



STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY ODISHA, BHUBANESWAR

(Constituted under the EP Act, 1986 and EIA Notification, 2006 by the MoEF & CC, Govt. of India)
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Letter No 2260/SEIAA

Dt. 19.08.2021

SEIAA File No: 55644/46-NCMB1/02-2021

To

Sri Samarendra Mohanty, (GM),
M/s Dalpahar Iron and Manganese Ore Mines of Sri D.C. Jain,
Dharam Villa, 12-A, Mahatma Gandhi Marg, (Ring Road),
Dist-Keonjhar, Pin-758035

Sub: Proposal of Environmental Clearance for Dalpahar Iron and Manganese Ore Mines for Enhancement in Production Capacity of Iron Ore from 708 TPA to 0.31 MTPA and Manganese Ore 0.094 MTPA over a mining lease area of 89.961 Ha. in Village - Dalpahar, Tahasil- Barbil, District-Keonjhar of M/s Dalpahar Iron and Manganese Ore Mines of Sri D.C. Jain - Environmental Clearance reg.

Ref: Your online application dated 13.02.2021 for issue of EC vide File No: SIA/OR/MIN/55644/2007.

Sir,

This has reference to your online application seeking environmental clearance of the mining proposal for Dalpahar Iron and Manganese Ore Mines for enhancement in production capacity of iron ore from 708 TPA to 0.31 MTPA and manganese ore 0.094 MTPA over a mining lease area of 89.961Ha in Village - Dalpahar, Tahasil- Barbil, District - Keonjhar. The proposal falls in the category 1(a) in the schedule of EIA Notification, 2006 as amended from time to time. The proposal has been appraised on the basis of the documents enclosed with the application, such as form-1, form-2, prefeasibility report, approved mining plan, final EIA /EMP, report of public hearing proceedings, and clarifications furnished to SEIAA /SEAC in response to their observations.

The Project Proposal in nutshell:

1. The proposal is for Environmental Clearance of Dalpahar Iron and Manganese ore mines of Shri D.C. Jain for enhancement in production capacity of iron ore upto 0.31 MTPA and Manganese Ore upto 0.094 MTPA along with crushing and

screening plant over an area of 89.961 Ha in Baitarani R.F., Champua Sub Division, Tahasil- Barbil, District-Keonjhar, Odisha.

2. This expansion project falls under category B as per MoEF&CC, Govt. of India notification in this respect, because of mining lease being less than 100 Ha.
3. The project proponent has informed to SEAC, Odisha that earlier ToR for production of Iron ore 0.31 MTPA and Manganese ore 0.094 MTPA along with crushing & screening plant was granted by MoEF&CC, Govt. of India on 23.09.2008. Public hearing for the proposal was held on 26.08.2011. Final EIA/EMP was submitted to MoEF & CC, Govt. of India vide letter dated 05.03.2012., and the proposal was appraised and recommended by the EAC in its meeting held on 20th to 22nd June 2012.
4. The project proponent has informed that the grant of EC was held for policy decision on NEERI carrying capacity study report. Post policy decision on the above, the project proponent appraised the proposal before MoEF&CC, Govt. of India vide its letter dated 19.01.2018, However, MoEF & CC, Govt. of India sought for additional information for compliance vide its letter dated 15th May 2018. The points raised by MoEF & CC, Govt. of India and its compliance submitted by Project Proponent to SEIAA/SEAC as its fall under category B (as per the MoEF & CC, Govt. of India EIA notification dated 14.08.2018 i.e. $\leq$ 100 Ha mining proposal are considered at respective SEIAA/SEAC) is as follows;

i. Letter from the State Govt. of Odisha w.r.t. validity and veracity of the mine lease.

- PP submitted that the mining lease of Dalpahar area i.e. 101.171 Ha comprises of 5 blocks i.e. Block No. A (89.961Ha), B1 (0.607 Ha), B2 (7.689 Ha), B3 (1.012 Ha) & C (1.902 Ha). The said blocks were granted over 101.171 Ha vide letter No. III (A)MG.101/846179 dated 05.06.1984 by Govt. of Orissa whereas each blocks as above were executed separately on 09.06.1986 for 20 years.
- Further, State Govt. has declared all the blocks as lapsed u/s 4A of the MMDR Act, 1957. Whereas, Block A (89.961 Ha) got lapsed vide his letter No. 3882/III(A)AM-07/2012/SM. Bhubaneswar dated 01.05.2015.
- Whereas, as per the direction of Hon'ble High Court of Orissa and further hearing at Steel & Mines dept., Govt. of Odisha passed the order vide no.6610/ IV (AB) SM-11/2015/S&M, Bhubaneswar dated 06.09.2019 "xxxxxxx pleased to decided not to declare and record the Iron & Mn mining lease of Late D C Jain (power of attorney Sri Avin Jain) over an area of 89.961 Ha (Block-A) of Keonjhar district as lapsed" xxxxxxxxxxxx.
- As per the section 8 A (3) of MMDR (Amendment) Act, 2015 the validity of the lease period of 89.961 Ha (Block A) is deemed to be extended up to 08.06.2036.
- Since the lease area is confined to 89.961 Ha, so as per the MoEF&CC notification dated 14th August 2018 Lessee has submitted the compliance to SEIAA/SEAC, Odisha.

ii. Validity and veracity of Forest clearance dated 01.04.2015 from the FC division of the Ministry and status of deposition of NPV.

- Further, Project Proponent has informed that 16.464 Ha of broken up forest land (out of 101.171 Ha) was granted by MoEF&CC, Govt. of India vide letter F.No.8-103/2000-FC dated 14.09.2005 under Section-2 of FC Act earlier during the original lease period. Out of this broken up diverted area, 10.594Ha is coming within the Block – A, i.e. within 89.961Ha. NPV for the entire lease area i.e. Rs 9,49,99,569/-has been paid. The Project Proponent stated that, As per circular/guideline of MoEF&CC, Govt. of India vide letter No.11-51/2015-FC, dated. 01.04.2015 the above forest clearance is valid till the expiry of lease i.e., up to 8th June 2036.
- For the balance forest area, general approval accorded under section 2(iii), FC act 1980 as per the MoEF&CC, Govt. of India guidelines dated 1st April 2015.
- Further, for the balance forest area, Forest diversion proposal applied under section 2(ii), FC act 1980 which is under process at MoEF&CC, Govt. of India.
- In recent past EAC/SEAC has recommended the Environmental Clearances to the project having part forest clearance under section 2 (ii) of FC Act, 1980 as per the above guideline. (Ex- Roida II iron ore Mines of K.N. Ram)

iii. Validity of Mining Plan/Scheme.

- Project Proponent submitted that, Review of Mining plan with progressive mine closure plan (PMCP) over an area of **89.961 Ha (block A)** got approved by IBM vide letter No. RMP/A/53-ORI/BHU/2019-20 dated 01.04.2020.
5. With the above compliance, the project proponent has submitted the revised EIA/EMP with latest baseline data (October 2019-December 2019) along with compliance of NEERI recommendations at SEIAA and presented the proposal before SEAC on 13th November 2020.
 6. Further, the validity of the Public Hearing (held on 26th August 2011) is concerned; since it is not older than 3 years at the time of submission of proposal (5th March 2012) for grant of Environmental Clearance as per OM dated 29th August 2017.
 7. There are instances of the MoEF&CC, Govt. of India EAC exempting public hearing as it was already conducted earlier (Si. No. 2.44 of EAC minutes held on 15th-16th November 2018). Besides, the Expert Appraisal Committee, Non-Coal Mining in its Minutes of the Meeting held during April 20-21 2020 mentioned the criteria for exemption of Public Hearing i.e.
 - i. The project must have undergone a public hearing under EIA Notification, as part of its appraisal earlier for the same capacity and ML area, during life of the project;
 - ii. The present proposal shall be with 'No increase in the production capacity and Mining lease;' and

- iii. No change in mining namely, mining method, mining plan, mineral transportation, water requirement, reclamation plan.
 - iv. The Proposal shall not be a violation case.
8. The present proposal has undergone public hearing under EIA notification 2006 for 0.31 MTPA iron ore and 0.094 MTPA Manganese Ore along with crushing and screening plant. There is no increase in production capacity, lease area, mining method, plan for mining, transportation, water requirement. Also the proposal is not a violation case as certified by the DDM, Joda vide its letter dated 12.11.2020.
 9. Further, inline to the above the clarifications on requirement of public hearing has brought out by MoEF&CC, Govt. of India vide OM dated 12th November 2020.
 10. Project Proponent submitted that, in pursuance of the Supreme Court order dated 02.08.2017 in CWP no. 114/2014, there is no such demand raised by the DDM, Joda as there was no excess production and the mining operation has been discontinued since August 1995 vide its letter dated 12th November 2020. The details of the past production duly authenticated by DDM, Joda vide its letter dated 05.11.2020 has been furnished.
 11. The SEAC, Odisha recommended for specific ToR for this project and SEIAA, Odisha issued ToR vide letter no. 20/SEIAA dated 15.01.2021 for undertaking detailed EIA Study for the project.
 12. Project Proponent submitted that, the mine lease area is within latitude 21° 58' 05" - 21° 58' 43" N and Longitude 85°23' 30.47" - 85° 23' 33.77" E. The highest contour within the lease hold area is 723m MSL, which is along the south eastern portion of the lease area while the lowest contour being 553m a MSL in the SW corner of the lease area. NH 215 at a distance of 6.9 kms (W) from the project area. Jaroli railway station exists at 2.7 Km (SE), Banspani is at 3.5KM (NE). Water bodies like Baitarani River is flowing at 4.6 kms from the lease area in eastern side, Suna Nadi- 0.8km (NW), Dalko Nala-3.0 (NE). Entire lease area lies in Baitarani R.F. Other forests area like Sidhamath R.F–West is at 2.1Kms and Chamakpur R.F is at 5.1(E). Karo-Karampada elephant corridor is located at about 16 km from the mine lease area.
 13. Project Proponent submitted that, Elephant, Sloth bear and Monitor Lizard are placed under Schedule-I as per Wild Life (Protection) Act, 1972 is found in the Study area. Site specific conservation plan has been prepared and approved by the PCCF (WL) and Chief Wildlife Warden, Odisha vide Memo No. 9070/1WL (C) SSP-44/2014, dated 27th November 2014 with an estimated cost of Rs. 250.254 lakhs which includes Rs.64.374 Lakhs for activities within the project area and Rs.185.520 Lakhs for activities within the project impact area.
 14. Project Proponent submitted that, as per the approved mining plan geological resource estimated as 3.80 Million Ton of iron ore & 0.420 Million Ton Mn. Mining method will be other than Fully mechanized. One 100 TPH mobile crushing and one 200 TPH mobile screening unit will be used for sizing of minerals. It has been calculated that a quantity of 553012.8 cum of waste shall be generated from both iron and manganese ore zone during conceptual period. All the waste shall be

- utilized for back filling at the end of the mine life. Life of the mine is 12 years as per the present exploration data. Further likely to increase after detail exploration.
15. Project Proponent submitted that, height & width of the bench will be kept at 10m & more than 10m for iron ore zone. Height & width of the bench will be kept at 6 & 10m and 9 & more than 10m in manganese ore zone. Ultimate pit slope will be 37°. NOC from CGWA for 95 m³/day is under process. Manpower is 82 persons on direct basis and more than 100 people on indirect basis. Project cost is Rs 49 crores. Further, PP mentioned that in the post mining stage, out of the total mined out area of 81.648Ha, an area of 4.79Ha will be reclaimed by means of backfilling and plantation. Plantation on dead benches will be carried out over remaining mining area. A total of 89.096Ha (99.03% of the total lease area) will be covered under vegetation in the post mining stage.
 16. Project Proponent informed that, the entire mining lease area falls within the Baitarani Reserve Forest. There is no habitation inside the mine lease area. Hence, the question of rehabilitation and resettlement does not arise.
 17. Project Proponent has also submitted the Baseline data for the revised EIA/EMP which was carried out systematically and meticulously as per relevant IS codes, CPCB & MoEF&CC guidelines during Post monsoon Season (Oct 2019 – Dec 2019). The existing Ambient Air Quality levels for PM₁₀, PM_{2.5}, SO₂ and NO₂ are within the prescribed limits. CO values in the all locations were found to be below detectable limit (DL – 1144 µg/m³). Silica values in the study area are found to be below detectable limit (Detection limit – 0.05mg/m³). The water quality of the collected ground water samples were found to be within the prescribed permissible limits of IS: 10500:2012 Norms for Drinking in the absence of an alternative source. Noise measurements were carried out continuously for a day once in a Season at 8 locations. While comparing with the MoEF & CC Norms, the monitored ambient noise levels are within the limit values. Soil samples were collected from 5 locations to assess the soil quality in and around the mines. Results of the soil samples show that, in the buffer zone, the pH values were ranging between 5.96 – 6.54 and Electrical Conductivity values were ranging between 13.8 – 39.7µmhos/cm. Soils are clay type. In the core zone, pH values were 6.23 and Electrical Conductivity values were 15.2 µmhos/cm. Soils are generally Clay Loam type.
 18. Project Proponent submitted that, the resultant added concentrations with baseline figures for PM₁₀, PM_{2.5}, after adopting necessary mitigative measures are within the prescribed NAAQ limits of 100, 60 µg/m³ for PM₁₀, PM_{2.5}, respectively. For preservation of environment in this mine strict enforcement of management schemes and regular air quality monitoring will be undertaken for taking corrective actions, as needed. By adopting the effective implementation of all the mitigative measures, no adverse impact on Air quality due to the enhanced mining operation in this lease area is expected.
 19. Project Proponent submitted that, ground water table is at a depth of more than 500 m RL and mining will be carried out for a maximum 520mRL. Hence, there will be no intersection of ground water table. The rain water falling in the quarry will be

harvested in the sump at the lowest level of the quarry. This sump will act as a settling pond to prevent solids escaping along with discharge, before outlet etc.

20. Project Proponent submitted that, Rs. 70 lakhs has been allocated for various social welfare activities under their CER and CSR programmes for the upcoming 5 years. These activities will be implemented in a time bound manner.
21. Project Proponent also submitted the public hearing point wise compliance with budgetary provision. They have committed to comply the all once mine will come into operation.
22. Project Proponent committed to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification of workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. In order to prevent from the Health Hazard, various protection measures like adopting dust sprinkling, development of plantation / green belt, etc. has been proposed to reduce pollution, providing safety / PPE to workers, conducting IME, PME, covering various statutory medical examination, conducting regular awareness training programme, etc., will be provided. A total budgetary provision of Rs. 4.00 lakhs per annum under capital cost and Rs.2.00 lakhs is allocated under recurring cost towards Occupational health and Safety Budget.
23. Project Proponent submitted that, a financial provision of Rs.134 Lakhs is made for various environmental control measures proposed in this report under capital cost and Rs. 55.3 Lakhs per annum is allocated as the recurring cost.
24. Lessee has undertaken that "they will follow the guidelines/policy decision by the MoEF&CC, Govt. of India and State Govt. Odisha in regard to the implementation of the recommendations given by NEERI in its carrying capacity study report in respect to Odisha".
25. The Environment consultant M/s Creative Engineers and Consultants, Chennai along with the proponent has made a presentation on the proposal before the Committee on 28.04.2021.
26. The project proponent furnished additional information / documents on the project to SEAC for necessary compliance to clarification raised by SEAC on 07.06.2021.
27. The SEAC considered the proposal for EC on 28.06.2021 and recommended for grant of Environmental Clearance for the project stipulating various conditions and following additional condition.

"The Mining activity shall be restricted to 10.594 Ha (diverted land) for which forest clearance has been obtained. Mining activity over the rest of the lease area shall be taken only after obtaining forest clearance for the same".

The State Environment Impact Assessment Authority (SEIAA) after considering the proposal and recommendations of SEAC, Odisha hereby accords Environmental Clearance in favour of the project under the provisions of EIA Notification 2006 and subsequent amendments thereto subject to strict compliance of all stipulated conditions, as follows. Detailed compliance report of these conditions is mandatorily to be submitted

by the project proponent to SEIAA at half yearly intervals by 1st June and 1st December each year.

Stipulated Conditions:

Part 'A' : Specific Conditions of Clearance: -

- i) This Environmental Clearance is granted with a Condition that "the Mining activity shall be restricted to 10.594 Ha (diverted land) for which forest clearance has been obtained. Mining activity over the rest of the lease area shall be taken only after obtaining forest clearance for the same
- ii) Additional air quality monitoring station shall be installed at entry and exit of mines and haulage road, buffer zone and schools and habitations
- iii) The mine shall implement the Pollution Control Measures and safeguards as proposed in the Environment Management Plan (EMP) of Environment Impact Assessment (EIA) report
- iv) The proponent shall install STP of adequate capacity for treatment of domestic waste water and treated water shall be reused.
- v) The proponent shall obtain permission from appropriate authority including WR Deptt, Govt. of Odisha for drawl of ground water.
- vi) Adequate mitigation measures shall be taken for dust suppression, environment protection in catchment area
- vii) The proponent shall carryout periodical health check-up of employees due to Occupational Health Hazards by occupational health expert, at least once in six months, both for employees as well as people of neighbouring habitation.
- viii) The transportation of mineral shall be carried out through the covered trucks. Vehicular emissions shall be kept under control and regularly monitored. The vehicles carrying the mineral shall not be overloaded.
- ix) 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.
- x) Garland drains with appropriate size, gradient and length shall be constructed to arrest silt and sediment flows from ore dumps and directly into the water bodies. The water so collected shall be utilized for watering the roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
- xi) Public Hearing for the project was conducted on 26th August 2011. The proponent shall comply with all the commitments made to the issues raised by the Public during the public hearing.
- xii) The proponent shall comply to the NEERI recommendations.
- xiii) The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.

Part 'B' : Standard Conditions:

(I) Statutory compliance:

- (i) This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.
- (ii) The Project proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors before commencing the mining operations.
- (iii) The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of Judgment of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors.
- (iv) This Environmental Clearance shall become operational only after receiving formal NBWL Clearance from MoEF & CC subsequent to the recommendations of the Standing Committee of National Board for Wildlife, if applicable to the Project,
- (v) This Environmental Clearance shall become operational only after receiving formal Forest Clearance (FC) under the provision of Forest Conservation Act, 1980 and subsequent amendments thereto, as applicable for the project.
- (vi) Project Proponent (PP) shall obtain Consent to Operate after grant of EC and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent to Establish / Consent to Operate from the concerned State Pollution Control Board.
- (vii) The PP shall adhere to the provision of the Mines Act, 1952, Mines and Mineral (Development & Regulation), Act, 2015 and rules & regulations made there under. PP shall adhere to various circulars issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines from time to time.
- (viii) The Project Proponent shall obtain consents from all the concerned land owners, before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made there under in respect of lands which are not owned by it.
- (ix) The Project Proponent shall follow the mitigation measures provided in MoEF & CC's Office Memorandum No. Z-I1013/57/2014-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".
- (x) The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of groundwater for the project.
- (xi) A copy of EC letter will be marked to concerned Panchayat / local NGO etc. if any, from whom suggestion / representation has been received while processing the proposal.

- (xii) State Pollution Control Board shall be responsible for display of this EC letter at its Regional Office, District Industries Centre and Collector's office/ Tehsildar's Office for 30 days.
- (xiii) The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board and web site of the Ministry of Environment, Forest and Climate Change (www.environmentclearance.nic.in). A copy of the advertisement may be forwarded to the concerned MoEF & CC Regional Office for compliance and record.
- (xiv) The Project Proponent shall inform the MoEF & CC/SEIAA, Odisha for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred than mining operation shall only be carried out after transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.

(II) Air quality monitoring and preservation:

- (i) The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for mining operations, of air pollution viz. PM₁₀, PM_{2.5}, NO₂, CO and SO₂ etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCI/I, dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office building, canteen etc. as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site.
- (ii) Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM₁₀ and PM_{2.5} are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from all sources shall be regularly controlled by installation of required equipments/ machineries and preventive maintenance. Use of suitable water-soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level conform to the standards prescribed by the MoEF&CC/ Central Pollution Control Board.

(III) Water quality monitoring and preservation:

- (i) In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and

MoEF&CC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro-geological study of the area.

- (ii) 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. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.
- (iii) Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/ State Ground Water Department. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.
- (iv) The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/ adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carryout regular monitoring w.r.t. pH and included the same in monitoring plan. The parameters to be monitored shall include their water quality vis-a-vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/ or alteration be made to water bodies during mining operations without justification and prior approval of MoEF&CC / SEIAA, Odisha. The monitoring of water courses/ bodies existing in lease area shall be carried out four times in a year viz. pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the record of monitored data be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, SEIAA, Odisha, Central Ground Water Authority and Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six-monthly basis.
- (v) Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off; acid mine drainage and metal contamination in runoff shall be monitored along with Total Suspended Solids (TDS), Dissolved Oxygen (DO), pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board, at a suitable location near the main gate of

the Company. The circular No. J- 20012/1 /2006-IA.II (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred in this regard.

- (vi) The project proponent shall construct retaining wall and settling pond within the lease area. Further, check dams shall be constructed at strategic locations in which rain water passes in rainy season. Finally, the excess superannuated after sedimentation shall be allowed to spill away through stone pitch structure to the nearby valley.
- (vii) De-silting of agricultural lands in buffer zone and beyond including nearby Nalas/rivers perennially periodically and perpetually caused due to wash up of minerals/OB/dumps shall be done as per SOP submitted. A legal affidavit shall be submitted within 6 months from the date of issue of Environmental Clearance to this effect with periodicity of de-silting.
- (viii) Detail design of the existing retaining wall and the proposed for the expansion from a chartered Civil Engineer shall be submitted within 6 months from the date of issue of Environmental Clearance to ensure that no silt after wash up is escaped from the core / buffer zone of the mines.
- (ix) Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area in consultation with Central Ground Water Board/ State Groundwater Department. A report on amount of water recharged needs to be submitted to Regional Office, MoEF&CC annually.
- (x) Industrial waste water (workshop and waste water from the mine) should be properly collected and treated in an ETP as proposed so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.
- (xi) The water balance/water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF & CC and State Pollution Control Board.

(IV) Noise and vibration monitoring and prevention:

- (i) The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.
- (ii) 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 /night hours.
- (iii) The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The worker engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel including laborers working in dusty

areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PP shall be held responsible in case it has been found that workers/ personals/ laborers are working without personal protective equipment.

(V) Mining Plan:

- (i) The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form of Short Term Permit (STP), Query license or any other name.
- (ii) The Project Proponent shall get the Final Mine Closure Plan along with Financial Assurance approved from Indian Bureau of Mines/Department of Mining & Geology as required under the Provision of the MMDR Act, 1957 and Rules/ Guidelines made there under. A copy of approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and verification.
- (iii) The land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life shall be governed as per the approved Mining Plan. The excavation vis-a-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self-sustaining. The compliance status shall be submitted half-yearly to the MoEF & CC and its concerned Regional Office / SEIAA, Odisha.

(VI) Land reclamation:

- (i) The Overburden (O.B.) generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by D.G.M.S w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of top soil/OB dumps. The topsoil shall be used for land reclamation and plantation.
- (ii) The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations

shall be strictly adhered to maintain the stability of waste dumps.

- (iii) The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.
- (iv) The slope of dumps shall be vegetated in scientific manner with suitable native species to maintain the slope stability, prevent erosion and surface run off. The selection of local species regulates local climatic parameters and help in adaptation of plant species to the microclimate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/ compactors thereby ensuring proper filling/ leveling of dump mass. In critical areas, use of geo textiles/ geo-membranes / clay liners / Bentonite etc. shall be undertaken for stabilization of the dump.
- (v) The Project Proponent shall carry out slope stability study in case the dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of MoEF & CC, Govt. of India, Bhubaneswar as well as SEIAA, Odisha.
- (vi) Catch drains, settling tanks and siltation ponds of appropriate size shall be constructed around the mine working, mineral yards and topsoil / OB / waste dumps to prevent runoff of water and flow of sediments directly into the water bodies (Nallah/ River/ Pond etc.). The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/ sedimentation sumps etc. shall be de-silted regularly, particularly after monsoon season, and maintained properly.
- (vii) Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years data) and maximum discharge in the mine and its adjoining area which shall also help in providing adequate retention time period thereby allowing proper settling of sediments/ silt material. The sedimentation pits/ sumps shall be constructed at the corners of the garland drains.
- (viii) The top soil, if any, shall temporarily be stored at earmarked site(s) within the mine lease only and should not be kept unutilized for long. The physical parameters of the top soil dumps like height, width and angle of slope shall be governed as per the approved Mining Plan and as per the guidelines framed by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of dumps. The topsoil shall be used for land reclamation and plantation purpose.
- (ix) The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.

(VII) Transportation:

- (i) No Transportation of the minerals shall be allowed in case of roads passing through transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be

mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.

- (ii) The Main haulage road within the mine lease should be provided with a permanent water arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipments like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.
- (iii) Traffic management shall be done as per recommendation of Traffic Management Study Report.
- (iv) The Project Proponent shall provide parking plaza for the heavy vehicles within the lease area as recommendation of NEERI.

(VIII) Green Belt Development:

- (i) The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Green belt shall be developed within first 5 years starting from windward side of the active mining area. The development of greenbelt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.
- (ii) The Project Proponent shall carryout plantation/ afforestation in backfilled and reclaimed area of mining lease, around water body, along the roadsides, in community areas etc. by planting the native species in consultation with the State Forest Department/ Agriculture Department/ Rural development department/ Tribal Welfare Department/ Gram Panchayat such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary provision shall be made for protection and care of trees.
- (iii) The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensate those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State Government. In this regard, Project Proponent should essentially implement the directions of the Hon'ble Supreme Court with regard to

acquisition of grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun, should be scrupulously guarded/ protected against felling and plantation of such trees should be promoted.

- (iv) The Project Proponent shall undertake all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-I species during mining operation. A Wildlife Conservation Plan shall be prepared for the same clearly delineating action to be taken for conservation of flora and fauna. The Plan shall be approved by Chief Wild Life Warden of the State Govt.
- (v) And implemented in consultation with the State Forest and Wildlife Department. A copy of Wildlife Conservation Plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.

(IX) Public hearing and human health issues:

- (i) The Project Proponent shall appoint an Occupational Health Specialist for Regular as well as Periodical medical examination of the workers engaged in the mining activities, as per the DGMS guidelines. The records shall be maintained properly. PP shall also carryout Occupational health check-ups in respect of workers which are having ailments like BP, diabetes, habitual smoking, etc. The check-ups shall be undertaken once in six months and necessary remedial/ preventive measures be taken. A status report on the same may be sent to MoEF&CC Regional Office and DGMS on half-yearly basis.
- (ii) A commitment in form of an undertaking for periodical occupational health checkup of the employee and the local people shall be done through an occupational health expert as per the detailed action plan submitted with the proposal within 6 months from the date of issue of Environmental Clearance.
- (iii) The Project Proponent must demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighborhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections due to bio mass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation, Personal Hygiene, Hand washing, not to defecate in open, Women Health and Hygiene (Providing Sanitary Napkins), hazard of tobacco and alcohol use. The Proponent shall carryout base line HRA for all the category of workers and thereafter every five years.
- (iv) The proponent shall carry out occupational health surveillance which be a part of HRA and include Biological Monitoring where practical and feasible, and the tests and investigations relevant to the exposure (e.g. for Dust a X-Ray chest; For Noise Audiometric; for Lead Exposure Blood Lead, For Welders Full Ophthalmologic Assessment; for Manganese Miners a complete Neurological Assessment by a Certified Neurologist, and Manganese (Mn) estimation in Blood; For Inorganic

Chromium- Fortnightly skin inspection of hands and forearms by a responsible person. Except routine tests all tests would be carried out in a Lab accredited by NABH. Records of Health Surveillance must be kept for 30 years, including the results of and the records of Physical examination and tests. The record of exposure due to materials like Asbestos, Hard Rock Mining, Silica, Gold, Kaolin, Aluminium, Iron, Manganese, Chromium, Lead, Uranium need to be handed over to the Mining Department of the State in case the life of the mine is less than 30 years. It would be obligatory for the State Mines Departments to make arrangements for the safe and secure storage of the records including X-Ray. Only conventional X-Ray will be accepted for record purposes and not the digital one). X-Ray must meet ILO criteria (17 x14 inches and of good quality).

- (v) The proponent shall maintained a record of performance indicators for workers which includes (a) there should not be a significant decline in their Body Mass Index and it should stay between 18.5 -24.9, (b) the Final Chest X-Ray compared with the base line X-Ray should not show any capacities,(c) At the end of their leaving job there should be no Diminution in their Lung Functions Forced Expiratory Volume in one second (FEV1),Forced Vital Capacity (FVC), and the ratio) unless they are smokers which has to be adjusted, and the effect of age, (d) their hearing should not be affected. As a proof an Audiogram (first and last need to be presented), (e) they should not have developed any Persistent Back Pain, Neck Pain, and the movement of their Hip, Knee and other joints should have normal range of movement, (f) they should not have suffered loss of any body part. The record of the same should be submitted to the Regional Office, MoEF&CC annually along with details of the relief and compensation paid to workers having above indications.
- (vi) The project proponent shall ensure that personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.
- (vii) Project Proponent shall make provision for the housing for workers/labors or shall construct labor camps within/outside (company owned land) with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project related infrastructure. The domestic waste water should be treated with STP in order to avoid contamination of underground water.
- (viii) The activities proposed in Action plan prepared for addressing the issues raised during the Public Hearing shall be completed as per the budgetary provisions mentioned in the Action Plan and within the stipulated time frame. The Status Report on implementation of Action Plan shall be submitted to the concerned Regional Office of the Ministry along with District Administration.
- (ix) Issues raised and recorded in proceedings of public hearing w.r.t. environment / pollution / CER shall be complied by the Mining Authority as per OM F.No.22-65/2017-IA.III, dated 30.09.2020 of MoEF&CC, Govt. of India.

(X) Corporate Environment Responsibility (CER):

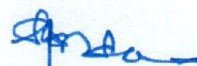
- (i) The activities and budget earmarked for Corporate Environmental Responsibility (CER) as per Ministry's O.M dated 30.09.2020 or as proposed by SEAC should be kept in a separate bank account. The activities proposed for CER shall be implemented in a time bound manner and annual report of implementation of the same along with documentary proof viz. photographs, purchase documents, latitude & longitude of infrastructure developed & road constructed needs to be submitted to Regional Office MoEF&CC annually along with audited statement.
- (ii) Project Proponent shall keep the funds earmarked for environmental protection measures in a separate account and refrain from diverting the same for other purposes. The Year wise expenditure of such funds should be reported to the MoEF & CC and its concerned Regional Office / SEIAA, Odisha.

(XI) Miscellaneous:

- (i) The Project Proponent shall prepare digital map (land use & land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC.
- (ii) 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.
- (iii) The project proponent shall establish a solar power plant with 30KVA capacity within the lease area as proposed.
- (iv) The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MoEF&CC & its concerned Regional Office, SEIAA, Odisha, Central Pollution Control Board and State Pollution Control Board.
- (v) A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEF&CC.
- (vi) The proponent shall comply all the specific conditions as recommended by CSIR-NEERI on carrying capacity study (as applicable) in time bound manner as proposed.
- (vii) The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
- (viii) The project proponent shall augment infrastructure on drinking water, health care and education in nearby villages as per time bound action plan submitted.
- (ix) The project proponent shall obtain permission from DGMS under 106(2b) to carry out blasting operation within the lease area.

- (x) The concerned Regional Office of the MoEF&CC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEF&CC officer(s) by furnishing the requisite data / information / monitoring reports.
- (xi) 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.

Yours faithfully,


Member Secretary

Memo No 2261/SEIAA / Dt. 19.08.2021

Copy to

1. **Joint Secretary (Environment)**, Ministry of Environment, Forests and Climate Change Govt. of India, Indira Paryavaran Bhavan, Jor Bagh Road, Aliganj, New Delhi-110003 for information.
2. **Additional Chief Secretary**, Forests & Environment Dept., Government of Odisha for information.
3. **Member Secretary**, State Pollution Control Board, Odisha, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-8, Bhubaneswar for information.
4. **Additional Principal Conservator** of Forests, Regional Office (EZ), Ministry of Environment & Forests, A-31, Chandrasekharapur, Bhubaneswar for information.
5. **Member Secretary**, CGWA, 18/11, Jamnagar House, ManSingh Road, New Delhi-110011 for information.
6. **Collector, District Magistrate**, Keonjhar, for kind information and necessary action.
7. **Secretary**, SEAC, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar for kind information.
8. Guard file for record.


Member Secretary