

**F. No. J-11015/83/2013-IA-II(M)**  
**Government of India**  
**Ministry of Environment, Forest & Climate Change**  
**Impact Assessment Division**

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**Dated: 8<sup>th</sup> September, 2015**

To,

**M/s Ambuja Cements Ltd**  
Village Rauri, Tehsil Arki,  
District Solan,  
Himachal Pradesh

**Sub.: Expansion of Lime Stone Mining (5.5 MTPA to 7.6 MTPA) at Village Kashlog, mangu and Pati, Tehsil Arki, District Solan, Himachal Pradesh by M/s Ambuja Cement Limited (469 ha) -Environmental Clearance regarding.**

**Reference:** Online Application IA/HP/MIN/18380/2013

Sir,

This has reference to your online application for the above mentioned proposal of expansion of Kashlog Limestone Mine of M/s Ambuja Cements Limited from 5.5 MTPA to 7.6 MTPA falling in villages Kashlog, Chakru, Serwala, Banjan, Pati, Banli, Badog, Banog, Rathoh, Mangu, Chola, Ghamaru, Serjeri, Gyana, Rauri and Sangoi of Arki Tehsil, Solan District, State Himachal Pradesh. The Latitude and Longitude of the site fall between 31°13'50.5" to 31°15'28" N and 76°55'38.5" to 77°0'9.5" E respectively.

2. The proposal was considered by the Expert Appraisal Committee (Industry) during 91<sup>st</sup> meeting held on 9<sup>th</sup> to 11<sup>th</sup> February, 2009. The Expert Appraisal Committee (Industry) and the two co-opted members from the EAC (Mining), after detailed deliberations, finalized the TOR. The TORs were issued by MoEF vide letter no. J-11011/986/208-IA-II (I) dated 12th March, 2009. The limestone expansion project is a part of integrated project of expansion of Rauri Clinkerisation Unit from 1.8 to 2.6 MTPA capacity. The proponent submitted EIA/EMP online to the Ministry for seeking environmental Clearance after conducting Public Hearing submitted the EIA/EMP report online for seeking environmental clearance. The proposal was appraised before the Expert Appraisal Committee in its Meeting held during May 15-17, 2013 wherein the Committee sought additional information. Further, the proposal was reconsidered the Expert Appraisal Committee in its Meeting held during June 24-26, 2015 wherein the Committee recommended the proposal for Environmental Clearance for Mining of Lime Stone with proposed production capacity of 5.5 MTPA to 7.6 MTPA.

3. The mine lease area as per original grant order was 488.06 ha. The 488.06 ha ML area was changed to 485.52 ha due to correction in land records at the time of processing of ML renewal application. The lease comprises 138.70 ha forest land



and balance private agricultural and waste land. The Mining Lease is valid upto 27/05/2042 as per Mines & Minerals (Development & Regulation) Amendment Ordinance, 2015 dated 12<sup>th</sup> January 2015. Renewal of Forest Clearance for 122.18 ha area has been obtained. The earlier forest clearances were available over 102.8 ha and 19.38 ha separately. The Mining plan was approved by IBM vide Letter No. 614(2)/MP-A-324/11-DDN dated 20.03.2012. As per the new guidelines of forest diversion, ACL is in the process of surrendering 16.52 ha forest land which falls near ML periphery and for which, diversion was not sought. Final Mine Closure Plan (FMCP) for 16.52 ha forest area under surrender has been approved by IBM vide letter no. 614(2)/FMCP-A-232/13-DDN on 19.11.2013. Modified Mining plan alongwith progressive mine closure plan for 469 ha area was approved by IBM vide letter no. 614(2)/MP-A/324/11-DDN on 20/21st February, 2014. Therefore, the effective mining lease area after surrender of 16.52 ha forest area is 469 ha for which desired clearances are available. Darlaghat (Piplughat) Sanctuary and Majathal Sanctuary are located within 10 kms distance from core zone. No endangered flora is reported. Five Schedule – I species have been reported in the buffer zone. The wildlife conservation plan duly approved by PCCF, H.P. vide letter no. WL (Misc.)-73/Mining/VI/7473 dated 24.12.2013 was submitted and NBWL clearance for Darlaghat (Piplughat) Sanctuary and Majathal Sanctuary, 'No objection certificate/Permission' under the wildlife (Protection) Act from Chief Wildlife Warden, Himachal Pradesh has been obtained vide letter no WL (Misc)-71/Mining/v/6038 dated 24.01.2012. Letter reg. recommendation by standing committee of NBWL is also submitted.

4. The mine is being operated by opencast method and excavations are being carried out by gradual slicing off from the top of the limestone hill. The mining operations comprise pre-production development stage and the production stage. During the pre-production stage haul roads are laid and the faces are developed and made ready for raising limestone. Haul roads have been designed based on geo-technical parameters, shape of the ore body and size of the equipment plying in the mines. Adequate drainage has been provided along the roads to prevent erosion from runoff water. The average height of the benches is 10 m and face slope is 80°-90° during excavation. The slope stability investigations for the mine were carried out by Indian Bureau of Mines, Nagpur and CMRI, Dhanbad and as per their suggestions, ultimate bench slope of 45° shall be maintained. State of the art controlled blasting techniques are adopted.

5. The grade of the mined out limestone that is supplied to the crusher/Cement Plant is of the order of 43 to 44.5 % CaO. The requirement of the Cement Plant for kiln feed is about 43.5 % CaO. Presently, all the mined material is supplied to this Plant. In the mining area, there is no generation of significant waste material which needs dumping or segregation. All sub-grade material like shale, shaly limestone is blended in ROM and supplied to crusher for use in raw mix design. The water requirement of 150 to 170 m<sup>3</sup>/day for mining usage shall be met from Pazeena (Pagoda) Khud & Mine Sump. Pazeena Khud is a tributary of Sutlej River. Permission to draw 1200 KLD of water from Pazeena Khud for project is available. Mining operations in the mining lease area will not intersect water table. However, the hydro-geological studies were conducted by Shri R P Agarwal, Retired Regional Director, Central Groundwater Board for Plant and mines area and the report is included in EIA report.

6. The fresh baseline monitoring data was collected for the study period during October 2013 to December 2013. The analytical results of samples of air and water collected were within permissible limits. Public Hearing was organized by the



Himachal Pradesh State Pollution Control Board on 30.08.2012 at Government Primary School, Rauri - Darlaghat Tehsil Arki, Distt. Solan. The PH was chaired by ADM and RO-SPCB Himachal Pradesh. The major issues raised were inflow of water into fields due to which their paddy crops are affected. Mining is being carried out at a distance of 50 m to 100 m from the village. They face problems due to dust generation from vehicle movement. In response, the proponent committed for proper drainage of the surrounding in the mining areas so that all the runoff water from the mines is collected in the bottom pit of the mines. This water is re-used by Ambuja in the mining area for sprinkling on haul roads and machine washing purpose. It was mentioned that PP uses eco-friendly methods such as ripper dozers, hydraulic rock breakers and the hydraulic cutting drums so as to cause minimum inconvenience to the villagers. Haul roads inside the mining area are temporary. Provision of water sprinkling through tankers will be made to suppress dust. Sufficient water sprinkling system has been provided in the mining and crusher area to control fugitive dust. All efforts are made to maintain the noise and dust generated within permissible limits in the mining area.

7. The total project cost is about Rs 8950 Lakhs. The proposed cost of environmental protection measures is about Rs 990.6 lakhs per annum for Plant and mines. Provision of about Rs 400 lakhs per annum has been earmarked for socio economic development of surrounding region.

8. The Ministry of Environment, Forests & Climate Change has examined the proposal in accordance with the Environmental Impact Assessment Notification, 2006 and further amendments thereto and hereby accords the environmental clearance under the provisions thereof to the above mentioned proposal of **Expansion of Lime Stone Mining (5.5 MTPA to 7.6 MTPA) at village Kashlog, mangu and Pati, Tehsil Arki, District Solan, Himachal Pradesh by M/s Ambuja Cement Limited (469 ha)** subject to compliance of the followings terms and conditions and environmental safeguards mentioned below:-

#### **A. Specific conditions**

- i. Environmental clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the Standing Committee of NBWL, as may be applicable to this project.
- ii. The available technical and personal measures shall be taken to prevent or control the generation, release and dissemination of dust in the workplace.
- iii. The project proponent shall obtain Consent to Establish and Consent to Operate from the Himachal Pradesh Pollution Control Board and effectively implement all the conditions stipulated therein.
- iv. Environmental clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No. 460 of 2004, as may be applicable to this project.
- v. Wet drilling operation will be practiced to control dust.
- vi. A buffer zone of 50 m (green belt) on either side of the pond/nalla located near mine lease area or passing through lease area should be developed for protection of the pond/nalla/stream.
- vii. No mining activities will be allowed in forest area, if any, for which the Forest Clearance is not available.
- viii. The mining operations shall be restricted to above ground water table and it should not intersect the groundwater table.



- ix. The loose solids should be kept separately from flowing water and flow of effluents to nearby areas outside the leasehold shall be prevented. These paved drains along with arrangements for Over Burden Dumps and their drainage may be clearly depicted on a contoured map of the mining area.
- x. The project proponent shall ensure that no natural watercourse and/or water resources shall be obstructed due to any mining operations. Adequate measures shall be taken for conservation and protection of the 1<sup>st</sup> and 2<sup>nd</sup> order streams, emanating or passing through the mine lease during the course of mining operation.
- xi. The top soil, if any shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation.
- xii. Appropriate safeguard measures shall be taken to ensure stability and drainage of dump so that no solid waste/debris flows into the nallah.
- xiii. The over burden (OB) generated during the mining operation shall be stacked at earmarked dump site(s) only and it should not be kept active for a long period of time and their phase-wise stabilization shall be carried out. Proper terracing of OB dump(s) shall be carried out so that the overall slope shall not exceed 28°. The over burden dump(s) shall be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles shall be undertaken for stabilization of the dumps. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office, Dehradun on six monthly basis.
- xiv. Catch drains and siltation ponds of appropriate size shall be constructed for the working pit, temporary OB and mineral dumps to arrest flow of silt and sediment directly into the adjoining River and other water bodies. 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 the monsoon and maintained properly.
- xv. Dimension of the retaining wall at the toe of the OB dump(s) and the OB benches within the mine to check run-off and siltation should be based on the rain fall data.
- xvi. Plantation shall be raised in the specified area including a 7.5 m wide green belt in the safety zone around the mining lease, OB dump(s), along the roads, etc. by planting the native species in consultation with the local DFO/Agriculture Department. In addition, plantation shall also be raised in the backfilled and reclaimed area and around water body. The density of the trees should be around 2500 plants per ha.
- xvii. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as around crushing and screening plant, loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- xviii. Regular monitoring of water quality upstream and downstream of perennial nallahs falling in the impact zone shall be carried out and record of monitoring data should be maintained and submitted to Ministry of Environment, Forest and Climate Change, its Regional Office, Dehradun, Central Groundwater Authority, Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board.



- xix. Appropriate measures shall be taken for treatment of the upper catchment of the mine lease area.
- xx. The project authority should implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.
- xxi. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and installing new piezometers during the mining operation. The periodic monitoring [(at least four times in a year- pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January)); once in each season)] shall be carried out in consultation with the State Ground Water Board/Central Ground Water Authority and the data thus collected may be sent regularly to the Ministry of Environment, Forest and Climate Change and its Regional Office Dehradun, the Central Ground Water Authority and the Regional Director, Central Ground Water Board. If at any stage, it is observed that the groundwater table is getting depleted due to the mining activity, necessary corrective measures shall be carried out.
- xxii. The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of water, required for the project.
- xxiii. Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board.
- xxiv. Appropriate mitigative measures should be taken to prevent pollution of nearby River in consultation with the State Pollution Control Board.
- xxv. 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 mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
- xxvi. Controlled blasting shall be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.
- xxvii. Drills shall either be operated with dust extractors or equipped with water injection system.
- xxviii. Mineral handling area shall be provided with the adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- xxix. Sewage treatment plant shall be installed for the colony. ETP shall also be provided for the workshop and wastewater generated during the mining operation.
- xxx. Pre-placement medical examination and periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly.
- xxxi. Regular monitoring of free silica in the dust will be carried out and records maintained. It shall be ensured that the levels of silica do not exceed the prescribed limit. The workers will be provided with personal protective measures to guard against inhaling silica dust.
- xxxii. 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, creche



- etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- xxxiii. The project proponent should take all precautionary measures during mining operation for conservation and protection of endangered flora as well as endangered fauna. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. Copy of action plan may be submitted to the Ministry and its Regional Office at Dehradun within 3 months.
- xxxiv. The critical parameters such as RSPM (Particulate matter with size less than 10 micron i.e.,  $PM_{10}$ ) and  $NO_x$  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. The Circular No. J-20012/1/2006-IA.II(M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change, which is available on the website of the Ministry [www.envfor.nic.in](http://www.envfor.nic.in) shall also be referred in this regard for its compliance.
- xxxv. A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment, Forest and Climate Change 5 years in advance of final mine closure for approval.
- xxxvi. The project proponent shall undertake all the commitments made during the public hearing and effectively address the concerns raised by the locals in the public hearing as well as during consideration of the project, while implementing the project.

## **B. General conditions**

- (i) No change in mining technology and scope of working should 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 should be made.
- (iii) Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM (Particulate matter with size less than 10micron i.e.,  $PM_{10}$ ) and  $NO_x$  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.
- (iv) Data on ambient air quality should be regularly submitted to the Ministry of Environment and Forests including its Regional office located at Dehradun and the State Pollution Control Board / Central Pollution Control Board once in six months. Provisions contained in notification no. B-29016/20/90/PCI-I dated 18.11.2009 should be followed for monitoring.
- (v) Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.



- (vi) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.
- (vii) Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
- (viii) A separate environmental management cell with qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.
- (ix) The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Dehradun.
- (x) The project authorities should inform to the Regional Office located at Dehradun regarding date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.
- (xi) The Regional Office of this Ministry located at Dehradun shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.
- (xii) The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the Ministry of Environment and Forests, its Regional Office Dehradun, the respective Zonal Office of Central Pollution Control Board the State Pollution Control Board. The proponent shall upload the status of compliance of the environmental 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 Ministry of Environment and Forests, Dehradun, the respective Zonal Office of Central Pollution Control Board and the State Pollution Control Board.
- (xiii) A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad / 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 website of the Company by the proponent.
- (xiv) The State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and the Collector's office/ Tehsildar's Office for 30 days.
- (xv) 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 along with the status of compliance of environmental clearance conditions and shall also be sent to the Regional Office of the Ministry of Environment and Forests, Dehradun by e-mail.
- (xvi) The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment and Forests at



<http://envfor.nic.in> and a copy of the same should be forwarded to the Regional Office of this Ministry located at Dehradun.

9. The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
10. 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 the Environment (Protection) Act, 1986.
11. 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 made thereunder and also any other orders passed by the Hon'ble Supreme Court of India/High Court of Himachal Pradesh and any other Court of Law relating to the subject matter.
12. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

  
(Dr. U. Sridharan)  
Scientist 'F'

**Copy to:**

- (i) The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
- (ii) The Commissioner and Secretary, Department of Mines & Geology, Government of Himachal Pradesh, Himachal Pradesh Secretariat, Shimla-171 002.
- (iii) The Commissioner and Secretary, Department of Environment, Government of Himachal Pradesh, Himachal Pradesh Secretariat, Shimla-171 002.
- (iv) The Additional Principal Chief Conservator of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office (NCZ), Pearson Road, P.O. New Forest, Forest Research Institute (FRI) campus, Dehradun.
- (v) The Chief Wildlife Warden, Government of Himachal Pradesh, Mist Chamber, 1st Floor, Khalini, Shimla - 171 002.
- (vi) The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office complex, East Arjun Nagar, New Delhi-1100032.
- (vii) The Member Secretary, Central Ground Water Authority, A-2, W3, Curzon Road Barracks, K.G. Marg, New Delhi-110001.
- (viii) The Chairman, Himachal Pradesh State Pollution Control Board, Paryavaran Bhavan, Phase-III, New Shimla - 171 009.
- (ix) The Controller General, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.
- (x) The District Collector, Solan District, Himachal Pradesh.
- (xi) Guard File.
- (xii) MoEFCC website

  
(Dr. U. Sridharan)  
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