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Government of India
Ministry of Environment & Forests

Paryavaran Bhavan,
C.G.O. Complex, Lodi Road,
New Delhi-110 003
Dated the 10th June, 2013

To
General Manager (OMQ),
M/s Tata Steel limited,
Noamundi, Singhbhum(W),
Jharkhand-833217
gm.office@tatasteel.com

Subject: Renewal of mine lease and expansion of Iron Ore Beneficiation Plant capacity of M/s Tata Steel Ltd. Located at P.O. Noamundi, District West Singhbhum, Jharkhand - environmental clearance - regarding.

Sir,

This has reference to your letter No. TSLDEL/36/2011 dated 28th April 2011 and subsequent letters dated 18.05.2011, 9.06.2011, 22.11.2011, 26.03.2012 and 09.08.2012 on the subject mentioned above. The project was earlier prescribed Terms of Reference (TORs) by the Ministry of Environment and Forests on 29.07.2011 for undertaking detailed EIA study for the purpose of obtaining environmental clearance.

2. The proposal is for renewal of mine lease, which fell due on January, 2012 for production of 10 million TPA (ROM) of iron ore and expansion of beneficiation plant from 10 million TPA to 18 million TPA. Mine working will be opencast mechanized involving drilling and blasting. Earlier environment clearance was obtained on 26.08.2008. The compliance of the earlier conditions was also presented and seen by the committee while recommending TOR's.

3. The mine lease area is 1160.06 ha out of which 762.43ha is forest land and 397.63 ha is non-forest land. In addition, an area of 70.36 ha, outside the mine lease also forms part of the project. Thus, the total project area is 1230.42 ha. The co-ordinates of the lease area are 20°05'00"-22°10'00"N and 85°25'00"-85°35'00"E. Forest clearance for 370.92 ha was granted to the project vide letter no. 8-279/1985-FC(pt III) dated 6.11.2007. Area proposed for mining is 800.41 ha, an area of 157.10 ha is kept for over burden dumps, 26.20 ha for infrastructure, 8.09 ha for roads, 20.80 ha for mineral separation plant and 66.00 ha is township area. Out of 1140.90ha of utilized area 1040.61 ha will be reclaimed and rehabilitated indicating around 91% of the land that will come back to normal form. The Balijore Nallah is within the mine lease. In addition, the Kundra Nallah, Jojo Nallah

and Mahadev Nallah are in the buffer zone of the mine reported to be located at a distance of 8 km, 1 km and 5 km respectively from the mine lease boundary. The Baitarni River and Karo River are located at a distance of 8.5 km and 11.5 km respectively from the mine lease. No national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. is reported to be located in the core and buffer zone of the mine. The Thakurani Reserve Forest is adjoining the mine lease.

4. The targeted production capacity of the mine is 10million TPA (ROM) of iron ore. The mineral is being transported through dumpers up to the mineral beneficiation plant and thereafter the beneficiated ore is transported through 4km long covered conveyor upto railway siding.

5. The public hearing of the project was held on 12.03.2012, for production of 10 million TPA and beneficiation plant with throughput capacity of 18 million TPA. The Indian Bureau of Mines had approved mining plan on 31.01.2011 for lease area of 1160.06ha. The capital cost of the project is Rs.600 Crores and total cost for environmental protection measures is Rs. 260 lakhs.

6. The ore will be beneficiated by both dry and wet process. The 12 million TPA ROM, accumulated Iron ore slime and mineral rejects will be wet processed and 6 million TPA ROM will be processed dry. The beneficiated ore will be transported from the plant site to the Railway siding by conveyers. There will be zero waste water discharge from the plant. The solid waste will be used for making road, ramps, barriers for slime dam and back filling of mines.

7. 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 of Iron ore mining for 397.63 ha (i.e. 1160.06-762.43 ha of forest area) of lease area and the broken-up forest area of 370.92 till the TWP is valid, for production of 10 million TPA and beneficiation plant with throughput capacity of 18 million TPA of M/s Tata Steel Ltd. Located at Noamundi, District West Singhbhum, Jharkhand subject to implementation of the following conditions and environmental safeguards.

A. Specific Conditions

- i. No mining activities will be allowed in forest area for which the Forest Clearance is not available.
- ii. 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 01.02.2013 i.e. the date of issue of guidelines by FC vide there 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.

- iii. Environmental clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the competent authority, as may be applicable to this project.
- iv. Prior environmental clearance from the Standing Committee of the National Board for Wildlife shall be obtained if applicable, due to location of the mine within the core zone of Singhbhum Elephant Reserve, before starting any activity relating to the project at site. All the conditions stipulated by the Standing Committee shall be effectively implemented in the project. It shall be noted that this clearance does not necessarily imply that wildlife clearance shall be granted to the project and that your proposal for wildlife clearance shall be considered by the competent authorities on its merit and decision taken. The investment made in the project, if any based on environmental clearance granted to the project, in anticipation of the clearance from wildlife clearance shall be entirely at the cost and risk of the project proponent and Ministry of Environment and Forests shall not be responsible in this regard in any manner.
- v. The project proponent shall obtain Consent to Establish and Consent to Operate from the State Pollution Control Board, Jharkhand and effectively implement all the conditions stipulated therein.
- vi. Environmental clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No. 460 of 2004, as may be applicable to this project.
- vii. As part of ambient air quality monitoring during operational phase of the project, the air samples shall also be analyzed for their mineralogical composition and records maintained.
- viii. The beneficiated ore shall be transported to railway sidings only through closed conveyor.
- ix. 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.

- x. 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.
- xi. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and installing new piezometers during the mining operation. The periodic monitoring [(at least four times in a year- pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January); once in each season)] shall be carried out in consultation with the State Ground Water Board/Central Ground Water Authority and the data thus collected may be sent regularly to the Ministry of Environment 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.
- xii. 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.
- xiii. The project proponent shall ensure that no natural watercourse and/or water resources shall be obstructed due to any mining operations. The Balijore Nallah shall be left undisturbed and protected.
- xiv. The project proponent shall regularly monitor the flow rate of the Balijore Nallah flowing through the mine lease and maintain the records.
- xv. There shall be no external over burden dumps at the end of the mine life. 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.
- xvi. Catch drains and siltation ponds of appropriate size shall be constructed around the mine working, soil, mineral and temporary OB dump(s) to prevent run off of water and flow of sediments directly into Balijore Nallah, Kundra Nallah, Jojo Nallah, Mahadev Nallah, Baitarni 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. Garland drains, settling tanks and check dams

of appropriate size, gradient and length shall be constructed both around the mine pit and over burden dump(s) to prevent run off of water and flow of sediments directly into Balijore Nallah, Kundra Nallah, Jojo Nallah, Mahadev Nallah, Baitarni 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.

- xvii. 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.
- xviii. Plantation shall be raised in an area of 990.601ha 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.
- xix. Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of SPM and RPM 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.
- xx. Mine water discharge and/or any waste water shall be properly treated to meet the prescribed standards before reuse/discharge. The run off 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.
- xxi. The decanted water from the beneficiation plant and slime/tailing pond shall be re-circulated within the mine and there shall be zero discharge from the mine.
- xxii. Regular monitoring of the flow rate of the springs and perennial nallahs shall be carried out and records maintained.
- xxiii. Regular monitoring of water quality upstream and downstream of Balijore Nallah, Kundra Nallah, Jojo Nallah, Mahadev Nallah shall be carried out and record of monitoring data should be maintained and submitted to Ministry of Environment and Forests, its Regional Office, Bhubneswar, Central Groundwater Authority, Regional Director,

Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board.

- xxiv. Appropriate mitigative measures shall be taken to prevent pollution of Baitarni River, if any, in consultation with the State Pollution Control Board.
- xxv. The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water for the project. Ground water shall not be used for the mining operations.
- xxvi. Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with Regional Director, Central Ground Water Board.
- xxvii. 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.
- 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.
- xxix. Drills shall either be operated with dust extractors or equipped with water injection system.
- xxx. 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.
- xxxi. Consent to operate shall be obtained from State Pollution Control Board prior to start of enhanced production from the mine.
- xxxii. Sewage treatment plant shall be installed for the colony. ETP shall also be provided for workshop and wastewater generated during mining operation.
- xxxiii. 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, Bhubneswar.
- xxxiv. Regular monitoring of ambient air quality including free silica shall be carried out and records maintained.

- xxxv. 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.
- xxxvi. The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna such as wolf, elephant, sloth bear, rhesus macaque etc. spotted in the core and buffer zone of the mine and contribute towards the cost of implementation of the plan and/or Regional Wildlife Management Plan for conservation of flora and fauna so prepared by the State Forest and Wildlife Department. The amount so contributed shall be included in the project cost. A copy of action plan shall be submitted to the Ministry and its Regional Office, Bhubaneswar within 3 months.
- xxxvii. 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) 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.
- (iv) 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.
- (v) There will be zero waste water discharge from the plant.
- (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.

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

8. 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.

9. 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.

10. 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 Jharkhand, Secretariat, Ranchi
- (iii) The Secretary, Department of Mines, Government of Jharkhand, Secretariat, Ranchi
- (iv) The Secretary, Department of Forests, Government of Jharkhand, Secretariat, Ranchi.
- (v) The Principal Chief Conservator of Forests, Biodiversity Conservation cum Chief Wildlife Warden, Government of Jharkhand, Secretariat, Ranchi.
- (vi) The Chief Conservator of Forests, Ministry of Environment & Forests, Regional Office (EZ), A/3, Chandra Shekar, Bhubaneswar – 751023
- (vii) The Chairman, Central Pollution Control Board, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi – 110032
- (viii) The Chairman, Jharkhand State Pollution Control Board, T.A. Division Building (Ground Floor), HEC Campus, P.O. Dhurwa, Ranchi – 834004, Jharkhand
- (ix) The Member Secretary, Central Ground Water Authority, A2, W3 Curzon Road Barracks, K.G. Marg, New Delhi – 110 001
- (x) The Controller General, Indian Bureau of Mines, Indira Bhawan, Civil Lines, Nagpur – 440001
- (xi) The District Collector, West Singhbhum District, Jharkhand.
- (xii) EI Division, Ministry of Environment & Forests, EI Division, New Delhi
- (xiii) Monitoring File
- (xiv) Guard File
- (xv) Record File

(Dr. Saroj)
Director