No. J-11015/47/2012-IA.II (M)
Government of India
Ministry of Environment, Forests & Climate Change
Impact Assessment Division

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Indira Paryavaran Bhavan,
Aliganj, Jor Bag Road,
New Delhi-110 003

Dated: 23rd September, 2014

To,
M/s Hindustan Zinc Limited
Rampura Agucha Mine, P.O. Agucha,
Tehsil - Hurda,
District- Bhilwara - 311 029
Rajasthan.

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Sub.: Enhancement in production capacity of Kayar Lead-Zinc Ore underground mine from 0.35 million TPA (ROM) to 1.0 million TPA (ROM) by M/s Hindustan Zinc Limited, located at Village Kayar, District-Ajmer, Rajasthan (480.45ha)-Environmental Clearance regarding.

This has reference to your letter no. HZL/ Kayad/Env/MoEF/2013-14/5561 dated 29.07.2013 and subsequent letters dated 19.09.2013, 08.02.2014 and 15.04.2014 on the above mentioned proposal for enhancement in production capacity of Kayar Lead-Zinc Ore underground mine from 0.35 million TPA (ROM) to 1.0 million TPA (ROM). The mine is located at village-Kayar, District-Ajmer, Rajasthan.

2. The Ministry had prescribed TORs on 06.07.2012. The Proponent after conducting public hearing on 25.06.2013 submitted the EIA/EMP report for seeking environmental clearance. The proposal for environmental clearance was considered in the 12th Meeting of Reconstituted Expert Appraisal Committee (EAC) meeting held during 31st October, 2013 & 1st November, 2013 wherein the Committee sought clarification/information. Based on the information submitted by the Proponent vide letter dated 08.02.2014, the proposal was reconsidered in the 20th Meeting of the EAC held during May 28-30, 2014 wherein the Committee recommended the proposal for environmental clearance.

3. The proposal is for enhancement in production capacity of Kayar Lead-Zinc Ore underground mine from 0.35 million TPA (ROM) to 1.0 million TPA (ROM). The total mine lease area is 480.45 ha. Out of this 445.82ha is Agricultural land, 11.1ha is waste land and 23.53ha is Govt. land. No forest land is involved. The Mining Lease has been sanctioned to M/s Hindustan Zinc Limited, vide letter of Government of Rajasthan no. ML No. 16/92, dated 28/02/1998 for a period of twenty years. The modified mining plan with progressive mine closure plan has
been approved by Indian Bureau of Mines (IBM) vide letter no. 584(5) (3) (406)/11, dated 07.05.2013.

4. Mining is by mechanized underground method. The life of mine is 15 years. Proponent reported that mechanized equipment for development drilling, mucking, and hauling will be deployed at the mine. The blast design, stope stability and monitoring is being done under guidelines of CIMFR Dhanbad. The total water requirement for the mine will be 560 m$^3$/day. Out of which, 75 m$^3$/day fresh water sourced from PHED for domestic consumption, 200 m$^3$/day of treated sewage water sourced from Ajmer city with recycled quantity of 50 m$^3$/day from internal STP and 88 m$^3$/day from operations and 147 m$^3$/day mine dewatering will be reused for dust suppression. The Ore will be transported to Rampura Agucha mine for mineral beneficiation. About 143,000 m$^3$ waste will be generated from the mine development during the Phase-I of mining and this would be dumped in a specifically assigned area of 1.0ha within the lease boundary. The waste will be used for back filling.

5. Proponent reported that since it is underground mining operations, hazardous situations may arise leading to accidents and accordingly mitigation measures as prescribed in the Metalliferrous Mines Regulations, 1961 will be adopted. In this context, Proponent informed that proper precautions and remedial measures will be taken to prevent the occurrence of hazards. ISM, Dhanbad has carried the ventilation network modelling & simulation study and reported that provision of Personal Protective equipments and necessary training and awareness programs for mine workers will be undertaken in line with DGMS guidelines. The Proponent has also submitted the details of occupational health measures.

6. The mine lease area lies between Latitude 26$^0$ 31' 30" N to 26$^0$ 32' 30" N, Longitude 74$^0$ 41' 00" E to 74$^0$ 42' 00" E and is covered by Survey of India Topo sheet no. 45 J/10. Proponent reported that no National Parks, Wildlife Sanctuaries, Tiger Reserves fall within the study area (10 km radius of the mine boundary). However, two Reserved Forests and two Protected Forests exist within the 10 km area. Peacock is the only Schedule I fauna in study area for which proponent has developed conservation plan. The conservation plan is forwarded to the MoEF vide letter no. 10 dated 15.01.2014 by the Additional Principal Chief Conservator of Forests & Chief Wildlife Warden Jaipur, Rajasthan.

7. It is noted that the Ministry has earlier accorded the environmental clearance for existing integrated cement project vide MoEF letter no. J-11011/267/2008-IA II (1) dated 11.12.2009 for 0.35 million TPA of Lead-Zinc ore. The certified compliance report on the conditions stipulated in the earlier Environmental Clearance was submitted by the Regional Office of MoEF, Lucknow vide letter dated 31.07.2013. The Committee deliberated the compliance status at length.

8. The baseline data was generated for the period during pre-monsoon season i.e. March 2012 to May 2012. All the parameters for water and air quality were within permissible limits. The Public Hearing was conducted on 25.06.2013 and presided by Mr. Gajendra Singh Rathore, Additional District Collector, Ajmer. The representative of Regional Office from the Rajasthan Pollution Control Board was also present. The Committee discussed the issues raised during the public hearing.
9. The total cost of the project is Rs. 350 Crores. The Proponent has earmarked Rs. 4.30 Crores towards Environmental Protection Measures. Proponent informed that Rs. 150 Lakhs have been earmarked towards socio-economic welfare measures for the nearby villages. The Committee desired that such important issues of land compensation should be sorted out mutually with the intervention of Panchayat or local Govt., if needed.

10. The Ministry of Environment and Forests has examined the proposal in accordance with the Environmental Impact Assessment Notification, 2006 and further amendments thereto and hereby accords the environmental clearance under the provisions thereof to the above mentioned proposal of M/s Hindustan Zinc Limited for enhancement in production capacity of Kayar Lead-Zinc Ore underground mine from 0.35 million TPA (ROM) to 1.0 million TPA (ROM) in the mine lease area of 480.45ha, located at village Kayar, District-Ajmer, Rajasthan subject to compliance of the followings terms and conditions and environmental safeguards mentioned below:

A. Specific conditions

(i) The environmental clearance is valid for 15 years as the life of mine is 15 years.

(ii) Environmental clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the competent authority, if any, as may be applicable to this project.

(iii) No mining activities will be allowed in forest area, if applicable, for which the Forest Clearance is not available.

(iv) The project proponent shall obtain Consent to Operate from the State Pollution Control Board, Lucknow and effectively implement all the conditions stipulated therein.

(v) Proponent shall carry out monitoring of lead in the blood samples of the employees and the villagers in the areas surrounding the mine in their schedule of health check-up. The nearby water bodies shall be monitored every six months and report submitted to Regional office of the MoEF to ascertain impact due to lead contamination.

(vi) Advanced technologies for environmental protection shall be used for controlled blasting. 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. Secondary blasting for reducing the boulder size will be avoided by using rock breaker. The blasting is to be monitored regularly for recording ground vibration and noise.

(vii) A nursery should be developed to protect three endangered plant species, namely Commiphora wightii, Anogeissus sericea, and Butea monosperma.
(viii) One schedule-I species namely *Pavo cristatus* was reported. Proponent has prepared the conservation plan for schedule-I species. The Conservation Plan has been forwarded by the Additional Principal Chief Conservator of Forests & Chief Wildlife Warden Jaipur, Rajasthan vide letter no. 10, dated 15.01.2014. The Proponent shall implement the Wildlife Conservation Plan along with the funds so allocated with consultation of Chief Wild Life Warden of the State Govt. A copy of action plan shall be submitted to the Ministry of Environment and Forests and its Regional Office, Lucknow and the Chief Wild Life Warden of the State Govt.

(ix) Implementation of Action Plan on the issues raised during the Public Hearing held on 25.06.2013. The proponent shall complete all the tasks as per the action plan submitted with the budgetary provisions during the public hearing.

(x) Proponent shall adopt the mitigation measures as prescribed in the Metalliferous Mines Regulations, 1961. A proper precautions and remedial measures will be taken to prevent the occurrence of hazards. 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.

(xi) Implementation of the outcome of study with regard to “optimization of blast design parameter for the safety and stability of surface structures and subsequent monitoring of vibration on the surface structures for their long term stability” which was carried out by Central Institute of Mining and Fuel Research should be ensured.

(xii) Continuous monitoring of radioactive elements, if any, shall be undertaken till entire mine is dewatered and report has to be submitted to MoEF Regional Office. Periodic monitoring of any adverse impact of Radon and its daughter products on any worker should be included in the Occupational Health Monitoring Programme.

(xiii) Continuous monitoring of pH of Mine water shall be done and report submitted to MoEF Regional Office. The required precautions with respect to Sulphide Ores and Lead shall be undertaken.

(xiv) Implementation of Environment Management Policy of the Company w.r.t. judicious use of Mineral resources for growth & development synchronizing mining & environment with prosperity.

(xv) 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 like loading and unloading points & transfer point to reduce fugitive emissions.
(xvi) 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.

(xvii) Regular monitoring of ground water table should be carried out at the upstream and depth of water available in the dug well is to be measured. Monitoring should be done by establishing a network of existing wells and constructing new piezometers.

(xviii) Monitoring of Ambient Air Quality should be carried out based on the new Notification of 2009, as amended from time to time by the Central Pollution Control Board.

(xix) For the upliftment of scheduled caste/scheduled tribe population, specific programmes have to be taken specially with respect to education, health care, livelihood generation, infrastructure development & promotion of sports & culture for SC/ST population and that these will be intensified in future.

(xx) The project proponent shall ensure that no natural watercourse and/or water resources shall be obstructed due to any mining operations.

(xxi) Catch drains and siltation ponds of appropriate size shall be constructed around the mine working and mineral 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 and 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.

(xxii) 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.

(xxiii) 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 and Forests, its Regional Office, Lucknow, Central Groundwater Authority, Regional
Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board.

(xxiv) 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, Lucknow, Central Ground Water Authority and Regional Director, Central Ground Water Board.

(xxv) 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.

(xxvi) 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.

(xxvii) 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 Zinc-Lead 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 PM$_{10}$, PM$_{2.5}$, SO$_2$ & NOx 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 (PM$_{10}$, PM$_{2.5}$, SO$_2$ & NOx) should be regularly submitted to the Ministry including its Regional office located at Lucknow and the State Pollution Control Board / Central Pollution Control Board once in six months.

(v) The critical parameters such as PM$_{10}$ (size less than 10 micro meter), PM$_{2.5}$ (size less than 2.5 micro meter), NOx 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-I.A.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 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 Lucknow.
(xiv) The project authorities should inform to the Regional Office located at Lucknow, 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 Lucknow 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, Lucknow, 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 and Forests, its Regional Office, Lucknow, 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 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 Lucknow.

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

12. 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.

13. 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 Rajasthan and any other Court of Law relating to the subject matter.

14. 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 Mines & Geology, Government of Rajasthan, Secretariat, Jaipur.

3). The Secretary, Department of Environment, Government of Rajasthan, Secretariat, Jaipur.


5). The Chief Wild Life Warden, Government of Rajasthan, Secretariat, Jaipur

6). The Member Secretary, Central Ground Water Authority, A-2, W3, Curzon Road Barracks, K.G. Marg, New Delhi-110001.

7). The Chairman, Rajasthan State Pollution Control Board, 4, Institutional area, Jhalana, Doongri, Jaipur.


9). The District Collector, District- Ajmer, State of Rajasthan.

10). Guard File.

11). MoEF website.

(Dr. V.P. Upadhyay)
Director