

No. J-11015/18/2012-IA.II(M)
Government of India
Ministry of Environment and Forests
Impact Assessment Division

Paryavaran Bhavan,
C.G.O. Complex, Lodi Road,
New Delhi-110 003

Dated: 19th November, 2013

To

M/s Serajuddin & Co.
P-16, Bentik Street
Kolkata - 758034

Subject: Balda Block Iron Mines of M/s Serajuddin & Co. Village Balda, Bada Kalimati & Nayagarh, Tehsil Barbil, Distt. Keonjhar, Orissa - Environmental Clearance regarding.

Sir,

This has reference to your letter No. BBIM-SC/MoEF/EC/2011/133 dated 13.12.2011 on the subject mentioned above and subsequent letter dated 13.06.2013. The terms of reference to the proposal for undertaking detailed EIA study were prescribed on 06.07.2012. The proponent submitted the EIA/EMP and public hearing documents which was considered by Expert Appraisal Committee in its meeting held during August 21-23, 2013 wherein Committee recommended the proposal for grant of environmental clearance.

2. The proposal is for expansion of iron ore production from 4.50 MTPA to 15.15 MTPA (ROM) along with crusher & screen plant. The project is located between Latitudes 21°51'49.6" to 21°53'28.8" N - 85°23'40.8" to 85°25'04.8" E. The earlier EC was granted to the project vide no. J-11015/193/2008-IA.II(M) dated 27.04.2012 for enhancement of production from 1.4823 MTPA of iron ore 4.5 MTPA. Betjhari Nalla is passing through the eastern boundary of the lease area. Jalpa River is adjacent to South West of the lease area. Baitarani river is 4.00 km SE from mining lease boundary. Other water bodies viz. Kashi Nalla is 3.70 km NE, Dalaki nala is 6.00 km S, Suna nadi is 7.8 km NW and Teherei nala is 8.90 km NW of the mine lease boundary. The Baitarani Reserve Forest is 4.5 Km NW from the mine lease boundary.

3. The mine lease area is 335.594 Ha out of which 258.133 ha is forest land (Village forest: 38.182 Ha + DLC forest: 219.951 ha) and 77.461 ha is non-forest land. Forest clearance obtained for 24.446 Ha of village forest on dated 11.12.1998. Working permission for broken-up DLC forest area has been obtained from MoEF on dated 12.03.2012. The existing 2nd RML is valid up to 02.12.2017.

4. The method of working will be opencast fully mechanized mining using drilling, blasting and conventional shovel dumper combination by adopting 10.0 m bench height and a width more than the height of benches. Ultimate pit slope shall be maintained at 37.5°. The ramp gradient shall be maintained at 1 in 14. The ROM shall be process through crusher/screen Plant (stationary/Mobile) to produce sized ore. Total estimated mineable reserve within the area is 278.561 million tons. The anticipated life of mine is about 20 years with the proposed production of 15.15 MTPA of ROM. The present Mining scheme is approved by IBM vide letter no - 314(3)/2011-MCCM (CZ)/MS-47 on dated 27.04.2012. ROM will be transported through dumpers to crushing & screening plants located inside the mine lease area and the processed ore will be supplied to various industries. The 15.15 MTPA of ROM shall be process through the existing & also proposed (175 TPH stationary crusher and 1500 TPH stationary screen & 600 TPH crushing plant to produce sized ore. The processed ore will be supplied to various industries through railway and road networks. The total solid waste generated from the mine will be 36.85 Million Ton. Out of which 2.30 Million Ton of waste generated in the fourth year of the scheme period will be temporarily stored in the Kalimati pit, 1.28 Million Ton of waste will be used for bund & road making and 2.99 Million Tons of waste will go to the two new dump yards. The remaining waste generated will be directly utilized for backfilling.

5. The total water requirement for domestic, dust suppression and green belt development is estimated to be 500 m³/ day. The water requirement will be met from ground water (bore well). Project proponent has obtained the approval from CGWA vide letter No. 21-4(401)/SER/CGWA/2011-319 dated 21.02.2013 for quantity of 500 m³/ day. The present working depth of the said opencast mine is at 558 m AMSL. The groundwater table in the mine lease area lies at 517m AMSL in pre-monsoon and 515 m AMSL in post monsoon period. Ultimate working depth will be 480 m AMSL. Presently there is no intersection of ground water table. However during the conceptual plan period there will be intersection of ground water table for which the PP has done detailed hydro-geological study in the study area.

6. It was reported by the Project Proponent that there are no National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Tiger / Elephant Reserves within 10 km of the mine lease. However karo-karampada elephant corridor is 22.06 km from the lease boundary. Schedule 1 species like Sloth bear, Elephant, Monitor Lizard, Yellow Monitor, and Python are found in the buffer zone area for which site specific wild life conservation plan approved by PCCF & Chief Wildlife Warden, Odisha was submitted.

7. The baseline data was collected during October-2012 to December-2012. The baseline data is within the prescribed limits. Public Hearing was conducted on 29.05.2013 under the chairmanship of Sri Sangram Keshari Swain. Addl. Dist. Magistrate, Keonjhar District. The issues raised in the public hearing were also considered and discussed during the meeting. As per

the villagers requirements, it was informed by the project proponent that they would take care of local employment, health issues, education & skill development facilities, Environmental protection measures, drinking water, infrastructure development & assistance in SHGs for self employment, social welfare etc.

8. The total cost of the expansion project is about Rs. 150 Crores, Environmental cost towards EMP already spent is 5.74 Crores and another additional Rs 4.59 Crores is proposed for the same. The CSR budgetary provision allocated by the Project proponent is 19.75 Crores as capital cost for the surrounding areas.

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 M/s Serajuddin & Co. for enhancement of production capacity 4.5 MTPA to 15.15 MTPA (ROM) of Balda Block iron Mine in the Mine lease area of 214.637 ha [137.176 ha (village forest of 24.446 ha for which FC is available and broken up DLC forest of 112.73 ha for which working permission is available) + 77.461 ha (non-forest area)]. This environmental clearance is subject to implementation of the following conditions and environmental safeguards.

A. Specific Conditions

- (i) The project proponent shall obtain Consent to Establish and Consent to Operate from the State Pollution Control Board, Odisha and effectively implement all the conditions stipulated therein.
- (ii) Environmental clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the competent authority, as may be applicable to this project.
- (iii) No mining activities are allowed in forest area for which the FC is not available.
- (iv) As per the guidelines issued by the Forest Conservation Division in this Ministry vide F. No. 11-362/2012-FC dated 1st February, 2013 the project proponent shall seek and obtain approval under the forest (Conservation) Act, 1980 for diversion of the entire forest land located within the mining lease on or before 31st January 2015, 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.

- (v) Effective safeguard measures shall be taken to ensure that the AAQ levels at various locations including crushing zone, are within permissible limit as prescribed by CPCB. The standards prescribed for stone crushers shall be followed.
- (vi) Traffic density on the route of mineral transportation shall be regularly monitored and report shall be submitted along with compliance report.
- (vii) As part of ambient air quality monitoring during operational phase of the project, the air samples shall also be analysed for their mineralogical composition and records maintained.
- (viii) The project proponent shall set up at least one air quality monitoring station in the south west direction during monitoring of the AAQ.
- (ix) 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.
- (x) Mineral handling plant shall be provided with 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.
- (xi) Effective safeguard measures such as conditioning of ore with water, 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 transfer points. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- (xii) The project authority shall implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water 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 installing new piezo meters 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 and Forests and its Regional Office Bhubaneswar, 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.

- (xiv) The project proponent shall ensure that no natural watercourse and/or water resources shall be obstructed due to any mining operations.
- (xv) Process water discharge and/or any waste water shall be properly treated to meet the prescribed standards before reuse/discharge. The runoff from temporary OB dumps and other surface run off shall be analyzed for iron and in case its concentration is found higher than the permissible limit, the waste water should be treated before discharge/reuse.
- (xvi) Regular monitoring of the flow rate of the springs and perennial nallahs shall be carried out and records maintained.
- (xvii) Green barrier (five stratified rows) should be raised towards Betjhari Nalla and Jalpa River.
- (xviii) The reclaimed and rehabilitated area shall be afforested. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhubaneswar on six monthly basis.
- (xix) Dimension of the retaining wall at the toe of temporary over burden dumps and OB benches within the mine to check run-off and siltation shall be based on the rain fall data.
- (xx) Plantation shall be raised in an area of 225.308 Ha. including a 7.5m wide green belt in the safety zone around the mining lease, backfilled and reclaimed area, around the higher benches of excavated void to be converted in to water body, 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.
- (xxi) 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.
- (xxii) Regular monitoring of water quality, upstream and downstream of Baitarani River and other water bodies shall be carried out and record of monitoring data should be maintained and submitted to 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.

- (xxiii) 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 Jalpa Nalla, Betjhari Nalla, The Baitarani 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 de-silted 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 de-silted at regular intervals.
- (xxiv) Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with Regional Director, Central Ground Water 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 from mine face to the beneficiation plant. The vehicles shall be covered with a tarpaulin and shall not be overloaded.
- (xxvi) Sewage treatment plant shall be installed for the colony. ETP shall also be provided for workshop and wastewater generated during mining operation.
- (xxvii) Digital processing of the entire lease area using remote sensing technique shall be carried out regularly once in three years for monitoring land use pattern and report submitted to Ministry of Environment and Forests and its Regional Office, Bhubaneswar.
- (xxviii) 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.
- (xxix) Implementation of Action plan submitted with budgetary provisions on issues raised during Public Hearing.

- (xxx) 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, Bhubaneswar.
- (xxxi) 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, beneficiation plant and waste should be made.
- (iii) The topsoil, 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.
- (iv) At least 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 10 micron i.e., PM₁₀) 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. The

data so recorded 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) 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.
- (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 suitable 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 and its Regional Office located at Bhubaneswar.
- (x) 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.
- (xi) 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.
- (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 Bhubaneswar, the respective Zonal Office of Central Pollution Control Board and 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, Bhubaneswar, the respective Zonal Officer of Central Pollution Control Board and the State Pollution Control Board.

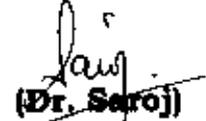
- (xiii) A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also 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 31st 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 respective Regional Office of the Ministry of Environment and Forests, Bhubaneswar by e-mail.
- (xvi) The project authorities should advertise at least in two local newspapers of the District or State in which the project is located and 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 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 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 Odhisa 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. Saroj)
Director

Copy to:

- (i) The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
- (ii) The Secretary, Department of Environment, Government of Odhisha, Secretariat, Bhubaneswar.
- (iii) The Secretary, Department of Mines and Geology, Government of Orissa, Secretariat, Bhubaneswar.
- (iv) The Secretary, Department of Forests, Government of Odhisha, Secretariat, Bhubaneswar.
- (v) The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
- (vi) The Chief Conservator of Forests, Regional Office (EZ), Ministry of Environment and Forests, A-3 Chandrashekharapur, Bhubaneshwar-751023.
- (vii) The Chairman, Orissa State Pollution Control Board, Parivesh Bhawan, A/118 Nilakantha Nagar, Unit-VIII, Bhubaneshwar-751012.
- (viii) The Controller General, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.
- (ix) The Member Secretary, Central Ground Water Authority, A2, W3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
- (x) The District Collector, Keonjhar District, Government of Odhisha.
- (xi) Record File.
- (xii) MoEF Website


(Dr. Saroj)
Director