

No. J-11015/450/2012-IA.II (M)
Government of India
Ministry of Environment, Forest and Climate Change
Impact Assessment Division

Indira Paryavaran Bhavan,
Aliganj, Jor Bagh Road
New Delhi-110 003

Dated: 17th August, 2015

To,

M/s Steel Authority of India Limited

Raw Material Division,
Post-Barhi, District-Katni
Madhya Pradesh-483 770

Tel. 07626-273251, Fax No. 07626-373201

Sub.: Mining of limestone with proposed production capacity of 0.06 million TPA (ROM) in Kuteshwar Limestone Mine (Left Bank Lease) by M/s Steel Authority of India Limited, located at village-Kuteshwar, Tehsil-Vijayraghavgarh, District-Katni, Madhya Pradesh (91.14ha)-Environmental Clearance regarding.

Sir,

This has reference to your application for the above mentioned proposal for Mining of limestone with proposed production capacity of 0.06 million TPA (ROM) in Kuteshwar Limestone Mine (Left Bank Lease). The mine lease area is located at village-Kuteshwar, Tehsil-Vijayraghavgarh, District-Katni, Madhya Pradesh in MLA of 91.14ha. The Latitudes and Longitudes of the mine lease area are 23°58'28" N & 23°59'22" N and 80°48'55" E & 80°49'43" E respectively on Topo sheet no. No 63 D/16 & 64A/13.

2. The Ministry had prescribed TOR on 13.05.2013. The Proponent after conducting Public Hearing on 28.02.2014 submitted the EIA/EMP report for seeking environmental clearance. The proposal of EC was appraised in the EAC meeting held during June 24-26, 2015 wherein the EAC recommended the Proposal for environmental clearance for Limestone mine with production capacity of 0.06 million TPA (ROM).

3. The total mine lease area is 91.14 ha. Out of which 19.80 ha area will be used for Mining (excavation), 6.764 ha for overburden/dumps, 0.03 ha for infrastructure development, 3.50 ha for roads, 61.046ha will be undisturbed area. The Mining Plan of Left Bank Lease has been approved by the IBM vide letter No. M.P/KATNI/LIMESTONE/ MPLAN/PSU/R-02/02-03 dated 02-09-2003. The Mining Plan was modified and approved by the IBM vide letter no. MP/Katni/MP/Modi-05/04-05/5237 dated 02.11.2004. Third Scheme of Mining was approved by the IBM for a period 2012-13 to 2016-17 vide letter No. MP/Katni/Limestone/M.Sch.-18/14-15/6664, dated 01-12-2014. The Project Proponent reported that the total Limestone reserves in the mine lease area were estimated as 62.8 million tonnes upto a depth of 320 metres, of which proved reserves were 3.1 million tonnes, prefeasibility resources were 13.63 million tonnes and feasible resources were

18.07 million tonnes and inferred resources were 28 million tonnes. However, as most of the lease area is under submergence of Bansagar Dam during the major part of the year, and all the working pits are filled up by inundated water of the Dam, the mineable reserves have been reclassified considering the present available mineable area and working depth, i.e. from 339 m to 335 m RL (4 m). On the basis of the mineable reserve of 4,80,000 tonnes (0.48 million tonnes) and annual proposed production rate of about 60,000 tonnes, the anticipated life of the mine will be about 8 years.

4. Mining operations started at Left Bank Lease in 1993 through manual means. The mine is being operated by Opencast Mechanized method using heavy earth moving machinery (HEMMs) for various operations like drilling, blasting, loading, transportation, etc. However, the blasted ore will be sorted and sized to +25 to -75 mm limestone manually. The deposit is being mined by top-slicing open cast fully mechanized method i.e. as per current practice, aided by drilling and blasting. In this scheme of mining period, the mining will be carried out by developing the present working pit towards north direction by leaving 3 m space from the pit as safety measure. The working will be carried out with a bench height of 1.5 m from about 339 m to 337.5 m. After the recession of water in the post-monsoon season, mining will be resumed by de-silting the mining area. For expediting the drying up of the working quarry, the accumulated water will be drained out. Working will be carried out by leaving 3 m safety zone from the present working face which will act as a safety wall of 3 m width for the proposed working pit, which will be properly fenced by barbed wire to protect workers. The mining will be planned in the available higher level areas and the depth of working will be confined to 1.5 m bench. The sized material will be loaded by manual labour into 22 tonner dumper / tippers and also by using loader / excavator for loading and transporting to the railway siding at Khanna-Banjari for onward transportation to different SAIL Steel Plants as per their requirements. The inter-burden and silt forming the waste material will be sorted out manually and loaded into dumper for transportation to the dump site along the north-western boundary of the lease.

5. Project Proponent reported that there is no National Park, Wildlife Sanctuary, Biosphere Reserve, Wildlife Corridor in the 10 km radius study area of the Kuteshwar Mine Lease. Bandhavgarh National Park is located at about 13.2 km S of the mine lease area. Hardua Reserve Forest (5.1 km NW), Karreha Reserve Forest (7.5 km N), Bara Reserve Forest (5.5 km NE) and an Open Mixed Jungle (6.7 km SE) are located within the study area. There is no endangered or endemic flora and fauna species observed in the study area of the project. There is no forest in the mine lease area. There are four forests in the study area viz., Hardua Reserve Forest (5.1 km NW), Karreha Reserve Forest (7.5 km N), Bara Reserve Forest (9.0 km NE) and Open Mixed Jungle (6.7 km SE). There is no nallah flowing in the lease area. River Chhoti Mahanadi flows through the eastern boundary of the lease area. Presently the deepest level of the mine is at 332 m RL which is much above the ground water table. As there is no ore beneficiation / washing of ore at Left bank Lease, water is mainly required for dust suppression & plantation (20 KLD), Drinking (3 KLD). Total water requirement in the mine is about 23 m³ per day.

6. The Ministry has earlier accorded the environmental clearance to the project vide MOEF letter no. J-11015/34/93-IA II (I) dated 16th June, 1995 under the provisions of EIA Notification, 1994. The certified compliance report of the

conditions stipulated in the earlier EC was submitted by the Regional Office of MoEFCC, Bhopal vide their letter dated 08.09.2014. The Committee deliberated the compliance status at length and found it to be in order.

7. The baseline season data was generated during summer season i.e. March to May 2013. The Committee deliberated on the data monitored and was of the opinion that as the base line data was in accordance with the prescribed ToR and all the parameters are well within the permissible limits, the base line data could be accepted.

8. The Public Hearing was held on 28.02.2014 which was presided over by Shri Dinesh Srivastav, ADM, Katni. The representative of Regional Office from the Madhya Pradesh State Pollution Control Board was present. Major issues raised during Public Hearing were related to financial assistance to village women so that they can be self-employed, water availability, construction of Community Centres in Konia, Jararoda and Giatalai Villages, construction and renovation of connecting road in Konia Village. The issues as raised during the Public Hearing were discussed by the EAC.

9. Total cost of Project is Rs. 35 Lakhs. Project Proponent has earmarked Rs. 90 Lakhs towards Environmental Protection Measures and Rs. 273 Lakh per annum towards recurring expenses. The Project proponent informed that Rs. 200 Lakhs have been earmarked towards CSR activities for 2015-16. The Project Proponent reported that there is no court case/litigation pending against the project.

10. The Ministry of Environment, Forest and 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 **M/s Steel Authority of India Limited for Mining of limestone with proposed production capacity of 0.06 million TPA (ROM) in Kuteshwar Limestone Mine (Left Bank Lease) in the mine lease area of 91.14ha, located at village-Kuteshwar, Tehsil-Vijayraghavgarh, District-Katni, Madhya Pradesh** subject to compliance of the followings terms and conditions and environmental safeguards mentioned below:-

A. Specific conditions

- (i) Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court of Madhya Pradesh and any other Court of Law, if any, as may be applicable to this project.
- (ii) Environmental clearance is subject to obtaining clearance, if any, under the Wildlife (Protection) Act, 1972 from the Competent Authority as applicable to this project.
- (iii) No mining activities will be allowed in forest area, if any, for which the Forest Clearance is not available.
- (iv) The Project Proponent shall obtain Consent to Operate from the State Pollution Control Board, Madhya Pradesh and effectively implement all the conditions stipulated therein.

- (v) Project Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical checkup once in six months and necessary medical care/preventive measures undertaken accordingly. Recommendations of National Institute for Labour for ensuring good occupational environment for mine workers should also be adopted.
- (vi) Implementation of Action Plan on the issues raised during the Public Hearing shall be ensured. The PP shall complete all the tasks as per the Action Plan submitted with budgetary provisions during the Public Hearing.
- (vii) The mining operations shall be restricted to above ground water table and it should not intersect groundwater table. In case of working below ground water table, prior approval of the Ministry of Environment, Forest and Climate Change and Central Ground Water Authority shall be obtained, for which a detailed hydro-geological study shall be carried out; The Report on six monthly basis on changes in Ground water level and quality shall be submitted to the Regional Office of the Ministry.
- (viii) The pollution due to transportation load on the environment will be effectively controlled & water sprinkling will also be done regularly. Vehicles with PUCC only will be allowed to ply. The mineral transportation shall be carried out through covered trucks only and the vehicles carrying the mineral shall not be overloaded. Project should obtain 'PUC' certificate for all the vehicles from authorized pollution testing centres.
- (ix) There shall be planning, developing and implementing facility of rainwater harvesting measures on long term basis and implementation of conservation measures to augment ground water resources in the area in consultation with Central Ground Water Board.
- (x) Use of effective sprinkler system to suppress fugitive dust on haul roads and other transport roads shall be ensured; and Washing of all transport vehicle should be done inside the mining lease.
- (xi) Project Proponent shall ensure that there should not be cross traffic from Left Bank Lease to Right Bank Lease or vice versa.
- (xii) The Proponent shall implement the Wildlife Conservation Plan along with the funds so allocated with consultation of Chief Wild Life Warden of the State Govt. A copy of action plan shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office, Bhopal and the Chief Wild Life Warden of the State Govt. The Project Proponent shall also take all precautionary measures during mining operation for conservation and protection of endangered flora/fauna, if any, spotted in the study area.
- (xiii) Advanced technologies for environmental protection shall be used for controlled blasting specially in the areas in the vicinity of the villages/habitations. Blasting operation shall be carried out only during the daytime. Controlled blasting shall be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented. Drills shall either be operated with dust extractors or equipped with water injection system. Secondary blasting for reducing the

boulder size will be avoided by using rock breaker. All measures will be adopted to control fugitive dust emission during mining operation and to ensure no impact on nearby habitats. Green belt (15 m width) and plantation will be developed towards habitation, water bodies and all along the pit boundary.

- (xiv) Project Proponent shall carry out vibration studies well before approaching any such habitats or other buildings, to evaluate the zone of influence and impact of blasting on the neighbourhood. Within 500 meters of such sites vulnerable to blasting vibrations, avoidance of use of explosives and adoption of alternative means of mineral extraction, such as ripper/dozer combination/rock breakers/ surface miners etc. should be seriously considered and practiced wherever practicable. A provision for monitoring of each blast should be made so that the impact of blasting on nearby habitation and dwelling units could be ascertained.
- (xv) Mining shall be carried out as per the provisions outlined in mining plan approved by Indian Bureau of Mines (IBM) as well as by abiding to the guidelines of Directorate General Mines Safety (DGMS).
- (xvi) Main haulage road in the mine should be provided with permanent water sprinklers and other roads should be regularly wetted with water tankers fitted with sprinklers. Crusher and material transfer points should invariably be provided with Bag filters and or dry fogging system. Belt-conveyors should be fully covered to avoid air borne dust.
- (xvii) The Project Proponent shall ensure that the productivity of agricultural crops is not affected due to mining operations. Crop Liability Insurance Policy has to be taken by the Project Proponent as a precaution to compensate for any crop loss. The impact zone shall be 5km from the boundary of mine lease area for such insurance policy.
- (xviii) The illumination and sound at night at project site, disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. Project Proponent must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours.
- (xix) Main haulage road in the mine should be provided with permanent water sprinklers and other roads should be regularly wetted with water tankers fitted with sprinklers.
- (xx) CSR activities by Companies including the Mining Establishments has become mandatory up to 2% of their financial Turn-over, Socio Economic Development of the neighborhood Habitats could be planned and executed by the Project Proponent more systematically based on the 'Need based door to door survey' by established Social Institutes/Workers. The report shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office located at Bhopal on six monthly basis.

- (xxi) 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.
- (xxii) A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment, Forest & Climate Change 5 years in advance of final mine closure for approval.

B. General conditions

- (i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment, Forest & Climate Change.
- (ii) No change in the calendar plan including excavation, quantum of limestone and waste should be made.
- (iii) The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and ground water for the project.
- (iv) Regular monitoring of ground water table to be carried out at the upstream and depth of water available in the dug well is to be measured. Monitoring to be done by establishing a network of existing wells and constructing new piezometers.
- (v) Monitoring of Ambient Air Quality to be carried out based on the 2009 Notification, as amended from time to time by the Central Pollution Control Board. Water sprinkling should be increased at places loading and unloading points & transfer point to reduce fugitive emissions.
- (vi) The upliftment of scheduled caste/scheduled tribe population, specific programmes have been taken in to consideration specially with respect to education, health care, livelihood generation, infrastructure development & promotion of sports & culture for SC/ST population and that these will be intensified in future.
- (vii) 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. The over burden (OB) generated during the mining operations shall be stacked at earmarked dump site(s) only and it should not be kept active for a long period of time. The maximum height of the dumps shall not exceed 8m and width 20 m and overall slope of the dumps shall be maintained to 45°. The OB dumps should 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 dump. The entire excavated area shall be backfilled and afforested. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to

the Ministry of Environment, Forest & Climate Change and its Regional Office located at Bhopal on six monthly basis.

- (viii) Catch drains and siltation ponds of appropriate size shall be constructed around the mine working, mineral and OB dumps to prevent run off of water and flow of sediments directly into the river and other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly. The drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed both around the mine pit and over burden dumps to prevent run off of water and flow of sediments directly into the river and other water bodies 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 shall be constructed at the corners of the garland drains and desilted at regular intervals.
- (ix) Plantation shall be raised in a 7.5m wide green belt in the safety zone around the mining lease, backfilled and reclaimed area, around water body, along the roads etc. by planting the native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha. Greenbelt shall be developed all along the mine lease area in a phased manner and shall be completed within first five years.
- (x) Dimension of the retaining wall at the toe of over burden dumps and OB benches within the mine to check run-off and siltation shall be based on the rain fall data.
- (xi) Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of PM₁₀ and PM_{2.5} such as haul road, loading and unloading point and transfer points. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- (xii) Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintained. Regular monitoring of water quality upstream and downstream of water bodies shall be carried out and record of monitoring data should be maintained and submitted to the Ministry of Environment, Forest & Climate Change, its Regional Office, Bhopal, Central Groundwater Authority, Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board.
- (xiii) 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 constructing new piezometers during the mining operation. The monitoring shall be carried out four times in a year – pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to Ministry of Environment, Forest

& Climate Change and its Regional Office, Bhopal, Central Ground Water Authority and Regional Director, Central Ground Water Board.

- (xiv) The critical parameters such as PM₁₀ (size less than 10 micro meter), PM_{2.5} (size less than 2.5 micro meter), 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 & Climate Change, which is available on the website of the Ministry www.envfor.nic.in shall also be referred in this regard for its compliance.
- (xv) Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for PM₁₀, PM_{2.5}, SO₂ & NO_x monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board. Data on ambient air quality should 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.
- (xvi) 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.
- (xvii) Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.
- (xviii) Industrial waste water (workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.
- (xix) 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.
- (xx) 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.
- (xxi) A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.

- (xxii) 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 and its Regional Office located at Bhopal.
- (xxiii) The project authorities should inform to the Regional Office located at Bhopal regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
- (xxiv) The Regional Office of this Ministry located at Bhopal 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.
- (xxv) The project proponent shall submit six monthly report on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment, Forest and Climate Change, its Regional Office, Bhopal, Central Pollution Control Board and State Pollution Control Board.
- (xxvi) A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom suggestion / representation has been received while processing the proposal.
- (xxvii) State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office/ Tehsildar's Office for 30 days.
- (xxviii) 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, Forest & Climate Change at <http://envfor.nic.in> and a copy of the same should be forwarded to the Regional Office of this Ministry located Bhopal.

11. The Ministry or any other Competent Authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

12. 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.

13. 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 there under and also any other orders passed by the Hon'ble Supreme Court of India/ High Court of Madhya Pradesh and any other Court of Law relating to the subject matter.

14. 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.

Yours faithfully,


(Dr. U. Sridharan)
Director (S)

Copy to:

- 1). **The Secretary**, Ministry of Mines, Government of India, Shastri Bhavan, New Delhi.
- 2). **The Secretary**, Department of Mines & Geology, Government of Madhya Pradesh, Secretariat, Bhopal.
- 3). **The Secretary**, Department of Environment, Government of Madhya Pradesh, Secretariat, Bhopal.
- 4). **The Secretary**, Department of Forests, Government of Madhya Pradesh, Secretariat, Bhopal.
- 5). **The Chief Wildlife Warden**, Government of Madhya Pradesh, Van Bhavan, 1st Floor, Tulsi Nagar, Bhopal - 462 003.
- 6). **The Additional Principal Chief Conservator of Forests**, Regional Office (WZ), Regional Office (WZ), Kendriya Paryavaran Bhawan, Link Road No.3, Ravi Shankar Nagar, Bhopal -462 016.
- 7). **The Member Secretary**, Central Ground Water Authority, A-2, W3, Curzon Road Barracks, K.G. Marg, New Delhi-110001.
- 8). **The Chairman**, Madhya Pradesh State Pollution Control Board, Paryavaran Parisar, E-5, Arera Colony, Bhopal - 462016.
- 9). **The Controller General**, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.
- 10). **The District Collector**, District-Katni, State of Madhya Pradesh.
- 11). **Guard File**
- 12). **MoEF website**


(Dr. U. Sridharan)
Director (S)