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No. J-11015/47/2012-IA.II (M)
Government of India
Ministry of Environment, Forest and Climate Change
Impact Assessment Division
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Indira Paryavaran Bhavan,
Aliganj, Jor Bag Road,
New Delhi-110 003

To,

Dated: 05th February, 2018

Shri. Balwant Singh Rathore (Unit Head)
M/s Hindustan Zinc Limited
Kayad Lead Zinc Mine, ML-16/92,
Tehsil-Ajmer, Distt-Ajmer (Rajasthan)-305023.

Tel. No. 0145-6626266;

Sub.: Expansion of Lead-Zinc Ore Production from 1.0 Million TPA to 1.2 Million TPA at Kayad Mine by M/s Hindustan Zinc Limited in mine lease area of 480.45 Ha located at Village & Tehsil – Kayad, Distt. - Ajmer, Rajasthan under clause 7(ii) of the EIA Notification, 2006 - Environmental Clearance regarding.

Sir,

This has reference to above mentioned Environmental Clearance proposal of M/s Hindustan Zinc Limited for expansion of Lead-Zinc Ore Production from Kayad underground mine with enhancement of production capacity from 1.0 Million TPA to 1.2 million TPA (ROM) of Lead–Zinc ore i.e. 20% of the existing capacity under clause 7(ii) of EIA Notification, 2006. The mine lease is located near Village & Tehsil – Kayad, Distt. - Ajmer, Rajasthan. The latitudes and longitudes of the mine lease are 26°31'41.47"N - 26°31'37.04"N and 74°41"30.73"E - 74°41'30.45"E respectively. The lease area falls on Survey of India topo sheet no. 45 J/10. The PP also presented the KML file during the presentation to indicate the location of mine lease on Google Earth/ DSS.

2. The Project Proponent had submitted EIA/EMP report online to the Ministry seeking expansion in production capacity under clause 7 (ii) of EIA notification, 2006. The Proposal was considered by the Expert Appraisal Committee for expansion of earlier EC capacity of 1.0 Million TPA of Lead–Zinc ore production granted vide letter no. J-11015/47/2012-IA II(M) dated 23.09.2014 to 1.2 Million TPA in the instant meeting. The Committee observed that the clause 7 (ii) of EIA Notification, 2006 states as below.

7(ii). Prior Environmental Clearance (EC) process for Expansion or Modernization or Change of product mix in existing projects:

All applications seeking prior environmental clearance for expansion with increase in the production capacity beyond the capacity for which prior environmental clearance has been granted under this notification or with increase in either lease area or production capacity in the case of mining projects or for the modernization of an existing unit with increase in the total production capacity beyond the threshold limit prescribed in the Schedule to this notification through change in

process and or technology or involving a change in the product –mix shall be made in Form I and they shall be considered by the concerned Expert Appraisal Committee or State Level Expert Appraisal Committee within sixty days, who will decide on the due diligence necessary including preparation of EIA and public consultations and the application shall be appraised accordingly for grant of environmental clearance

3. The Project Proponent explained that this expansion under 7(ii) has been considered in many cases in the EAC (Industry). It also cited reference to the OM with regard to 25% expansion for Coal Mining Projects and past projects of M/s Uranium Corporation India Limited and M/s NALCO which were given approval for expansion without EIA/EMP studies and Public hearing in the past. Further, the PP stated that the EAC (Non-Coal) in October, 2016 had considered and recommended similar expansion proposal for its Sindesar-Khurd Lead-Zinc mines for 20% increase in lead-zinc ore production from 3.75 Million TPA to 4.5 Million TPA. The Ministry issued EC to the expansion proposal vide letter no. J-11015/10/2014-IA-II(M) dated 21.12.2016. In its meeting held in October, 2017, another mine of PP at Rajpura-Dariba was recommended for grant of EC under clause 7(ii) of EIA Notification, 2006 for 20% enhancement.

4. The Project Proponent submitted that to achieve enhanced production of 1.2 Million TPA it has carried out changes in the mining operations with respect to infrastructure/ technology improvement or modernization. The EAC (comprising of mining experts) noted the submissions of PP mentioning the technological improvements/ changes as mentioned below:

A. Mechanization and productivity Improvement through:-

- Installation of High speed Exploration Rigs
- Twin Boom Drill Jumbos
- Deployment of SOLO production drills
- Engagement of heavy equipments like LHDs – 17t and LPDTs – 30t, 50t and 60t
- Using advanced Service equipments like Road Grader, Scalar, Rock Bolter, LMC, PC etc.
- Transportation of Cement slurry through boreholes
- Bulk Emulsion charging system

B. Adoption of advanced technology

- Cavity monitoring system for void management
- Wireless communication system through Walky-Talky
- Mine planning and working through latest software like Datamine 5D planner, EPS, AEGIS, Ventsim, FLAC-3D, ITMS, FMS etc.

C. Infrastructure Upgradation

- Ventilation capacity augmentation
- HEMM Parking yard
- Underground Refuge Chamber

D. Skill Building

- Training by Global experts
- Simulators and Training academy

5. The Project Proponent reported that the project is a fully mechanised underground Lead-Zinc mine and mined out with Blast hole Stopping method with back filling. The mine access comprises of single decline from surface portal (487.6 mRL) to the top of the orebody i.e. 419 mRL where it splits further into separate North and South declines. The South decline will go upto 50mRL and North Decline will go upto 150mRL.The declines are designed at a gradient of 1 in 7. The decline is serving the purpose of hauling of waste and ore up to surface. In addition, the decline also serves as man, material & ventilation intake to the mine. Decline is also used for the to-and-fro transport of all heavy earth moving and drilling equipment. The second egress to the mine is provided in ventilation raise of 3.5m dia. at North of the mine. Production drilling is planned from both the drill level. Three main mechanical ventilators of 150 Cum/sec (450 KW) capacity are installed at bottom of South ventilation raise (3.5m diameter circular) at 400 mRL, North ventilation raise (3.5m diameter circular) at 375 mRL and Central ventilation raise (3.5m diameter circular) at 250 mRL. The fans serve as the main exhaust for both sections. Fresh air enters through main decline (130 Cum/sec) and through North surface ventilation intake raise (50 Cum/sec) and South surface ventilation intake raise (50 Cum/sec). The PP submitted that there shall be no additional water requirement and the requirement of instant enhancement shall be met from existing arrangements.

6. Project Proponent submitted that in view of the above technological improvements, it is feasible to extract 1.2 Million TPA of lead-zinc ore without significant impact on baseline environmental scenario. The EIA studies for the instant proposal have also reportedly been carried out and data was collected for March – May, 2017 period wherein the impacts and mitigation measures with respect to the existing expansion proposal have been enumerated. All the parameters for water and soil quality were reported within respective permissible limits. The ambient air quality was also within permissible limits as this was underground mine and there were no significant emission sources near the site; however, the Committee inferred that increase in production would result in increased diesel consumption through HEMMs and transportation aspects. Considering the fact that proposal pertains to underground mining, the

concentration of diesel particulates, NOx and CO in the underground atmosphere needs to be checked and appropriate mitigation measures required to be taken. PP submitted that one of major steps undertaken by it relates to strengthening and maintenance of mine ventilation system in consultation with ISM, Dhanbad. It was explained that the air flow requirement for the system is 415m^3/sec considering deployment of diesel equipments and transportation; however, it has enhanced the ventilation capacity to 440m^3/sec. Apart from this, it regularly monitors the underground environment parameters. PP also submitted that it has taken following initiatives to reduce diesel consumption from 2.28Kl/ ton of ore to 1.87KL/ ton of ore, which happened to be the major issue related to air pollution:

- Transporting cemented slurry through gravity for backfilling mine voids thereby eliminating the use of millers
- Creation of waste passes in underground for part transportation of waste thereby reducing at least 30% of waste haulage
- Introducing fleet of efficient trucks and equipments which have low specific diesel consumption.
- Providing 440m^3/sec of ventilation capacity against requirement of 415m^3/sec for 1.2 Million TPA of ore production

7. The Committee noted the submissions made by the Project Proponent and observed that the Project Proponent is already carrying out its activity in the said mine lease area of 480.45 Ha and is bound to implement the EMP as per the terms and conditions of EC granted by the Ministry and Consent conditions prescribed by the State Pollution Control Board. The mine lease core and buffer zone reportedly does not have any protected areas such as National Parks or Wildlife Sanctuaries, Reserve and/ or Protected forest. The additional waste generation due to development activities is envisaged to be 8,55,000 MT from existing 5,95,000 MT. The PP informed that the waste is proposed to be disposed off in underground voids through filling method. PP also informed that while filling back the waste into the voids, it has successfully achieved high consistency leading to low moisture content and ultimately less water consumption for waste management.

8. The Committee deliberated on the compliance of earlier EC conditions. The Regional Office of the Ministry located at the Lucknow has submitted the certified compliance report vide dated 08.09.2017. The Proponent explained the status of various conditions. The Committee noted the submissions made PP status and

observed that PP has complied with the EC conditions. PP submitted that it possesses/ has applied for required permissions and clearances as mentioned below:

- **W.r.t. M.L.validity** – The mine lease is valid till 27th February, 2048.
- **W.r.t. Approved mining plan** – The Scheme of Mining with progressive mine closure plan has been approved for 1.2 Million TPA of ore production vide letter no. 584(4)(3)(1706)/2017-RCOM-AJM/2210 dated 03.11.2017 under rule 12(3) and rule 23B of MCDR, 1988.
- **W.r.t. Environment Clearance**– The EC was granted by MoEF, New Delhi for 1.0 Million TPA of lead-zinc ore production from Kayad underground mine vide letter no. J-11011/47/2012-IA II(I) dated 23.09.2014.
- **W.r.t. Consent to Operate** – The Consent to Operate was granted by Rajasthan State Pollution Control Board (RSPCB), Jaipur for carrying Mining & Beneficiation activities vide letter no. F(Mines)/Ajmer(Ajmer) /1(1)/2009-2010/7897-7901 dated 04.03.2015 and the same is valid till 31.01.2018.
- **W.r.t. permission from CGWA –** The NOC from CGWA for mine dewatering ($75m^3$/day) has been obtained vide letter no.21-4(176)/WR/CGWA/2007-446 dated 10.05.2008 and subsequent renewals were obtained vide letters dated 19.11.2012 and 06.08.2014. The NOC from CGWA for additional ground water dewatering ($72m^3$/day) has been obtained vide letter no. 21-4(176)/WR/CGWA/2007-2216 on dated 10.10.2016 and valid up to 2 years

9. The Project Proponent presented the past production details which indicated that it has started production in 2012-13 and not violated the EC capacity since then. Accordingly, the case is not covered under violation. However, the Committee noted that the Ministry may examine the applicability of the Hon'ble Supreme Court judgment dated 02.08.2017 wherein the scope of Section 21(5) of the MMDR Act, 1957 has been extended to violation of Water (Prevention and Control of Pollution) Act, 1974; Forest (Conservation) Act, 1980; Air (Prevention and Control of Pollution) Act, 1981 and Environment (Protection) Act, 1986. The judgement says that illegally mined mineral need to be compensated for 100% of its value and State Governments are required to initiate action and collect the amount of illegally mined mineral from mine owners/

industries. In the instant case, PP informed during the EAC meeting that State Government has not raised demand for excess production.

10. Project Proponent reported that the ore shall be transported to Rampura-Agucha Mines for beneficiation through covered trucks/dumpers. The area is undulating with altitude varying from 480 to 506 mRL. The highest point is a small hillock just east of the village Kayad, attaining an altitude of 506 mRL. The topography of the area is marked by N-S trending linear ridge with highest elevation of 561 aMSL. The area within leasehold does not include any major streams or river across it, hence not prone to any kind of flood. The Project Proponent reported that there is one (1) Schedule –I species, Indian Peafowl, for which conservation plan is already submitted and under implementation.

11. The Project Proponent mentioned that it has made provision for Personal Protective equipment's to mine workers with necessary training and awareness programs. The Occupational Health measures were also explained and the Committee noted that proponent has monitored lead in blood. The Project Proponent reported that the workers were provided Self Rescuer in addition to basic PPEs like gum boot, helmet with cap lamp, dust mask, goggles, ear plug etc. Refuge chamber is installed at strategic locations to work as assembly points underground to support workers in during emergency in underground mine. The cost of the project is ₹530 Crores including additional cost for instant proposal. The cost for Environmental Protection measures is proposed as ₹34.45 Crores including additional cost for instant proposal. PP submitted that no R&R Plan is applicable for the instant proposal. The additional manpower requirement for the project is nil for the project. Project Proponent reported that there is no court case pending against the project.

13. The Ministry of Environment, Forest 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 Zinc Limited for grant of Environmental Clearance for enhancement of production from 1.0 Million TPA to 1.2 Million TPA(ROM) of Lead – Zinc Ore with exemption from public hearing under clause 7(ii) of EIA notification** subject to compliance of the followings terms and conditions and environmental safeguards mentioned below:

A. Specific conditions

1) Environmental Clearance is granted subject to under Hon'ble Supreme Court judgment dated 02.08.2017.

2) Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court of Rajasthan and any other Court of Law, if any, as may be applicable to this project.

3) This Environmental Clearance is subject to obtaining requisite NBWL Clearance from the Standing Committee of National Board for Wildlife, if any, applicable for this Mining project.

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

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

6) The Proponent should install online Ambient Air Quality Monitoring System and there should be system for display of digital AAQ data within 03 months at least at three locations as per wind direction. Online provisions of pH and turbidity meters at discharge points of STP and ETP and also at water storage ponds in the mining area may be made. Project Proponent should display the result digitally in front of the main Gate of the mine site.

7) The Project Proponent has to take care of gullies formed on slopes. Dump mass should be consolidated with proper filling/leveling with the help of dozer/compactors. The report on slope and stability monitoring should be sent to MoEF&CC and its Regional office every six-months.

8) The reclamation at waste dump sites shall be ecologically sustainable. Scientific reclamation has been followed. The local species may be encouraged and species are so chosen that the slope, bottom of the dumps and top of the dumps are able to sustain these species. The aspect of the dump is also a factor which regulates some climatic parameters and allows only species adopted to that micro climate. This may be recommended to be studied by hiring Expert Ecology Group.

9) There is need for regular monitoring of invertebrates and aquatic life of water bodies including the reservoir located close to the mining lease to establish that fish and other animals including the water is not contaminated with heavy metal. There could be a research on "bio accumulation of heavy metals in invertebrates" to completely establish that there is no impact of mining.

10) A specialized Institution may be hired to carry out ecological survey on the plant species to evaluate their growth in terms of stunted, deformed and seed viability. The sensitive species and indicator species to heavy metal pollution may be screened out and plantation accordingly designed. Similarly, uptake of Zinc, Cadmium and lead etc. by crops and vegetables grown in the crop lands around the mining lease may be studied. Bottom

sediment analysis of ponds, wells and Rivers to ascertain the level of accumulation of heavy metal may be done.

11) The Proponent shall conduct an Occupational health study with respect to the pressure impact on ear drums as person goes underground and implement the recommendations.

12) Project Proponent shall carry out vibration studies well before approaching any such habitats or other buildings to evaluate the zone of influence and impact of blasting on the neighborhood. Within 500 meters of such sites vulnerable to blasting vibrations, avoidance of use of explosives and adoption of alternative means of mineral extraction. A provision for monitoring of each blast should be made so that the impact of blasting on nearby habitation and dwelling units could be ascertained. The covenant of lease deed under Rule 31 of MCR 1960 provides that no mining operations shall be carried out within 50 meters of public works such as public roads and buildings or inhabited sites except with the prior permission from the Competent Authority.

13) Main haulage road in the mine should be provided with permanent water sprinklers and other roads should be regularly wetted with water tankers fitted with sprinklers. The material transfer points should invariably be provided with Bag filters and or dry fogging system. Belt-conveyors should be fully covered to avoid air borne dust; Use of effective sprinkler system to suppress fugitive dust on haul roads and other transport roads shall be ensured.

14) The monitoring of $PM_{2.5}$ in the vehicle emission shall be conducted to improve the mine environment and report submitted to the Regional Office of the MoEFCC.

15) The Project Proponent reported that there are seven Schedule–I species viz. Peafowl (*Pavo cristatus*), Osprey (*Pandion haliaetus*), Tawny eagle (*Aquila rapax*), Crested honey buzzard (*Pernisptilorhynchus*), Shikra (*Accipiter badius*), Leopard (*Pantherapardus*), Indian pangolin (*Manis crassicaudata*) in the study area. The PP shall implement the Conservation Plan and enhance the budget for implementation of Conservation Plan for Schedule I Species and also increase the budget for plantation/green belt development. 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, Forest and Climate Change and its Regional Office, Lucknow and the Chief Wild Life Warden of the State Govt.

16) 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 MoEFCC to ascertain impact due to lead contamination.

17) Implementation of Action Plan on the issues raised during the Public Hearing shall be ensured. The Project Proponent shall complete all the tasks as per the Action Plan submitted with budgetary provisions during the Public Hearing.

18) 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.

19) Continuous monitoring of radioactive elements, if any, shall be undertaken till entire mine is dewatered and report has to be submitted to MoEFCC 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.

B. Standard conditions

1). A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment, Forest and Climate Change 5 years in advance of final mine closure for approval.

2). No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment, Forest and Climate Change.

3). No change in the calendar plan including excavation, quantum of mineral and waste should be made.

4). The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of water (surface water and ground water) for the project.

5). Mining shall be carried out as per the provisions outlined in mining plan approved by Indian Bureau of Mines (IBM) as well as by abiding to the guidelines of Directorate General Mines Safety (DGMS).

6). The lands which are not owned by Proponent, mining will be carried out only after obtaining the consents from all the concerned land owners as per the provisions of the Mineral Concession Rules, 1960 and MMDR Act, 1957.

7). 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, Forest and Climate Change its Regional Office.

8). The critical parameters as per the Notification 2009 such as PM_{10}, $PM_{2.5}$, NO_X, and SOx etc. 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, Forest and Climate Change shall also be referred in this regard for its compliance.

9). Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of PM_{10} and $PM_{2.5}$ such as haul road, loading and unloading point and transfer points. Fugitive dust emissions from all the sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed under National Ambient Air Quality Standards (NAAQS) or by the Central Pollution Control Board in this regard. Monitoring of Ambient Air Quality to be carried out based on the Notification 2009, as amended from time to time by the Central Pollution Control Board.

10). 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 project proponent shall ensure that no natural water course and/or water resources shall be obstructed due to any mining operations. 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, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board.

11). 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 maintain. The natural water bodies and or streams which are flowing in an around the village, should not be disturbed. The Water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug wall located in village should be incorporated to ascertain the impact of mining over ground water table.

12). 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, Forest and Climate Change and its Regional Office, Central Ground Water Authority, Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board.

13). Transportation of the minerals by road passing through the village shall not be allowed. A 'bypass' road should be constructed (say, leaving a gap of at least 200 meters) for the purpose of transportation of the minerals so that the impact of sound, dust and accidents could be mitigated. The project proponent shall bear the cost towards the widening and strengthening of existing public road network in case the same is proposed to be used for the Project. No road movement should be allowed on existing village road network without appropriately increasing the carrying capacity of such roads.

14). The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is

not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours.

15). Main haulage road in the mine should be provided with permanent water sprinklers and other roads should be regularly wetted with water tankers fitted with sprinklers. The material transfer points should invariably be provided with Bag filters and or dry fogging system. In case of Belt-conveyors facilities the system should be fully covered to avoid air borne dust; Use of effective sprinkler system to suppress fugitive dust on haul roads and other transport roads shall be ensured.

16). Sufficient number of Gullies to be provided for better management of water. Regular Monitoring of pH shall be included in the monitoring plan and report shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office on six monthly basis.

17). There shall be planning, developing and implementing facility of rainwater harvesting measures on long term basis and implementation of conservation measures to augment ground water resources in the area in consultation with Central Ground Water Board.

18). The Project Proponent has to take care of gullies formed on slopes. Dump mass should be consolidated with proper filling/leveling with the help of dozer/compactors.

19). The reclamation at waste dump sites shall be ecologically sustainable. Scientific reclamation shall be followed. The local species may be encouraged and species are so chosen that the slope, bottom of the dumps and top of the dumps are able to sustain these species. The aspect of the dump is also a factor which regulates some climatic parameters and allows only species adopted to that micro climate.

20). 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 45^0. 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, Forest and Climate Change and its Regional Office on six monthly basis.

21). 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.

22). 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 and as per CPCB Guidelines. 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.

23). Project Proponent shall follow the mitigation measures provided in Office Memorandum No. Z-11013/57/2014-IA.II (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area", if any, applicable to the project.

24). The Project Proponent shall make necessary alternative arrangements, where required, in consultation with the State Government to provide alternate areas for livestock grazing, if any. In this context, Project Proponent should implement the directions of the Hon'ble Supreme Court with regard to acquiring grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun, should be scrupulously guarded against felling and plantation of such trees should be promoted.

25). 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. A copy of action plan shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office.

26). As per the Company Act, the CSR cost should be 2 % of average net profit of last three years. Hence CSR expenses should be as per the Company Act/Rule for the Socio Economic Development of the neighborhood Habitats which could be planned and executed by the Project Proponent more systematically based on the 'Need based door to door survey' by established Social Institutes/Workers. The report shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office on six monthly basis.

27). 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.

28). 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.

29). 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.

30). 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.

31). 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.

32). 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.

33). The project authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

34). The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment, Forest and Climate Change, its Regional Office, Central Pollution Control Board and State Pollution Control Board.

35). The Regional Office of this Ministry 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.

36). 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.

37). 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.

38). 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, Forest and

Climate Change at www.environmentclearance.nic.inand a copy of the same should be forwarded to the Regional Office.

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

15. 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.

16. 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.

17. 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.

5/2/18

(Surendra Kumar)
Advisor/ Scientist 'G'
Tele: 011-24695304

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.
4). **The Addl. Principal Chief Conservator of Forests**, Ministry of Environment, Forest and Climate Change, Regional Office (CZ), Kendriya Bhawan, 5th Floor, Sector "H", Aliganj, Lucknow-226020.
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.
8). **The Controller General**, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur - 440 001.
9). **The District Collector**, District- **Ajmer**, State of Rajasthan.
10). **Guard File.**
11). **MoEFCC website.**

5/2/18

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