

Speed Post

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Government of India
Ministry of Environment, Forests & Climate Change
Impact Assessment Division

Indira Paryavaran Bhavan,
Aliganj, Jorbagh Raod
New Delhi-110 003

Dated: 23rd September, 2014

To,

M/s Steel Authority of India Limited
Raw Material Division,
5th Floor, Industry House,
10, Camac Street,
Kolkata -700 017

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Subject: Kiriburu-Megahataburu Iron Ore Mine with production of iron ore from 10 million TPA to 16.0 million TPA (ROM) along with mineral beneficiation from 10 million TPA to 16.0 million TPA (ROM) by M/s Steel Authority of India Ltd. (SAIL), located at District West Singhbhum, Jharkhand (2897.499ha)-Environmental Clearance regarding.

Sir,

This has reference to your letter no. RMD/K/E & L/EC/KBR/13/99, dated 16.04.2013 subsequent letter dated 12.08.2013 on the proposal for Kiriburu-Megahataburu Iron Ore mine with enhancement of production of iron ore from 10 million TPA to 16.0 million TPA (ROM) along with mineral beneficiation from 10 million TPA to 16.0 million TPA (ROM). The mine is located at village Karampada Reserve Forest, Tehsil-Noamundi, District- West Singhbhum, Jharkhand.

2. The Ministry had prescribed TORs on 26.10.2010. The Proponent after conducting public hearing on 24.11.2012 submitted the EIA/EMP report for seeking environmental clearance. The proposal for environmental clearance was considered in the 14th Meeting of the Reconstituted Expert Appraisal Committee held during November 20-22, 2013 wherein the Committee recommended the proposal for environmental clearance.

3. The proposal is for enhancement of production of iron ore from 10 million TPA to 16.0 million TPA (ROM) i.e. 8.5 million TPA from Meghahataburu and 7.5 million TPA from Kiriburu mines respectively and enhancement of mineral beneficiation plant from 10 million TPA to 16.0 million TPA (ROM) i.e. 8.5 million TPA from Meghahataburu and 7.5 million TPA from Kiriburu respectively. The proposed processes involve capacity expansion of beneficiation plants and

modification of existing crushing, screening, washing & material handling facilities both at Kiriburu & Meghataburu iron ore complexes, augmentation of existing downhill conveyors & product stockpiles, slime beneficiation for iron ore recovery.

4. The total amalgamated mine lease area is 2897.499ha comprising of three areas by amalgamating three leases, which is a forest land. The forest clearance has been granted for 971.89 ha i.e. Stage I FC for 644.26ha on 29.03.2010, Stage I FC for 247.50ha on 18.10.2010, FC for 55.90 ha on 11.04.2005 and FC for 24.23ha on 11.04.2005. There are four iron ore blocks in the lease, two are working blocks and two virgin blocks i.e. South block (KIOM) and Central block (MIOM) where mining is to start. Mining plan has been approved by Indian Bureau of Mines vide letter no. 314(3)/2009-MCCM (CZ)/MP-14, dated 29th January, 2010. The Project proponent reported that 382.200 ha area will be used for Mining (excavation), 58.00 ha for overburden/dumps, 27.00 ha for infrastructure development, 110.00 ha for roads, 1923.909 ha will be undisturbed area. The life of Meghahatuburu mine will be approximately 18 years and life of the Kiriburu mines will be 17 years respectively. Ultimate working depth will be 796 m AMSL in Meghahatuburu Block, 770 m AMSL in Central Block, 764 m AMSL in North block and 780m AMSL in South block. The ground water table lies at 537m AMSL. Mine working will not intersect ground water table. Ground water shall not be drawn.

5. Mining will be done by fully mechanized opencast method. The mining process involves drilling and blasting, loading and transportation of the excavated material. The Proponent informed that the proposed working will be by putting 150 mm dia DTH holes by rotary drills. Drilling of blast holes will be done on a staggered pattern. Wet drilling is being done for dust suppression. Overall pit slope will be 45°. The blasted material will be loaded by excavator in dumpers & transported to beneficiation plant for beneficiation of ore. Backfilling is being practiced in North block of KIOM since 2008-09. In expansion phase also, only backfilling will be carried out and no external dumping will be practiced. All waste generated from North block and South block will be backfilled to the southern side of North block. The total water demand of the KIOM is expected to be 6980 m³/day, out of this 5030 m³/day shall be used in the mines and will be drawn from Gagirathi nalla and 1375 m³/day of drinking water will be drawn from Karo River. The water demand of the MIOM is expected to be 4560 m³/day, out of this 3010 m³/day shall be used in mines and water will be drawn from Koina River and 1075 m³/day of water will be drawn from Pardi Nala.

6. The mine lease area is located at District West Singhbhum, Jharkhand. The Latitudes and Longitudes of the mine lease area are 22°02'03" N & 22°07'33" N and 85°14'07" E & 85°18'23" E respectively on Topo sheet no. No 73F/8. Proponent reported that there is no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Wildlife corridors; Tiger Reserve within the study area (10 km radius of the mining lease boundary) etc. The mine is located within Singhbhum Elephant Reserves. The Project Proponent has informed that they had paid Rs. 6.22 Crores to State Forest department for implementation of wildlife conservation in the lease area. An integrated wildlife conservation plan for the area has already been prepared under aegis of Project proponent by a team of Experts constituted by State Govt. on 27.08.2011. The final report, vetted by WII, is with the state Govt. for approval and will be submitted to the MoEF. The Expert Committee has

recommended contribution of Rs. 2.17 Lakhs per hectare of the lease area for implementation of the plan.

7. The baseline data was generated during winter season i.e. December, 2011 to February, 2012. All the parameters for water and air quality were within permissible limits. The Public hearing was held on 24.11.2012 under the Chairmanship of Shri Purna Chandra Kunkal, ADC Revenue & Land Department. The representative of Regional Office from the Jharkhand State Pollution Control Board was present. Major issues raised during public hearing were related to employment of tribal villagers on priority basis, financial assistance to village women so that they can be self-employed, clean water availability, construction of a bridge over Koina River at Kumdi village, environmental protection measures, construction of Pucca road for villagers and repair of roads in the region. The issues raised during the public hearing were discussed and the action plan submitted by the project proponent.

8. The total cost of the project is Rs. 123 Crores for MIOM and Rs. 96 Crores for KIOM and recurring cost to be Rs. 283 Crores for MIOM and Rs. 284 Crores for KIOM respectively. The Project proponent has earmarked Rs.3.78 Crores towards Environmental Protection Measures and Rs. 2.04 Crores per annum towards recurring expenses. The Project proponent informed that Rs. 107.65 Lakhs have been earmarked towards CSR activities in KIOM and 84.64 Lakhs for MIOM in 2013-14. Proponent reported that there is no court case/litigation pending against the project.

9. The Ministry of Environment and Forests 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 enhancement of production of iron ore from 10 million TPA to 16.0 million TPA (ROM) i.e. 8.5 million TPA from Meghahataburu and 7.5 million TPA from Kiriburu mines respectively and enhancement of mineral beneficiation plant from 10 million TPA to 16.0 million TPA (ROM) i.e. 8.5 million TPA from Meghahataburu and 7.5 million TPA from Kiriburu respectively in the Mine lease area of 971.89 ha** (out of mine lease area of 2897.499ha) for which Forest Clearance has been obtained, located at village Karampada Reserve Forest, Tehsil-Noamundi, District- West Singhbhum, Jharkhand 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, if any, under the Wildlife (Protection) Act, 1972 from the competent authority, as may be applicable to this project.
- (ii) No mining activities will be allowed in forest area for which the Forest Clearance is not available.

- (iii) The project proponent will seek and obtain approval under the FC Act, 1980 for diversion of the entire forest land located within the mining lease within a period of two years from the two years from 01.02.2013 i.e. the date of issue of guidelines by FC vide their letter F. No. 11-362/ 2012-FC, failing which the mining lease area will be reduced to the non-forest area plus the forest area for which the project proponent has been able to obtain the FC at the end of this time period. In the case of reduction in mine lease area, the project proponent will need to get a revised mining plan approved from the competent authority for reduced area and enter into a new mining lease as per reduced lease area. The EC will be construed to be available for the mining lease area as per the revised mining lease deed.
- (iv) The proponent shall complete all the tasks as per the action plan submitted with the budgetary provisions during the public hearing held on 24.11.2012. Major issues raised during public hearing were related to employment of tribal villagers on priority basis, financial assistance to village women so that they can be self-employed, clean water availability, construction of a bridge over Koina River at Kumdi village, environmental protection measures, construction of Pucca road for villagers and repair of roads in the region.
- (v) 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.
- (vi) Implementation of the site specific conservation plan for the core & buffer zone and Integrated Wild Life Conservation Plan which is being prepared by the Dept. of Forest, Govt. of Jharkhand. Abiding the guidelines of this Integrated Wild Life Conservation Plan and accordingly contribute proportionately in the preparation and implementation of the Plan.
- (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 and Forests and Central Ground Water Authority shall be obtained, for which a detailed hydro-geological study shall be carried out.
- (viii) The pollution due to transportation load on the environment will be effectively controlled & water sprinkling will also be done regularly. Vehicles with PUC 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.
- (ix) Plantation on the OB dump slopes has to be increased and managed properly. House-keeping should be improved in processing area.
- (x) There are about 850 households in the township for both MIOM and KIOM mines. 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.

- (xi) Project shall identify the causes for the higher particulate matter and take appropriate mitigative measures. Project shall start monitoring PM_{2.5}.
- (xii) Project should ensure that all the workers wear safety devices.
- (xiii) The project proponent shall obtain Consent to Operate from the State Pollution Control Board, Jharkhand and effectively implement all the conditions stipulated therein.
- (xiv) Implementation of Environment Management Policy of the Company w.r.t. judicious use of Mineral resources for growth & development synchronizing mining & environment with prosperity.
- (xv) 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.
- (xvi) 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.
- (xvii) 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.
- (xviii) Water sprinkling should be increased at places loading and unloading points & transfer point to reduce fugitive emissions.
- (xix) 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.
- (xx) The project proponent shall ensure that no natural watercourse and/or water resources shall be obstructed due to any mining operations.
- (xxi) 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 Bhubaneswar on six monthly basis.

- (xxii) 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.
- (xxiii) 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.
- (xxiv) 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.
- (xxv) 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.
- (xxvi) Regular monitoring of water quality upstream and downstream of water bodies viz. Karo River and Koina River shall be carried out and record of monitoring data should be maintained and submitted to the Ministry of Environment and Forests, its Regional Office, Bhubaneswar, Central Groundwater Authority, Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board.
- (xxvii) 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, Bhubaneswar, Central Ground Water Authority and Regional Director, Central Ground Water Board.

- (xxviii) 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.
- (xxix) 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.
- (xxx) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna namely leopard, elephant etc. 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, Bhubaneswar.
- (xxxi) 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.
- (xxxii) A 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.

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 iron ore and waste should be made.
- (iii) 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 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 Bhubaneswar 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 Bhubaneswar.

- (xii) The project authorities should inform to the Regional Office located at Bhubaneswar 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 Bhubaneswar 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, Bhubaneswar, 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, Bhubaneswar, 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 Bhubaneswar.

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 Jharkhand 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. V.P. Upadhyay)
Director

Copy to:

1. **The Secretary**, Ministry of Mines, Government of India Shastri Bhawan, New Delhi.
2. **The Secretary**, Department of Environment, Government of Jharkhand, Secretariat, Ranchi.
3. **The Secretary**, Department of Forests, Government of Jharkhand, Secretariat, Ranchi.
4. **The Secretary**, Department of Mines, Government of Jharkhand, Secretariat, Ranchi.
5. **The Chief Wildlife Warden**, Government of Jharkhand, Secretariat, Ranchi.
6. **The Additional Principal Chief Conservator of Forests**, Ministry of Environment & Forests, Regional Office (EZ), A/3, Chandrashekarpur, Bhubneshwar-751 023.
7. **The Chairman**, Jharkhand State Pollution Control Board, T.A. Division Building (Ground Floor), HEC Campus, P.O. Dhurwa, Ranchi - 834004, Jharkhand.
8. **The Member Secretary**, Central Ground Water Authority, A2, W3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
9. **The Controller General**, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.
10. **The District Collector**, West Singhbhum District, State of Jharkhand.
11. **Guard File.**
12. **MoEF website**

(Dr. V.P. Upadhyay)
Director