

No.J-11015/1008/2007-IA.II(M)

Government of India

Ministry of Environment and Forests

Paryavaran Bhawan  
CGO Complex, Lodi Road,  
New Delhi-110 003

Dated the 4<sup>th</sup> June, 2009

To

M/s Korp Resources Pvt. Limited  
161, Rabindra Sarani  
Kolkata - 700 007  
West Bengal  
Email: omkargroup@hotmail.com  
korpresources@yahoo.co.in

**Subject: Expansion of Tantra Iron Ore Mining Project of M/s Korp Resources Pvt. Ltd., located in Village(s) Tantra & Tensa, Tehsil Bonal, District Sundergarh, Orissa -environmental clearance regarding.**

Sir,

This has reference to your letter No. KRPL/ENV/IM/1109/2007-2008 dated 11.09.2007 and subsequent letters dated 24.07.2008, 12.09.2008, 30.11.2008, 09.01.2009 and 09.03.2009 on the subject mentioned above. The proposal is for renewal of mine lease and enhancement of production of Iron ore from 60,000 tones per annum (TPA) to 0.12 million TPA. The mine is reported to be closed since 10.04.2006. The total mine lease area of the project is 72.56ha, out of which 72.419ha is forest land and 0.141ha is waste land. Area proposed for mining is 8ha, an area of 0.2ha is kept for storage of top soil, 8ha for OB dump, 2ha for mineral storage, 1ha for infrastructure, 1.2ha for roads, 0.5ha for green belt and 51.66ha is others(untouched area). The Karo River and the Kuradih River are flowing in the buffer zone of the mine at a distance of 2km(E) and 5km(SW) respectively from the mine lease boundary. In addition, the Samlj Nala is flowing adjacent to the mine lease at distance of 0.2km (W) from the mine lease boundary. No national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. are reported to be located in the core and buffer zone of the mine and the area does not report to form corridor for Schedule-I fauna. In support of this, a letter dated 14.03.2008 along with an authenticated map has been provided through the Divisional Forest Officer and Wildlife Warden, Bonal Division. The mine working will be opencast by mechanized method involving drilling and blasting. No beneficiation plant is proposed as part of this project; however, crushing and screening is involved. The targetted production capacity of the mine is 1,20,000TPA of Iron ore and the life of mine is 20years. Approximately 400TPD of mineral will be transported through the road. The topography of the area is undulated and hilly at an elevation above mean sea level ranging from 705m to 845m. The ultimate working depth of mine will be 792m AMSL. The

2/-

groundwater table is reported at 600m AMSL. The mine working will not intersect the ground water table. The water requirement of the project is estimated as 300m<sup>3</sup> per day, which will be obtained from the Samij Nala. It has been reported that a population of 45 people are in the core zone of the mine, however, displacement of population and R&R has not been envisaged. It has been estimated that 0.42 million m<sup>3</sup> of over burden (OB) has already been accumulated and another 1.8 million m<sup>3</sup> of OB is likely to be generated during the life of the mine. Backfilling will commence from the year 2018 and will be completed by 2023. There will be only one external OB dump at the end of the mine life. Plantation will be raised in an area of 31ha at the end of the mine life. The State Pollution Control Board, Orissa had issued Consent to Establish to the project on 06.09.2007 for enhancement of Iron ore production from 0.6LTPA to 1.2LTPA, over mine lease area of 72.56ha. The public hearing of the project was held on 05.05.2007, for enhancement of production of Iron ore from 0.6LTPA to 1.2LTPA, over an area of 72.56ha. The Indian Bureau of Mines had approved mining plan of the project on 29.03.2004 and the progressive mine closure plan of the project on 22.10.2007 for lease area of 72.56ha. The capital cost of the project is Rs.1025Lakh and the capital cost for the environmental protection measures is proposed as Rs.179.45Lakhs. The annual recurring cost towards the environmental protection measures is proposed as Rs.11.8lakhs.

2. The Ministry of Environment and Forests has examined the application in accordance with the Section 12 of the EIA Notification, 2006 read with para 1.2 of the Circular No. J-11013/41/2006-IA.II(I) dated 13.10.2006 and hereby accords environmental clearance under the provisions thereof to the above mentioned Tantra Iron Ore Mining Project of M/s Korp Resources Pvt. Ltd. for an annual production capacity of 1,20,000 tonnes (0.12 million tonnes) of Iron ore by opencast mechanized method involving total mining lease area of 72.56ha, subject to implementation of the following conditions and environmental safeguards.

**A. Specific conditions**

- (I) The environmental clearance is accorded for production capacity of 1,20,000TPA (0.12million TPA) of Iron ore only.
- (II) All the conditions stipulated by the State Pollution Control Board, Orissa in their Consent to Establish shall be effectively implemented.
- (III) Necessary forestry clearance under the Forest (Conservation) Act, 1980 for an area of 72.419ha forestland shall be obtained before starting mining operation in that area. No mining shall be undertaken in the forest area without obtaining requisite prior forestry clearance. The environmental clearance is subject to grant of forestry clearance.
- (IV) The mining operations shall be restricted to above ground water table and it should not intersect the groundwater table. In case of working

below the ground water table, prior approval of the Ministry of Environment and Forests and the Central Ground Water Authority shall be obtained, for which a detailed hydro-geological study shall be carried out.

- (v) The project proponent shall ensure that no natural watercourse and/or water resources are obstructed due to any mining operations. Adequate measures shall be taken for protection of Samij Nallah and also while diverting any seasonal channels originating from the mine lease, if any, during the course of mining operation.
- (vi) 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.
- (vii) The over burden (OB) generated during the mining operation shall be stacked in the earmarked area only and it should not be kept active for a long period of time and its phase-wise stabilization shall be carried out. There shall be one external over burden dump, the maximum height of the dump shall not exceed 10m and the overall slope of the dump shall be maintained to 27°. The OB dump 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. Backfilling shall start from the year 2018 onwards and shall be completed by 2023. The backfilled area shall be 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.
- (viii) Catch drains and siltation ponds of appropriate size shall be constructed around the mine working, mineral and OB dumps to prevent run off of water and flow of sediments directly into the Karo River, the Kuradih River, the Samij Nallah and other water bodies. The water so collected shall be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted, particularly after the 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 the over burden dump to prevent run off of water and flow of sediments directly into the Karo River, the Kuradih River, the Samij Nallah and other water bodies and sump capacity shall 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 shall 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.

4/-

- (ix) Dimension of the retaining wall at the toe of the over burden dump and the over burden benches within the mine to check run-off and siltation shall be based on the rainfall data.
- (x) Plantation shall be raised in an area of 31ha including a 7.5m wide green belt in the safety zone around the mining lease, over burden dump, backfilled and reclaimed area, mine benches, 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 hectare.
- (xi) Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of SPM and RSPM such as around crushing and screening plant, loading and unloading point and transfer points. Extensive water sprinkling shall be carried out on haul roads. 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) Regular monitoring of water quality upstream and downstream of the Samlji Nallah shall be carried out and record of monitored data should be maintained and submitted to the Ministry of Environment and Forests, its Regional Office, Bhubaneswar, the Central Groundwater Authority, the Regional Director, Central Ground Water Board, the State Pollution Control Board and the Central Pollution Control Board.
- (xiii) 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.**
- (xiv) Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells and constructing new piezometers in and around the mining lease 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.
- (xv) The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of water (surface water and ground water, if any) required for the project.

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- (xvi) Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board.
- (xvii) 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. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
- (xviii) No transportation of ore outside the mine lease area shall be carried out after the sunset.
- (xix) No blasting shall be carried out after the sunset. 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.
- (xx) Drills shall either be operated with dust extractors or equipped with water injection system.
- (xxi) Mineral handling area 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.
- (xxii) Consent to operate shall be obtained from the State Pollution Control Board, Orissa prior to start of enhanced production from the mine.
- (xxiii) Sewage treatment plant shall be installed for the colony. ETP shall also be provided for the workshop and wastewater generated during the mining operation.
- (xxiv) 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.
- (xxv) 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.
- (xxvi) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna namely leopard, bear, 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. All the safeguard measures brought out in the Wildlife Conservation Plan so prepared specific to this project site shall be effectively implemented. 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. A copy of action plan shall be submitted to the Ministry of Environment and Forests and its Regional Office, Bhubaneswar.

(xxvii) The critical parameters such as SPM, RSPM, NO<sub>x</sub> 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, Total Suspended Solids (TSS) and Cr<sup>+6</sup>). 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 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](http://www.envfor.nic.in) shall also be referred in this regard for its compliance.

(xxviii) 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 the waste shall be made.
- (III) Atleast four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM, SPM, SO<sub>2</sub> & NO<sub>x</sub> 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.
- (IV) Data on ambient air quality (RSPM, SPM, SO<sub>2</sub> & NO<sub>x</sub>) 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

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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 19<sup>th</sup> May, 1993 and 31<sup>st</sup> 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.

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.

- (ix) 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.
- (x) 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.
- (xi) 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.
- (xii) 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.
- (xiii) 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, Bhubneswar, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environment clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests, Bhubneswar.

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- (xiv) 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. The clearance letter shall also be put on the web site of the company.
- (xv) 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.
- (xvi) 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.
3. The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
4. 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.
5. 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 thereunder and also any other orders passed by the Hon'ble Supreme Court of India/ High Court of Orissa and any other Court of Law relating to the subject matter.
6. Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Authority Act, 1997.



(SATISH C. GARKOTI)  
Additional Director (S)

**Copy to:**

- (i) The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
- (ii) The Secretary, Department of Environment, Government of Orissa, Secretariat, Bhubaneswar.

- (iii) The Secretary, Department of Mines and Geology, Government of Orissa, Secretariat, Bhubaneswar.
- (iv) The Secretary, Department of Forests, Government of Orissa, Secretariat, Bhubaneswar.
- (v) The Chief Wildlife Warden, Government of Orissa, Bhubaneswar.
- (vi) The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
- (vii) The Chief Conservator of Forests, Regional Office (EZ), Ministry of Environment and Forests, A-3 Chandrashekharpur, Bhubaneswar-751023.
- (viii) The Chairman, Orissa State Pollution Control Board, Parivesh Bhawan, A/118 Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012.
- (ix) The Member Secretary, Central Ground Water Authority, A2, W3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
- (x) The District Collector, Sundergarh District, Government of Orissa.
- (xi) EI Division, Ministry of Environment & Forests, EI Division, New Delhi.
- (xii) Monitoring File.
- (xiii) Guard File.
- (xiv) Record File.