Forest (Conservation) Act, 1980 on 14<sup>th</sup> January, 2011. The total minable reserve area is 245 ha. The lime stone requirement will be about 5.4 MTPA of which 3.5 MTPA will be met from the Captive Sadhera Limestone Mine and remaining from the adjoining mines namely Salaiya & Bandhi / Ghorwai mines. Total land required for proposed cement unit and captive power plant is 138 ha of which 135 is private land and 3 ha is Government land. Besides, 28 ha land is required for township which is private land. The area required for conveyor belt, railway siding and approach road is 35 ha which will be purchased from the land owners. Thus, the total land requirement for cement plant; CPP, colony, road and township and limestone mine is 737.561 ha. A township is proposed adjoining the clinker plant. There will be about 526 project affected households. No displacement of families is involved from the site of cement plant and CPP. About 321 will be the land outstees. There will be about 178 families who will be displaced from the mine lease area and 25 land outstees. Compensation will be paid to the project affected families with the mutual consent. The Captive Power Plant (75 MW) will be based on Circulating Fluidized Bed Combustion (CFBC) boilers. Public hearing of the project was held on 20<sup>th</sup> December, 2009. Total cost of the proposed project is Rs. 2,500.00 Crores. Rs. 200.00 Crores and Rs. 3.00 Crores has been earmarked towards the capital cost and recurring cost/annum for environmental protection measures.

3. It is noted that method of mining will be open cast fully mechanized. Mineral reserves are 74.8 million Tonnes. Life of mine will be 25 years. Ultimate working depth of mine will be 34 m below ground level.

4. Water requirement will be 10,900 m<sup>3</sup>/day of which, fresh water requirement will be 9,500m<sup>3</sup>/day. Water requirement of 9,500m<sup>3</sup>/day will be met from ground source as well as from the mined out pits. Permission for ground water with drawl has been obtained from Central Ground Water Authority vide their letter no. 21-4(53)/NCR/CGWA/2009-692 dated 23.09.09. No wastewater will be discharged from proposed clinkerization plant. Treated wastewater and water collected in mined out pits will be used for suppression of dust along haulage. Sewage will be treated in Sewage Treatment Plant and will be reused for irrigation, dust suppression and cooling etc. Rain water will be harvested. Power requirement will be met from the 75 MW captive Thermal Power Plant and 3 MW DG sets in the plant premises and 1 MW DG set at the mine.

5. To control the particulate emissions below 50 mg/Nm<sup>3</sup>, ESP for clinker cooler and bag filters to kiln and raw mill, coal mill and cement mill will be installed. Bag filters will be provided for de-dusting of storage areas, crushers and transfer points. Closed conveyor belts will be installed along with bag filters for efficient de-dusting of storage areas and transfer points. Drilling with dust collecting arrangement and control blasting will be carried out. Water will be sprayed for dust suppression during limestone transportation. No solid waste will be generated from the process. 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 manufacturing of blended cement. Sewage sludge will be used as manure for greenbelt development. Scrap from stores / workshop will be disposed off through vendors. Municipal waste generated during construction and operation period will be composted after segregation and used as manure and/or also used in kiln as alternate fuel. Waste oil and grease will be disposed through authorized vendors and also used in kiln as alternate fuel. Over burden from Mines will be dumped in earmarked area and used for backfilling and green belt development. Green belt will be developed in cement plant and township in 55 ha and available space in limestone mines.

6. The Cement Plants and limestone mining projects are listed at S.N. 3(b) and 1(a) of schedule of EIA Notification, 2006. Since the capacity of the cement plant is above 1.0 MTPA and mine lease area is above 50 ha., this is a 'A' Category project and appraised by the Expert Appraisal Committee -1 (Industry) at the Centre.

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

8. Based on the information submitted by you, presentation made by you and your Consultant J.M. Environet Pvt. Ltd., 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 clearance under the Forest (Conservation) Act, 1980 and

subsequent amendments and a copy of the approval should be submitted to the Ministry's Regional Office at Bhopal before initiating any construction work at site.

- ii). 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 Madhya Pradesh. A copy of the mining lease approval from the Indian Bureau of Mines (IBM) and State Govt. of Madhya Pradesh should be submitted to the Ministry and its Regional Office at Bhopal before initiating any construction work at site related to mining.
- iii). Rehabilitation and Resettlement Plan for the project affected population including tribals, shall be implemented as per the policy of the State Govt. in consultation with the State Govt. of Madhya Pradesh. Compensation paid in any case shall not be less than the norms prescribed under the National Resettlement and Rehabilitation Policy, 2007.
- iv). The gaseous and particulate matter emissions from various units shall conform to the standards prescribed by the Madhya Pradesh 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 shall be prepared and submitted to the Ministry and its Regional Office at Bhopal within 3 months from the date of issue of the letter.
- vi). Data on ambient air quality (PM10, SO<sub>2</sub>, NO<sub>x</sub>) shall be regularly submitted to the Ministry including its Regional office located at Bhopal and the State Pollution Control Board / Central Pollution Control Board once in six months. The critical parameters such as PM10, 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.
- vii). The Company shall install low NO<sub>x</sub> burner with Kiln/calciner for control of NO<sub>x</sub> emissions as per the prescribed standards.
- 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). 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). 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.

- xi). 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.
- xii). Fly ash shall be utilized as per the provisions of Fly Ash Notification, 1999, subsequently amended in 2003/2009. Fly ash shall be stored in ash silo and 100% used in the cement manufacturing.
- xiii). The company shall make the efforts to utilize the high calorific hazardous waste in the cement kiln and necessary provisions shall be made accordingly. Further, efforts to use low grade line and more fly ash shall be made. The company shall keep the record of the waste utilized and shall submit the details to Ministry's Regional Office at Bhopal, CPCB and SPCB.
- xiv). 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 Bhopal 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.
- xv). 'Permission' for the drawl of 9,500 m<sup>3</sup>/day groundwater from bore wells shall be obtained from the concerned department. The water stored in the artificial reservoir made in the mine pit shall be used maximum to reduce ground water consumption. No effluent shall be discharged from the mine to any water body or nearby river.
- xvi). Detailed hydrological study shall be carried out since mining activities are likely to intersect ground water and implementation of recommendations of the detailed hydrological study shall be ensured.
- 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 prepare 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 Bhopal.
- 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, Bhopal 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 gentle 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 de-silted, particularly after monsoon, and maintained properly.
- 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 de-silted 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 Bhopal, 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 shall 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 Bhopal.
- xxviii). As proposed, green belt shall be developed in 55 ha in plant & township and 386 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.
- xxxii). Risk and Disaster Management Plan alongwith the mitigation measures should be prepared and a copy submitted to the Ministry's Regional Office at Bhopal, MPPCB and CPCB within 3 months of issue of environment clearance letter.
- xxxiii). All the safety norms stipulated by the Director General, Mine & Safety (DGMS) should be implemented.
- xxxiv). 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.
- xxxv). The company shall comply with the commitments made during public hearing held on 20th December, 2009 and a separate budget for implementing the same shall be allocated and information submitted to the Ministry's Regional Office at Bhopal.
- xxxvi). At least 2 % 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 Bhopal. Implementation of such program should be ensured accordingly in a time bound manner.
- xxxvii). 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:**

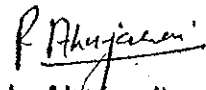
- i. The project authority shall adhere to the stipulations made by Madhya Pradesh State Pollution Control Board (SPCB) and State Government.
- ii. No further expansion or modification of the plant shall be carried out without prior approval of this Ministry.
- iii. At least four ambient air quality 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. The company shall undertake eco-development measures including community welfare measures in the project area.
- vii. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/ EMP/PH reports.
- viii. 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.
- ix. 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.
- x. The Regional Office of this Ministry / CPCB / SPCB 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.
- xi. 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 MPPCB.
- 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. 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.
- xiv. 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.
- xv. 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.
- xvi. 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.

- xvii. 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.
  - xviii. 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.
  - xix. 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 Madhya Pradesh 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.
  - xx. 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.
9. 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.
10. The Ministry may revoke or suspend the clearance if implementation of any of the above conditions is not satisfactory.
11. Any other conditions or alteration in the above conditions shall have to be implemented by the project authorities in a time bound manner.
12. 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 (Environment), Govt. of Madhya Pradesh, Mantralaya, Ballabh Bhavan, Bhopal, MP.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi ? 110032.
3. The Chairman, Madhya Pradesh Pollution Control Board, Paryavaran Parishar , E-5, Arera Colony, Bhopal - 462016
4. The Chief Conservator of Forests (Central), Ministry of Environment, and Forests, Western Regional Office, Kendriya Paryavaran Bhavan, Link Road No. 3, Ravi Shankar Nagar, Bhopal - 462016
5. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi-110003.
6. Guard file.
7. Record file

Dr. (P.L. Ahujarai)  
Scientist 'F'