

By Speed Post

F. No. J-11015/437/2012.IA-II (M)
Government of India
Ministry of Environment, Forests & Climate Change
Impact Assessment Division

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Dated: 17th April, 2015

To,

M/s Steel Authority of India Ltd
Room No. 589 5th Floor,
Ispat Bhawan, Bhilai Steel
District- Durg, Chhattisgarh-490001

Subject: Pellet Plant (1.0 MTPA) with Upstream Slime Beneficiation facilitates at Iron Ore Complex (IOC) Dalli –Rajhara, District-Balod, Chhattisgarh of M/s Steel Authority of India Ltd (19ha) - Environmental Clearance regarding.

Sir,

This has reference to your letter No. BSP/MHQ/GM(Mines)/2012/2062 dated 29.10.2012 on the subject mentioned above and subsequent letter dated 31.03.2014. The proposal was considered by the Expert Appraisal Committee (non-coal mining) in its 5th meeting held during 13-15th March 2013, to determine the Terms of Reference for undertaking detailed EIA study. The TOR was issued by MoEF vide letter No. J-11015/437/2012-IA.II (M), dated 14th May, 2013. The proposal for environmental clearance was considered by the Expert Appraisal Committee (Mining) during May 28-30, 2014 and re-considered during November 24-25, 2014 wherein EAC recommended the proposal for grant of EC.

2. The Proposal is for setting-up 1 MTPA Pellet Plant with upstream slime beneficiation facilities at Iron Ore Complex (IOC), Dalli- Rajhara of M/s Steel Authority of India Ltd (19 Ha) in the Balod District of Chhattisgarh state. The area acquired by Bhilai Steel Plant, is a non-agricultural waste land and non-forest revenue land. The area is covered under Survey of India Toposheet No. 64H/2 and lies between Latitude from 20°34'40.651" N to 20°34'56.671" N and Longitudes from 81°02'09.043" E to 81°02'36.637" E.

3. It is a proposal to set up a 1 MTPA pellet plant with upstream beneficiation facilities in the 19 ha, acquired land of Bhilai Steel Plant & the total area is outside the mining lease. The proposed project area of 19 Ha is at Iron Ore Complex, Dalli-Rajhara of SAIL in Balod District. It is at a distance of 95 km from Durg railway station. Hitkasa tailing dam, the major source of slime is adjacent to the proposed

site. The proposed site is located on the North-Western valley of Dalli-Rajhara range. Area generally is a flat terrain.

4. The proposed slime beneficiation consists of beneficiation of low grade iron slimes generated in course of beneficiation of iron ore. The slime will be beneficiated using State-of-the-Art techniques like jigging, spiralling, magnetic separation (WHIMS)etc. The pelletisation process includes storage and handling of raw materials; grinding, proportioning and mixing; balling, induration and cooling; & finished product storage and dispatch.

5. For 1.0 MTPA (3125 TPD) pellet plant, the raw materials like - Iron ore fines (1105600 TPA), Limestone (19200 TPA), Coke Breeze (19200 TPA) and Bentonite (19840 TPA) respectively will be received directly in the pellet plant and stored in raw material bunkers of respective grinding units. Storage capacity of each material shall be based on 15 days requirement. The grinding of iron ore fines will be carried out in the beneficiation plant.

6. The total waste generated will be 1.19 MTPA. The total water requirement for the proposed project will be 1140 m³/h and the water recovered from the system will be 1044.70 m³/h, taking into the account of water loss due to spillage, domestic & drinking purpose etc. The makeup water will be 188.10 m³/h which is about 4515 m³/day & 14,44,800 m³/year (320 working days per year). The total water requirement will be provided from existing "Boridih" Dam of Iron Ore Complex of Bhilai Steel Plant.

7. It was reported by PP that no National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Tiger/Elephant Reserves/Protected area/Critically Polluted Areas (existing as well as proposed) exist within 10 KM Radius. In the study area four schedule-I species viz., Monitor Lizard, Python, Peafowl and Sloth Bear were recorded.

8. Baseline studies were carried out during summer season (March-May 2013). All the parameters for water and air quality were within permissible limits. The Public Hearing for the proposed Project was conducted at "Bital" village on 15.01.2014. The Public Hearing was presided over by Shri Alok Pandey, ADM-Balod district of Chhattisgarh State. The issues raised during Public Hearing were considered and discussed in details during the meeting, which inter-alia included that there will not be any type of discharge of effluent from the proposed Project area, preventing the slit flowing into the agricultural land, air pollution control measures to be adopted, raising of trees through development of green belt in & around proposed area and sprinkling of water etc. It was informed by the PP that the local employment, health service, education and assistance in vocational training etc will be given due attention. These have been incorporated in the EIA/EMP report with budgetary provisions. The estimated cost of the project is 812.18 Crores. It was informed by PP that no court case is pending relating to the proposed project.

9. The Ministry of Environment and Forests has examined the application in accordance with the EIA Notification, 2006 and hereby accords environmental clearance under the provisions thereof to the above mentioned proposal of Pellet

Plant (1.0 MTPA) with Upstream Slime Beneficiation facilities at Iron Ore Complex (IOC) Dalli –Rajhara, District-Balod, Chhattisgarh of M/s Steel Authority of India Ltd (19ha) subject to compliance of the followings terms and conditions and environmental safeguards mentioned below:-

A. Specific conditions

- (i) Project shall carry out the study on impact of CSR programs implemented so far around the mine lease area by making a Survey Report through an Institution of Repute and need based Action Plan for next CSR Programs within one year.
- (ii) A study from an Institution of Repute may be conducted on the impact of dust on Crop Productivity for agricultural land located around mines and mitigation measures implemented by PP to reduce the impact.
- (iii) Recommendation by the Institute for Crops most suited in this environment and training to the farmers to switch over to new cropping system which will sustain nutrient loading may be ensured.
- (iv) Project shall regularly conduct water audit and ensure enhancing water use efficiency.
- (v) M/s SAIL shall make R&D efforts for enrichment and utilization of low/sub-grade iron ore.
- (vi) Implementation of the Recommendations of National Institute of Miners Health for ensuring good occupational environment for mine workers may be ensured.
- (vii) Use of dry fog sprinkler system to suppress fugitive dust on haul road and other transport road, shall be adopted.
- (viii) Environmental clearance is subject to obtaining clearance, if any, under the Wildlife (Protection) Act, 1972 from the competent authority, as may be applicable to this project.
- (ix) 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.
- (x) The 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 and Forests and Central Ground Water Authority shall be obtained, for which a detailed hydro-geological study shall be carried out.
- (xi) 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 from all the vehicles from authorized pollution testing centre.

- (xii) Plantation on the OB dump slopes has to be increased and manage properly. House-keeping should be improved in processing area.
- (xiii) A full-fledged Sewage Treatment Plant should be set up by the project in the colony. The oil & grease trap at the workshop at both the mines should have a covered shed. A separate pit should be constructed to retain the treated water which should be reused for washing purpose instead of discharging into natural water course.
- (xiv) Project shall identify the causes for the higher particulate matter and take appropriate mitigative measures. Project shall start monitoring PM_{2.5}.
- (xv) Project should ensure that all the workers wear safety devices.
- (xvi) The project proponent shall obtain Consent to Operate from the State Pollution Control Board, Chhattisgarh and effectively implement all the conditions stipulated therein.
- (xvii) Implementation of Environment Management Policy of the Company w.r.t. judicious use of Mineral resources for growth & development synchronizing mining & environment with prosperity.
- (xviii) There shall be planning, developing and implementing facility of rainwater harvesting measures on long term basis in consultation with Regional Director, Central Groundwater Board and implementation of conservation measures to augment ground water resources in the area in consultation with Central Ground Water Board.
- (xix) 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.
- (xx) Monitoring of Ambient Air Quality to be carried out based on the Notification, as amended from time to time by the Central Pollution Control Board.
- (xxi) Water sprinkling should be increased at places loading and unloading points & transfer point to reduce fugitive emissions.
- (xxii) 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.

- (xxiii) The project proponent shall ensure that no natural watercourse and/or water resources shall be obstructed due to any mining operations.
- (xxiv) 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 & Forests and its Regional Office located at Bhopal on six monthly basis.
- (xxv) 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.
- (xxvi) 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.
- (xxvii) 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.
- (xxviii) 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.

- (xxix) 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 and Forests, its Regional Office, Bhopal, Central Groundwater Authority, Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board.
- (xxx) 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 and Forests and its Regional Office, Bhopal, Central Ground Water Authority and Regional Director, Central Ground Water Board.
- (xxxi) 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.
- (xxxii) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna spotted in the study area. 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. All the safeguard measures brought out in the Wildlife Conservation Plan so prepared specific to the project site shall be effectively implemented. A copy of action plan shall be submitted to the Ministry of Environment and Forests and its Regional Office, Bhopal.
- (xxxiii) 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) 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 beneficiation, quantum of mineral iron ore and waste should be made.
- (iii) The critical parameters such as PM_{10} (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 and Forests, which is available on the website of the Ministry www.envfor.nic.in shall also be referred in this regard for its compliance.

- (iv) 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.
- (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) 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.
- (vii) 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.
- (viii) 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.
- (ix) 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.
- (x) 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.
- (xi) 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.

- (xii) 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.
- (xiii) 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.
- (xiv) The project proponent shall submit six monthly report on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Bhopal, Central Pollution Control Board and State Pollution Control Board.
- (xv) The project proponent shall submit six monthly report on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Bhopal, Central Pollution Control Board and State Pollution Control Board.
- (xvi) 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.
- (xvii) 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.
- (xviii) 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 Bhopal.

10. The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

11. 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.

12. 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 Chhattisgarh and any other Court of Law relating to the subject matter.

13. 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-110 001.
- (ii) The Secretary, Department of Environment, Government of Chhattisgarh,
- (iii) The Secretary, Department of Mines and Geology, Government of Chhattisgarh, Chhattisgarh.
- (iv) The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cumoffice complex, East Arjun Nagar, Delhi-110032
- (v) The Chairman, Chhattisgarh Environment Conservation Board, Nanak Niwas, Civil Lines, Raipur, Chhattisgarh
- (vi) The Additional Principal Chief Conservator of Forests Regional Office (Western Zone), E-3/240, Arera Colony Bhopal-462016, Madhya Pradesh
- (vii) The Controller General, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.
- (viii) The Member Secretary, Chhattisgarh State Pollution Control Board, Commercial Complex, Chhattisgarh Housing Board Colony, Kabir Nagar, Raipur, Chhattisgarh.
- (ix) The Member Secretary, Central Ground Water Authority, A2, W3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
- (x) The District Collector, Balod District, Chhattisgarh.
- (xi) Guard File



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