

Speed Post

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Government of India

Ministry of Environment, Forests and Climate Change

Impact Assessment Division

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Dated: 20th January, 2015

To,

M/s Hindustan Copper Limited

Tamra Bhawan, 1,
Ashutosh Chowdhury Avenue,
Kolkata- 700 019

Subject: Renewal of mine lease and enhancement of production of Copper Ore in Kendadih mine from 0.21 million TPA to 0.45 million TPA by M/s. Hindustan Copper Limited, located in village(s) Uparbandha, Sohada, Benashol, Terenga, Kendadih under Ghatsila sub-division of East Singhbhum District, Jharkhand (1139.60 ha)- Environmental Clearance regarding.

Sir,

This has reference to your letter no. HCL:HO:EIA-EMP-KND-Final/MOEF/2013 dated 03.01.2013 subsequent letters dated 29.05.2013, 03.06.2013, 12.06.2013, 22.07.2013, 25.07.2013, 12.08.2013, 03.09.2013, 09.05.2014 and 26.08.2014 on the above mentioned proposal for renewal of mine lease and enhancement of production of Copper Ore in Kendadih mine from 0.21 million TPA to 0.45 million TPA. The mine lease area is located in village(s) Uparbandha, Sohada, Benashol, Terenga, Kendadih under Ghatsila sub-division of East Singhbhum District, Jharkhand.

2. The Ministry had prescribed TORs on 28.02.2012. The Proponent after conducting public hearing on 24.09.2012 submitted the EIA/EMP report for seeking environmental clearance. The proposal for environmental clearance was considered in the 5th Meeting of Expert Appraisal Committee (EAC) meeting held during July 22-24, 2013 wherein the Committee sought information/clarification. The proposal was reconsidered in the 13th Meeting of the EAC held on November 12, 2013 wherein the Committee recommended the proposal for environmental clearance. The matter was examined in the Ministry with regard to water logging and de-contamination and accordingly the proposal was appraised in EAC meeting held during August 26-27, 2014 wherein the Committee recommended the proposal for environmental clearance.

3. The proposal is for enhancement of production of Copper Ore in Kendadih mine from 0.21 million TPA to 0.45 million TPA. The mine lease renewal fell due in June 2012. The Mining Lease area is 1139.60 ha which include 638.84ha of forest land. Mine Plan was approved by the IBM vide letter No. 314(3)/2012-MCCM (CZ)/MP-26 dated 27.05.2013. Project Proponent has reported that 282.53 ha is Agriculture Land, 201.08ha is Govt. Waste Land, 7.54ha is Community Waste Land, 8.19ha is District Board Land, 1.42ha is Education Board Land and 638.84 ha is Forest land. Stage I

Forest Clearance (FC) for an area of 225.363 ha has been obtained on 30.07.2009 from the MoEF&CC.

4. The method of mining will be underground and semi- mechanized and the waste rock will be utilized in underground backfilling. The workings extend over a strike length of 1500 m and in depth up to 187m. Proponent informed that no beneficiation plant is proposed. Proponent reported that 12,500 m³ per year waste will be generated from the underground mining activity and same will be backfilled in the mine voids. The total water requirement is 260.2 KLD for mining operation. Application for Permission to Abstract Ground water has been submitted to Central Ground Water Authority on 17.12.2012 and to Secretary, Water Resource Department, Govt. of Jharkhand for Industrial Water on 21.12.2012.

5. A Hydrogeological study has been carried out by Central Institute of Mining and Fuel Research and the Report was discussed by the Committee. It is mentioned that the underground mine has already intersected the aquifer and presently entire underground mine is water logged. Bulk of the water from the hills flows in to Subarnarekha River. The underground Kendadih mine is located towards the foothills. The ground water data monitoring during this study period shows that no contamination due to any percolation of mine waters, was recorded in the entire study area. However concentration of lead has been observed in these surrounding wells. Mine water will be discharged in to the surface drainage system from underground during dewatering and also mining operations. Total annual replenishable recharge (TARR) is evaluated 8.095 million m³/year while total annual draft from the sub-watershed area is 0.619 million m³/year. The net ground water available for future use is 6.261million m³/year. Study revealed that stage of ground water development is only 9% and hence there is no dearth of water availability in the area. However, as per water conservation practice, rain water harvesting scheme will be implemented.

6. The mine lease area is located in village(s) Uparbandha, Sohada, Benashol, Terenga, Kendadih under Ghatsila sub-division of East Singhbhum District, Jharkhand. The Latitudes and Longitudes of the mine lease area are 22°34'16" N to 22°37'22" N and 86°23'33" E to 86°27'07"E respectively and geographic location of the site falls under the Survey of India's Topo- Sheet No. 73 J/6. There is no Wild Life Sanctuary, National Park, Biosphere Reserves, Wildlife Corridors, Tiger/ Elephant Reserves/Schedule -I species within the 10 km radius of the mine lease area.

7. The baseline data was generated for the pre-monsoon season (March-May 2012). All the parameters for water and air quality were seen to be within permissible limits. Public Hearing was conducted on 24th September 2012 at Surda Training Centre in Sohada village under the Chairmanship of Mr. Ganesh Kumar, Additional Deputy Commissioner, District East Singhbhum wherein representative of Jharkhand State Pollution Control Board were also present. The issues raised during the Public Hearing were discussed during the meeting which inter-alia, included that there should not be any discharge of effluent from the mine area, raising of plantation, control of pollution, issues of ground water, providing education, local employment etc. As per the villagers' requirement, Proponent informed that local employment, education, ground water, plantation will be taken care of. There is no court case/ litigation pending against the project. The total cost of the project is Rs. 7,800 Lakhs. The Proponent has earmarked Rs 203.365 Lakh towards Environmental Protection Measures.

8. The Ministry of Environment, Forests and Climate Change 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 Hindustan Copper Limited for enhancement of production of Copper Ore in Kendadih mine from 0.21 million TPA to 0.45 million TPA in 726.123ha (500.76ha Non-Forests land + 225.363ha forests land for which Stage I FC is available) in the total mine lease area of 1139.60ha, located in village(s) Uparbandha, Sohada, Benashol, Terenga, Kendadih under Ghatsila sub-division of East Singhum District, Jharkhand** subject to compliance of the followings terms and conditions and environmental safeguards mentioned below:-

A. Specific conditions

- (i) No mining activities will be allowed in forest area for which the Forest Clearance is not available.
- (ii) Hon'ble Supreme Court, in IA Nos 2746-2748, 2862, 2941, 3629 and 3721 in IA No. 3629 in IA W.P. (C) No. 202 of 1995 [in the matter of T.N. Godavarman Thirumulpad Vs UOI & Ors] vide order dated 27.01.2014 has stayed the paragraph (iii)(b) of the Guidelines of FC Division No. 11-362/ 2012-FC, dated 01.02.2013. The Environmental Clearance is subject to the final outcome of the Hon'ble Supreme Court in the matter.
- (iii) Project Proponent shall monitor the lead metal periodically in mine effluent and to submit the report to the Regional Office of MoEF&CC.
- (iv) Surface and ground water in and around mine lease area shall be monitored quarterly and report shall be submitted to the Regional Office of MoEF&CC.
- (v) Project Proponent shall engage some reputed agency as proposed to further study of water quality of the region and present the report before EAC within one year.
- (vi) Mining shall not commence without necessary permissions for drawl of ground water from the Central Ground Water Authority and surface water from the Water Resource Department, Govt. of Jharkhand.
- (vii) Continuous monitoring of radioactive elements such as Radon (Rn) shall be undertaken till entire mine is dewatered and report has to submit to MoEF&CC Regional Office.
- (viii) Mitigation measures such as well-designed ventilation network within underground mine, provision of Personal Protective Equipment shall be ensured and necessary training and awareness programs for mine workers shall be undertaken.
- (ix) Periodic monitoring of radon exhalation of worker shall be included in the Occupational Health Monitoring Programme.
- (x) Continuous monitoring of pH and land in Mine water shall be done and report submitted to MoEF&CC Regional Office.
- (xi) The required precautions with respect to Sulphide Ores and Lead shall be undertaken.

- (xii) Implementation of the outcome of hydro-geological study which was carried out by Central Institute of Mining and Fuel Research shall be insured.
- (xiii) 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.
- (xiv) The project proponent shall obtain Consent to Operate from the State Pollution Control Board, Jharkhand and effectively implement all the conditions stipulated therein.
- (xv) Implementation of Environment Management Policy of the Company w.r.t. judicious use of Mineral resources for growth & development synchronizing mining & environment with prosperity.
- (xvi) The mineral transportation is proposed by road. The pollution due to transportation load on the environment will be effectively controlled & water sprinkling will also be done regularly. Vehicles with PUCC only will be allowed to ply. The mineral transportation shall be carried out through covered trucks only and the vehicles carrying the mineral shall not be overloaded. Water sprinkling should be increased at places loading and unloading points & transfer point to reduce fugitive emissions.
- (xvii) 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.
- (xviii) 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.
- (xix) 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.
- (xx) 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.
- (xxi) The Project Proponent shall ensure that no natural watercourse and/or water resources shall be obstructed due to any mining operations.
- (xxii) 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 Climate Change and its Regional Office located at Bhubaneswar on six monthly basis.

- (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 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.
- (xxiv) 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.
- (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 shall be carried out and record of monitoring data should be maintained and submitted to the Ministry of Environment, Forests and Climate Change 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, if any, 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, Forests and Climate Change its Regional Office, Bhubaneswar.
- (xxxii) 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.
- (xxxiii) The Proponent shall complete all the tasks as per the action plan submitted with the budgetary provisions during the public hearing held on 24.09.2012.
- (xxxiiii) A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment, Forests and Climate Change 05 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 and Climate Change.
- (ii) No change in the calendar plan including excavation, quantum of mineral copper ore and waste should be made.
- (iii) 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}, SO_x & 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.
- (iv) Data on ambient air quality (PM₁₀, PM_{2.5}, SO_x & NO_x) 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) 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.

- (vi) 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.
- (vii) 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.
- (viii) Plantation shall be raised in a 7.5m wide green belt in the safety zone around the mining lease, backfilled and reclaimed area, around water body, along the 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. Greenbelt shall be developed all along the mine lease area in a phased manner and shall be completed within first five years.
- (ix) 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.
- (x) 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.
- (xi) 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.
- (xii) 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.
- (xiii) 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.
- (xiv) 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.
- (xv) 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.

- (xvi) 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.
- (xvii) The project proponent shall submit six monthly report on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment, Forests and Climate Change, its Regional Office, Bhubaneswar, Central Pollution Control Board and State Pollution Control Board.
- (xviii) 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.
- (xix) 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.
- (xx) 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, Forests & Climate Change at <http://envfor.nic.in> and a copy of the same should be forwarded to the Regional Office of this Ministry located Bhubaneswar.

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

10. 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.

11. 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.

12. 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, East Singhbhum District, State of Jharkhand.
11. Guard File.
12. MoEF website

(Dr. V.P. Upadhyay)
Director