

दि उड़ीसा मिनरलस् डेवलपमेंट कंपनी लिमिटेड
(भारत सरकार का उद्यम)



THE ORISSA MINERALS DEVELOPMENT CO. LTD.
(A Government of India Enterprise)

दि उड़ीसा ମିନେରାଲ୍‌ସ୍ ଡେଭେଲପମେଣ୍ଟ କମ୍ପାନି ଲିମିଟେଡ୍
(ଭାରତ ସରକାରଙ୍କ ସଂସ୍ଥା)

Ref.:NSE, BSE, CSE/OMDC/CS/07-2023/01
Dated: 14.07.2023

To, The Compliance Department National Stock Exchange of India Limited Exchange Plaza, Plot No. C/1, Block —G, Bandrakurla Complex, Bandra (E), Mumbai - 400051 SCRIPT ORISSAMINE	To The Compliance Department Department of Corporate Services Bombay Stock Exchange Limited 1 st Floor, PhirozeJee, Jeebhoy Tower, Bombay Samachar Marg, Mumbai-400001 CODE: SCRIPT CODE: 590086	To The Secretary The Calcutta Stock Exchange 7, Lyons Range Kolkata-700001 SCRIPT CODE: 25058
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Dear Sir/Madam,

Sub.: Grant of Environmental Clearance (EC) for Bagiaburu Iron Ore mines of The Orissa Minerals Development Company Limited (OMDC)

Ministry of Environment, Forest and Climate Change (MoEF&CC), Govt. of India vide F No. 23-205/2018-IA.III (V) dated 14th July, 2023 has granted Environmental Clearance (EC) for Bagiaburu Iron Ore mines of OMDC for increase in Iron Ore production to 0.36 MTPA (ROM), OB/SB/IB: 0.11 MTPA (Total Excavation: 0.47 MTPA) in the mine lease area of 21.52 Ha located at Village Uliburu, Tehsil Barbil, District Keonjhar, Odisha. The communication dated 14th July, 2023 issued by MoEF & CC, Govt. of India is enclosed for reference.

You are requested to kindly take note of the above information on record.

Thanking You.

Yours faithfully,

For The Orissa Minerals Development Company Limited

S. Raja Babu
S. Raja Babu
Company Secretary

14/07/2023
एस. राजा बाबू-S. RAJA BABU
कंपनी सचिव-Company Secretary
दि उड़ीसा मिनरलस् डेवलपमेंट कंपनी लिमिटेड
The Orissa Minerals Development Company Limited
CIN:L51430OR1918GOI034390

मुख्य कार्यालय : प्लॉट नं - 271, ग्राउण्ड फ्लोर, विद्युत मार्ग, शास्त्री नगर, युनिट-4, भुवनेश्वर, उड़ीसा - 751001
मुख्य कार्यालय : प्लॉट नं - 271, ग्राउण्ड फ्लोर, विद्युत मार्ग, शास्त्री नगर, युनिट-4, भुवनेश्वर, ओडिशा - 751001
Head Office : Plot No - 271, Ground Floor, Bidyut Marg, Shastri Nagar, Unit - IV, Bhubaneswar, Odisha - 751001
Tel / Fax : 0674-2391595, 2391495, E-mail (ई-मेल) : info.birdgroup@nic.in, Website (वेबसाइट) : www.birdgroup.co.in
आप हमसे सहर्ष हिन्दी में भी पत्र व्यवहार कर सकते हैं। CIN No. : L51430OR1918GOI034390

F. No. 23-205/2018-IA.III(V)
Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

3rd Floor, Vayu Block
Indira Paryavaran Bhawan
Jor Bagh Road, Aliganj
New Delhi- 110 003.

Dated: 14th July, 2023

To

M/s The Orissa Minerals Development Company Limited,
Plot No: 271, Ground Floor,
Bidyut Marg, Shastri Nagar,
Unit - IV, Bhubaneswar-751001,
Odisha.

Subject: Baglaburu Iron Ore mine of M/s The Orissa Minerals Development Company Limited for increase in Iron Ore production to 0.36 MTPA (ROM), OB/SB/IB: 0.11 MTPA (Total Excavation: 0.47 MTPA) in the mine lease area of 21.52 ha, located at Village Uliburu, Tehsil Barbil, District Keonjhar, Odisha - Environmental Clearance (Violation under Ministry's Notification S.O 804 (E) dated 14.03.2017) - regarding.

Sir,

This has reference to the online proposal no. IA/OR/MIN/288942/2017 for grant of Environmental Clearance to M/s The Orissa Minerals Development Company Limited mining of Iron Ore in Baglaburu Iron Ore mine for increase in Iron Ore production to 0.36 MTPA (ROM), OB/SB/IB: 0.11 MTPA (Total Excavation: 0.47 MTPA) in the mine lease area of 21.52 ha, located at Village Uliburu, Tehsil Barbil, District Keonjhar, Odisha.

2. The details of the project as ascertained from the documents submitted by the Project Proponent and as revealed from the discussions held during the meeting are given as under:

- i. The mine lease area is located between Latitude 22°07'52.417"N to 22°08'20.973"N and Longitude: 85°23'02.099"E to 85°23'26.266" E. The mine lease area falls under the Survey of India Toposheet No: 73F/8 and falls in Seismic Zone-II.
- ii. The proposed project activity is listed at Schedule no. 1(a) Mining of Minerals and attracts the general conditions as the interstate boundary of Jharkhand-Odisha located at a distance of 1.70 km, N from the mine lease area and falls under Category "A" and appraised at the Central level.
- iii. As decided by the Competent Authority, considering tenure of EAC (Violation) till June 2021, it has been decided that, henceforth all the EC applications for which ToR was recommended by the EAC (Violation) shall be appraised by the sectoral EACs. The respective sectors may consider co-opting two-three members from EAC (Violation) to facilitate appraisal of proposals related to violations.
- iv. The proposal was earlier considered in the 3rd EAC (Non-Coal Mining) meeting held on 5th September, 2022 wherein the EAC after detailed deliberations

deferred the proposal. Then, the Project Proponent submitted the information on 06.02.2023 in Parivesh portal and accordingly the proposal was reconsidered in the 11th EAC (Non-Coal Mining) held during 1-2 March, 2023.

v. The project was granted Terms of Reference (ToR) by the Ministry vide its Lr No. F. No. 23- 205/2018-IA.III (V) dated 09.03.2020 based on recommendation of EAC(V) in its meeting held during 25-26, June 2019.

vi. Details of Mine lease:

- The Project Proponent submitted that the initially Bagiaburu mine lease was executed in favour of M/s OMDL Ltd on 11.10.1971 for a period of 9 years with effect from 11.10.1971 to 30.09.1980.
- Then, 1st renewal of mining lease was made on 01.10.1980 with effect from 01.10.1980 to 30.09.1990 which is a deemed renewal.
- 2nd renewal of mining lease (RML) was executed on 29.04.2000 for a period of 20 years with effect from 01.10.1990 to 30.09.2010.
- 3rd renewal of mining lease was applied on 10.08.2009 for a period of 20 years w.e.f 01.10.2010 to 30.09.2030 as per rule 3 92) of Mining Rules 2015.
- Project Proponent submitted that Steel & Mines Department, Govt. of Odisha vide Lr No.III(A)SM-07/20131266/SM, Bhubaneswar, dated 06.02.2020 *inter-alia* mentioned that "the above lease is deemed to be granted for a period of 50 years from 11.10.1971 to 20.10.2021 subject to execution of supplementary lease deed for the balance period within a period of three months from the date of issue of this order subject to availability of the requisite forest clearance. Supplementary lease deed was executed on 07.10.2021 for the period 11.10.1971 to 10.10.2021.
- Further, Project Proponent submitted that the Govt., Odisha vide order no. III(A)SM07/20139(pt)/10423/SM, Bhubaneswar dated 07.12.2021 have extended the validity of mining lease for another period of 20 years from 11.10.2021 to 10.10.2041 and Supplementary Lease Deed was executed on 06.07.2022 for the period from 11.10.2021 to 10.10.2041.

vii. Land Use/Land Cover of the Mine Lease Area:

Forest land	21.52 ha
Total Mining lease area (MLA)	21.52 ha

viii. Details of Mining Plan:

Modification of Mining Plan including Progressive Mine Closure Plan approved by Indian Bureau of Mines	Letter No. Date Mineral Mine lease area Validity	RMP/A/06/OR/BHU/2021-22 22.07.2021 Iron Ore 21.52 ha Validity of this document shall expire on 10.10.2021 and further validity of this document is subject to the decision of the State Government on extension of mining lease as communicated vide Director of Mines letter No. MXII(d)01/2019/5292/DM dated 15.07.2021.
Mining Parameters	Quantitative Description	
Method of Mining	Opencast mechanized mining	
Total Geological Reserves	49,41,794 MT	

Mineable Reserves	37,92,932 MT
Life of mine	Proposed production in plan period is 18,00,000 MT. Remaining reserve within lease area will be 37,92,932MT - 18,00,000MT = 19,92,932 MT. Considering the production of iron ore @ 3,60,000 MT per annum, Life of the mine will be $19,92,932/3,60,000 = 5.54$ years say 6 years. Therefore, the life of the mines is 11 yrs including 5 yrs of planned period + 6 yrs. of conceptual period. (Note: Life of mines may change depending upon the results of proposed exploration in future).
Bench Height	6 m
Bench Width	9m or more than the height of the bench
Individual bench slope	75° - 85°
Overall pit slope	45°
Drilling/Blasting	The benches having 6 m height will be drilled for blast holes by 115mm dia DTH drills fed by compressed air at 12.5 cum/min at 14.5 kgf/sq.cm pressure. Explosive will be used of Class II booster and Column charge with accessories like OD, ED/ Nonel, Excel, Safety Fuse and Detonating cord. Storage of explosive will be at magazine having license no. E/EC/OR/22/26/E/12708 with in Thakurani lease of M/s OMDCLtd.
Crushing/Screening	Project Proponent submitted that during the plan period, dry crushing & screening process will be adopted in the mine lease area for production of sized ore. PP proposes to install 270 TPH crushing and screening unit for processing of ROM Lumps and fines will be dispatched through trucks after weighing as per the demand of the consuming industries. Due to dry processing there will be no generation of tailings.
RoM output size	Project Proponent reported that the various finished products of the screening and crushing units are 0-10mm, 10-40mm, + 5-18mm and 0-5mm.
Transportation details	Project Proponent submitted that the Ore will be transported from quarry site to screen and crushing site for processing by 20 Tonne dumpers and waste materials will be dispatched from quarry to dumping site by using same capacity dumpers. The sized materials was loaded mechanically and transported further by the trucks to the steel and sponge iron plants mostly located in the State.
Waste	<p>Project Proponent reported that due to earlier mining operation three waste dump has been created covering an area of 1.407Ha.</p> <p>During this plan period, a total of 1,35,865 cu.m of waste will be generated. Out of this, 10% i.e. 13,586.50cu.m will be utilized for road maintenance and balance 1,22,278.50 cu.m will be disposed over the existing dump in two terraces with an average height of 10m for each terrace. An additional area of 1.00 Ha. will be required for disposal of waste during the plan period.</p> <p>During conceptual period, 1,40,240 cu.m wastes will be generated. Out of which about 10% i.e. 14,024 cum will be utilized for road maintenance. Balance 1,26,216 cum will be</p>

Mineral Rejects	<p>utilized for back filling of mined out land. During conceptual period, back-filling will be done at southern part of the lease.</p> <p>Project Proponent reported that during ensuing plan period, a total of 5,72,725MT of Mineral reject will be generated. The generated Mineral reject during the Plan period will be temporarily stacked at earmarked site and blended with high grade iron ore and sold to the consumers as per requirement.</p> <p>Beyond plan period mineral reject i.e. 45-58% Fe will be generated. These mineral reject will be sold to the market by blending with high grade iron ore. The mineral reject generated will be stored for a short period as per requirement. However, temporary mineral reject stack yard has been proposed during planned as well as beyond planned period.</p>
Intersection of Groundwater table	<p>Project Proponent reported that the water table exists at a depth of 10m (455 MSL) in rainy season & at 15m (450 MSL) MSL in dry season from general surface level (465 MSL). There is no possibility of interception of groundwater table in present plan period.</p>
Additional information (if any)	<p>The Project Proponent has submitted that the total specific diesel consumption is 785 litres/ day. On conversion it comes to 0.654 litres/ tonne. Year-wise target for reduction is 2% on annual basis. PP also submitted that electric power driven combined mobile crusher/ screening plant will be installed.</p> <p>Further, PP submitted that the use of Solar energy will be promoted and Solar Photo Voltaic (SPV) installation on Rooftop of various buildings/ sheds will be carried out preferably on shadow free area in such a way that the generation is maximized on each building Rooftop suitable for installation of Solar PV power plants. In first three years, PP will be starting Solar Photo Voltaic (SPV) in mine's office, approach road, streetlight, mineral storage yard, face working and residential quarters etc. From the fourth year onwards, solar energy use for other mining purposes will be explored in consultation with various Govt. Departments.</p>

ix. Water requirement:

Total water requirement	50.0 KLD	Particulars	Requirement	Source
		Mining operations including dust suppression and plantation	40.0 KLD	Nalada pond of M/s OMDC
		Domestic Use	10.0 KLD	Bore well
Permission	Project Proponent submitted the No Objection Certificate (NOC) obtained from Central Ground Water Authority (CGWA) vide CGWA/NOC/MIN/ORIG/2020/8658 dated 21.09.2020 for Groundwater Abstraction of 10.0 m ³ /day for the period upto 20.09.2022.			
Additional information (if any)	The Project Proponent has submitted the flow chart of water balance for monsoon and non-monsoon period and PP			

submitted that the peak fresh water demand for non-monsoon period observed as 50.0 KLD and for monsoon period observed as 10.0 KLD. PP also submitted the water consumption during the operation period from the year 1993-94 to 2010-11.

x. Nearest village/town/highway/railway station/water bodies/monument/mines/Industries

Particulars	Particular's Name	Distance & Direction
Nearest Village	Barbil	0.94 km, S
	Belkundi	1.44 km, E
Highway	SH-10B	0.64 km, ESE
	SH-4	2.80 km, N
Water bodies	Karo River	2.69 km, W
	Bolani Reservoir	4.53 km, SW
<p>The Project Proponent has submitted that no mining activity is proposed in and around the nala. 50m safety zone on each side of seasonal nala will be left. It will be ensured that there shall be no obstacle in water flow due to mining activity.</p> <p>There is no movement proposed from north quarry to south quarry. Two weighbridges are proposed for north & south quarry separately. Parapet wall/ safety wall will be constructed. It will also be ensured that no contamination will occur due to mining process in the flowing water of nala as there is 50m Safety zone on both sides of nala. Water monitoring on regular basis will be done to ensure no contamination. Further, PP submitted the map of the nala showing the safety zone.</p>		

xi. Presence of Environmentally Sensitive areas in the study area

Forest Land/Protected Area/Environmental Sensitivity Zone	Yes/No	Details of Certificate/ Letter/Remarks
Forest Land	Yes	<p>The entire mine lease area of 21.52 ha is forest land.</p> <p>Project Proponent submitted that the Stage-II FC was granted by the Ministry vide letter no 8-236/96-FC dated 26.02.1998 over an area of 17.083 ha for a period of 20 years co-terminus with ML under MMDR Act 1957 and with effect from the date of expiry of previous lease.</p> <p>PP also submitted that Stage - I FC was granted by the Ministry vide letter No-5-ORC164/2013-BHU dated 21.11.2013 and Stage-II Forest Clearance was granted by MoEF&CC, Integrated Regional Office, Bhubaneswar vide order no. 5-ORC164/2013-BHU dated 17.09.2021 for diversion of 21.52</p>

		ha of forest land in Uliburu Reserve Forest (including 2.107 ha for safety zone) for iron ore mining in Bagiaburu Iron Ore mines by M/s Orissa Minerals Development Company Limited.
National Park	No	The Project Proponent has submitted the letter from the Office of the Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Odisha vide Lr No. 1179/CWLW-FDWC-FD-0154-2021 Bhubaneswar dated 02.02.2023 stating that the Karo-Karampada Elephant Corridor passes at a distance of 6.20 kms from the outer boundary of mining lease area. This corridor which has been identified in the past will be notified once the matter of elephant corridors is decided upon by the Hon'ble High Court of Orissa which is already in session of such matter in WP (PIL) No. 14706/2022. However, pending decision of the Hon'ble High Court, the measures to address the elephant issues are already incorporated in the revised SSWLCP approved by letter no 1138 dated 01.02.2023.
Wildlife Sanctuary	No	
Biosphere Reserves	No	
Wildlife corridors	No	
Tiger/Elephant reserves	No	
Schedule-I species	Yes	Elephant & Sloth Bear
Wildlife Conservation Plan		Project Proponent submitted the site-specific Wildlife conservation plan approved from the Office of Principal Chief Conservator of Forests (Wildlife) and Chief Wildlife Warden, Orissa vide memo no. 854/1WL(C)SSP282/2010 dated 05.02.2011 with financial forecast of Rs 52.0 Lakhs. The Project Proponent has submitted the letter from the Office of the Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Odisha vide Lr No. 1138/ CWLW-FDWC-FD-0154-2021 Bhubaneswar dated 01.02.2023 for approval of Site Specific Wildlife Conservation Plan at financial outlay of Rs 91.80 Lakhs for a period of 5 years.

- xii. The Project Proponent submitted that an area of 7.274 Ha i.e. more than 33% will be developed as green belt area till the conceptual stage. Additionally, 1.28 Ha backfilled area will also be planted. At ultimate life, a total area of 21.11 Ha will be under plantation and 0.41 Ha will be left for public use. Survival rate in the area will be maintained at not less than 90%. PP reported that during the plan period an area of 1.70 ha will be developed under plantation by planting 1,700 no. of saplings. PP earmarked a budget of Rs. 7.50 Lakhs as Capital cost and Rs. 3.50 Lakhs as recurring cost towards development of greenbelt.

xiii. Baseline Details:

The primary baseline data for specific micro-meteorology data, ambient air quality, waste quality, noise level, soil and flora & fauna has been collected during Post Monsoon i.e., October to December, 2019. The Monitoring results of ambient air, surface water, soil, ambient noise and ground water have been

reported and no major divergence was observed with respect to concentration values of various parameters of collected samples.

Period	October to December, 2019				
AAQ parameters at 7 locations	Pollutant	Min, $\mu\text{g}/\text{m}^3$	Max, $\mu\text{g}/\text{m}^3$	98 %ile, $\mu\text{g}/\text{m}^3$	Standard, $\mu\text{g}/\text{m}^3$
	PM10	48.99	77.00	75.71	100
	PM2.5	27.13	53.23	52.32	60
	SO2	6.02	10.58	10.36	80
	NOx	11.80	22.89	22.03	80
AAQ modeling	Pollutant	Baseline Concentration, $\mu\text{g}/\text{m}^3$	Incremental Concentration, $\mu\text{g}/\text{m}^3$	Total GLC, $\mu\text{g}/\text{m}^3$	Standard
	PM10	68.26	4.52	72.78	100
	PM2.5	42.71	3.8	46.01	60
	SO2	9.82	2.77	12.59	80
	NOx	17.70	5.03	22.73	80
Noise level at 7 locations	Day Time: 47.7 to 54.5 Leq dB (A) Night Time: 39.0 to 53.4 Leq dB (A)				
Ground water quality at 5 locations	Project Proponent reported that the pH of the ground water samples ranged from 5.52 to 6.53, which is between the acceptable pH limit for drinking water. Fluoride Concentration is in range of 0.3 to 0.5 mg/l, which is under permissible limit. The concentration of Total Dissolved Solids (TDS) & Total hardness observed in different ground water samples are in range of permissible category stipulated by Bureau of Indian standards. From the above data it is observed that all parameters are within permissible limit of drinking water standard.				
Surface water quality at 2 locations	PP reported that the BOD value ranged from 1.3 to 1.5 which indicate very low organic pollution load. All samples have BOD values are within prescribed limit (<30.0 mg/l as in IS 10500:2012). Chemical Oxygen Demand (COD) observed <5 which indicates low level of organic pollution load in term of COD.				
Soil quality at 7 locations	PP reported that the pH values of the collected samples were in the range of 6.62 to 7.86, organic matter in the range of 0.56 (%) to 0.87(%), water holding capacity in the range of 18.1 to 30.4 %, potassium in the range of 0.003% to 0.007%, total nitrogen in the range of 0.002 to 0.005%, bulk density in the range of 1.08 to 1.14 gm/cc. These all parameter indicates that the soil is not so fertile in this area.				
Traffic Survey	PP reported that the total Iron ore handling in the mine will be max. 3,60,000 TPA based on 300 working days per annum. Only 10 trips hourly vehicle traffic will be increased due to expansion with tipper capacity@10t or 6-7 trips @ 18t capacity.				
Revalidation Baseline data	of The Project Proponent has submitted that fresh baseline data for one month has been carried out during October, 2022. The Ambient Air quality monitored at 7 locations, noise level at 7 locations, surface water quality at 2 locations, ground water quality at 5 locations and soil quality at 7 locations.				

xiv. Public Hearing (PH) Details:

Advertisement for PH with date | The New Sunday Express and The Dharitri on

	27.03.2021 The New Sunday Express and The Dhantri on 19.06.2022
Date of PH	04.05.2021 (Postponed) 21.07.2022 (Reschedule of Public hearing)
Venue	11.00 AM in Barbil Village (U.No. 7, Khata No.483, Plot No. 1343/1772, KISSAM-GHARABARI-II, Area-Ac.440) of Keonjhar District
Chaired by	Sri Jadumani Mahala, IAS (SAG), Additional District Magistrate (Revenue), Keonjhar
Main issues raised during PH	Education, Employment, Compensatory afforestation, protection of waterbodies such as river & nallahs, control of pollution, water sprinkling for dust suppression, monitoring the condition of road, Generation of Dust during drilling, blasting and transportation, better facilities for OMDC hospital, supply of clean drinking water, ambulance facility
Budget proposed for addressing issues raised during PH	Capital Cost: Rs.22.0 Lakhs Recurring Cost: Rs 7.50 Lakhs
Additional information (if any)	The Project Proponent has submitted that wide advertisement as per EIA Notification, 2006 was done by SPCB, Govt. of Odisha for carrying out public hearing. The details are as here under: <ul style="list-style-type: none"> i. Advertisement was published in one national daily newspaper i.e., The New Sunday Express and one local daily Odiya newspaper "The Dhantri" on 19th June 2022. ii. Details were displayed on SPCB, Govt. of Odisha website with project information and also displayed at Local Panchayat Offices, Tahasil Office and Municipality office. iii. Two days before the date of public hearing, wide advertisement through vehicle duly fitted with loudspeakers and banners in local language was carried out and this has been done including border areas. PP also submitted the photographs for the same & list of participation in public hearing. iv. Most of the representatives were from State of Odisha in the public hearing.

xv. Details of Past production:

Particulars	Letter no. and date
Certified past production	The Project Proponent submitted the past production details certified by Deputy Director of Mines, Joda Circle vide Memo no. 496/Mines dated 22.02.2019 for the period 1992 to 2017-18. As per the past production details submitted by the PP, it was observed that the PP started the mining

operation from 1992-93 onwards and carried out till 2010-11 and increased the production beyond the base year 1992-93 without obtaining prior environmental clearance and the mine is closed since 2010-11.

PP reported that the DDM, Joda has raised the demand notice vide no. 4088/Mines dated 02.09.2017 for an amount of Rs. 19,68,86,066/- (Rupees Nineteen Crore Sixty Eight Lakhs Thousand Sixty Seven Only) towards compensation under Section 21(5) MMDR Act, 1957 for production without/in excess of the EC as rationalize the GEC, in pursuance to the judgment dated 02.08.2017 of Hon'ble Supreme Court in the matter of W.P. (C) No. 114/14 Common Cause Vs UOI and others. PP submitted that the demand has been revised to Rs. 10,20,23,549 (Rupees Ten Crore Twenty Lakh Twenty Three Thousand Five Hundred Forty Nine only) by the Office of the Deputy Director of Miner, Joda Circle vide letter no.6098 dated 13.12.2017. PP submitted that the Payment of Rs. 35,95,337 (Rupees Thirty Five lakhs Ninty Five Thousand Three Hundred Thirty Seven) made vide e-challan reference Id: 27DE0E010C and no.8443/237-30/12/2017.

PP submitted that the Steel and Mines Department, Government of Odisha vide letter no. 2614/SM dated 05.04.2018 issued a notice to pay the remaining amount along with the interest. Payment of Rs. 23,07,83,836/- made towards production without in excess of the EC. Accordingly, PP made a payment of Rs. 5,85,63,282/- (e-challan reference Id: 2A2B640CDA and no.8443/984-17/11/2018), Rs. 9,00,00,000/- (e-challan reference Id: 2A2B640D0B and no.8443/986-17/11/2018), Rs. 8,22,20,554/- (echallan reference Id: 2A2B640142 and no. 8443/987-17/11/2018) (Total Rs. 5,85,63,232 + 9,00,00,000 + 8,22,20,554 = 23,07,83,836/-).

PP further submitted that the Office of the Deputy Director of Mines, Joda Circle vide letter no.5262 dated 23.10.2017 demanded to pay sum of Rs. 7,22,791/- (Rupee's Seven Lakhs Twenty Two Thousand Seven Hundred Ninety One Only) towards compensation under Section 21(5) of MMDR Act, 1957 for production without/in excess of the mining plan & CTO as rationalized by the CEC, in pursuance to the judgment dated 02.08.2017 of Hon'ble Supreme Court in the matter of W.P. (C) No. 114/14 Common Cause vs.

	<p>UOI and others. PP submitted that Payment of Rs 7,22,791/- made vide e-challan reference id: 2C44A2F4E5 and no.8443/1228-31/01/2019 and Payment of Rs 1,73,707.00 towards interest payment vide e-challan reference id: 2C4ED6C43E and no 8443/30-05/03/2019.</p> <p>The Project Proponent vide email dated 01.03.2023 submitted the letter issued by the State Govt vide Lr.No. 7856/IV(AB) SM-61/2018/SM, Bhubaneswar dated 17.10.2019 stating that M/s OMDC has fully paid along with interest in respect of Baglaburu mining lease for violation of EC/FC and MP/CTO.</p>
Compliance of the NEERI conditions	The Project Proponent has submitted that the compliance of the conditions laid down by CSIR-NEERI has been revised with time bound action plan.

xvi. Ecological Damage Assessment, Natural Resource Augmentation Plan and Community Resource Augmentation Plan

The Project Proponent has submitted the historical imagery during the pre-mining operation during the year 2010 and the status during the year 2020 showing the existing plantation, waste dump and mine road. The Project Proponent has submitted the revised damage assessment as follows. The Project Proponent has submitted that the calculation of the environmental prices of air emissions i.e. PM10, PM2.5, NOx and SO2 as part of direct or indirect damages caused due to production without valid EC, in-line with the following methods: (i) Mechanism developed by CPCB for assessment of damage to the air quality, public health and agriculture production loss dated 19.02.2020" and (ii) "Environmental Prices Handbook EU28 version" Methods and numbers for valuation of environmental impacts, Bruym, S.T. et. al, 2018, Delft, CE Delft. The Project Proponent has submitted that the revised damage assessment of water resources has been done referring to Ministry of Jal Shakti, (Central Ground Water Authority) Notification S.O 3289 (E) dated 24th September 2020 for computing the damage occurred during operation period from the year 1993-94 to 2010-11. Non provision of surface water structures including toe wall/garland drains for dumps and quarry and their total cost saved has been calculated as Rs.4.3 lakhs approx. PP has submitted that they have built embankment on Dalki Nala to arrest silt, developed Drinking water supply system, community pond, and development of dug wells around the Mining lease area. The Project Proponent has submitted that about 10% of the financial amount has been demarcated for violation period on account of no measures taken for conservation of wildlife during violation (1993-94 to 2010), for damage/ remediation. The Project Proponent has submitted that when compared with the Noise pollution (Regulation & Control) Rules, 2000, noise levels indicated well within the norms as prescribed by WHO for 'Residential area' for all of the monitoring locations during the violation period with maximum excess production. PP also submitted that as no permanent structure exists within 300m from working faces of the mine, there is no significant damage from vibration. Mitigation measures to be adopted as per remediation plan to compensate the violation. A total of Rs.

42,54,786/- is assigned towards the economic benefit derived due to excess production.

A. Remediation Plan & Budgetary Provisions:

S. No	Particulars	Remediation Budget (INR)			Remediation budget
		1 st year	2 nd year	3 rd year	
1	Land Environment (Water sprinkling)	9,00,000	9,00,000	9,00,000	Rs 27,00,000
2	Air Environment (Air Monitoring)	40,000	30,000	30,000	Rs 1,00,000
	Plantation	1,50,000	1,50,000	1,50,000	Rs 4,50,000
3	Water Environment (Rainwater Harvesting (2) at sites)	2,00,000	2,00,000	2,00,000	Rs 6,00,000
	Construction of septic tank & soak pit	4,00,000	3,00,000	3,00,000	10,00,000
4	Noise Environment (Noise monitoring & earbuds/ earplugs for workers safety)	50,000	50,000	50,000	1,50,000
5	Biological Environment (Flora - Plantation (1.0 lakh already done and balance 7.5 lakhs to be done) and green belt development in inside premises)	2,50,000	2,50,000	2,50,000	8,50,000
	Fauna - Conservation of schedule-I species in the study area)	4,00,000	3,50,000	3,00,000	10,50,000
6	Socio-economic Environment (Solar Lights etc.)	2,00,000	2,00,000	2,00,000	Rs 6,00,000
Total					Rs 75,00,000

B. Natural Resource Augmentation Plan:

S. No	Activity	Year-wise budget (INR)			Total Budget (INR)
		1 st year	2 nd year	3 rd year	
1	Avenue Plantation (200 m) - 30 plants on each side of the road	2,00,000	2,00,000	2,00,000	6,00,000
2	Maintenance of Avenue Plantation	50,000	50,000	50,000	1,50,000
3	Installation of Rainwater harvesting at 3 nearby Govt. Schools of Keonjhar District	5,00,000	5,00,000	5,00,000	15,00,000
4	Recharge pond (40 x 30 feet = 1,00,000 each)	6,00,000	6,00,000	6,00,000	18,00,000

	Total	Rs 40,50,000
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C. Community Resource Augmentation Plan:

S. No	Activity	Year-wise budget (INR)			Total Budget (INR)
		1 st year	2 nd year	3 rd year	
1	RO with water cooler at 5 Govt. Schools	1,50,000	1,50,000	1,50,000	4,50,000
2	6 Computer in 5 Govt. School each year	3,00,000	3,00,000	3,00,000	9,00,000
3	Plantation at public parks in nearby areas	1,50,000	1,50,000	1,50,000	4,50,000
4	Goat farming promotion and financial assistance to locals	2,00,000	2,00,000	2,00,000	6,00,000
5	Poultry farming promotion and financial assistance to locals	3,00,000	3,00,000	1,75,905	7,75,905
6	Mushroom farming	2,00,000	2,00,000	2,00,000	6,00,000
7	Sewing machine distribution to local female for financial stability & income generation	4,00,000	4,00,000	4,00,000	12,00,000
Total					Rs 49,75,905

D. Total budget for Remediation, Natural & Community Resource Augmentation Plan

S. No	Particulars	Proposed Budget (INR)
1	Remediation Plan	Rs 75,00,000
2	Natural Resource Augmentation Plan	Rs 40,50,000
3	Community Resource Augmentation Plan	Rs 49,75,905
Total		Rs 1,65,25,905

xvii. Rehabilitation & Resettlement

R & R details	Project Proponent submitted that this is an existing mine, operative since 1971 as such no displacement of people is envisaged. Hence, R & R plan is not applicable.
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xviii. Court case details:

Court Case	The Project Proponent submitted that the State Govt. filed a case in the JMFC Court, Barbil, Odisha vide case no. 115/2013 dated 30/07/2013 at JMFC, Barbil U/s 15 of the Environment (Protection) Act, 1986. The Project Proponent has submitted that at present court
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	<p>case is pending at JMFC, Barbil, since 2013. State Govt. of Odisha has initiated the case but not taking necessary steps for hearing. M/s OMDC is taking steps to file a petition before Hon'ble High Court, Odisha to dismiss the matter in favour of PP.</p> <p>The Project Proponent vide email and letter dated 01.03.2023 submitted an undertaking stating that (i) M/s The Orissa Minerals Development Company Limited does not have any demand notice pending for payment in the matter of Common cause versus Union of India and Ors. vide Writ Petition (Civil) No. 114 of 2014. All the demand notices served by Directorate of Mines, Govt. of Odisha have been paid and (ii). There is no litigation pending against the project and/or land in which the project is existing except the case filed by State Govt. in the JMFC Court, Barbil, Odisha vide case no: 115/2013 dated 30.07.2013 u/s 15 of the Environment (Protection) Act, 1986.</p>
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xix. Affidavit/Undertaking details:

<p>Affidavit as per Ministry's OM dated 30.05.2018</p>	<p>Project Proponent submitted an Affidavit in a non-judicial stamp paper of Rs 100 bearing no M 628233 dated 30.07.2022 stating that the M/s The Orissa Minerals Development Company Limited shall comply with all the statutory requirements & judgment of Hon'ble Supreme Court dated 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of common cause versus Union of India & Ors before grant of Environmental Clearance.</p>
<p>Project Proponent submitted an undertaking dated 17.08.2022</p>	<p>I hereby give undertaking that the data and information given in the application and enclosures are true to be best of my knowledge and belief. And I am aware that if any part of the data and information found to be false or misleading at any stage, the project will be rejected and clearance given, if any to the project will be revoked at our risk and cost. In addition to above, I hereby give undertaking that no activity/ construction/ expansion has since been taken up.</p>

xx. Details of the EMP:

S. No	Particulars	Capital Cost (Proposed in Rs Lakhs)	Recurring Cost (Proposed in Rs Lakhs)
1	Pollution Control & Conservation of Natural Resources (Garland Drain, Water sprinkler, Septic tank, Rainwater Harvesting Structure)	12.5	2.0
2	Pollution Monitoring for Air, Soil, Water &	7.0	1.5

Noise (Total 7 locations including mine)			
3	Occupational Health & Safety	3.0	1.5
4	Green Belt Development	7.5	3.5
5	Miscellaneous (Fencing, protection, regeneration, and maintenance of safety zone)	5.0	1.5
		35.0	10.0

xxi. Details of project cost and employment:

Particulars	(Rs. In Crore)
Total cost of EMP (Capital Cost of EMP + capital cost of Public hearing)	0.35 + 0.22
Project Cost	Rs 11.0
Employment	142 persons

3. Observation and Recommendation of the Committee: -

The EAC noted that the instant proposal is for reconsideration of Environmental Clearance (EC) under violation window of Ministry's Notification S.O 804 (E) dated 14.03.2017. The EAC deliberated on the additional details submitted by the Project Proponent and the Consultant.

The Project Proponent informed the EAC that the damage assessment for the air pollutant has been revised by considering the mechanism developed by CPCB and Environmental Prices Handbook EU28 version and the total amounts to Rs 84,59,335. Damage assessment of water resources has been revised referring to Central Ground Water Authority Notification S.O 3289 (E) dated 24th September 2020 for computing the damage occurred during operation period from the year 1993-94 to 2010-11 and the total amounts to Rs 4.3 lakhs approx. Further, the Project Proponent informed the EAC that the amount for Remediation Plan has been revised from Rs 30.0 Lakhs to Rs 75.0 Lakhs, Natural Resources Augmentation Plan revised from Rs 7.50 Lakhs to 40.50 Lakhs, Community Resources Augmentation Plan revised from Rs 6.0 Lakhs to Rs 49.75 Lakhs and the total amount revised from Rs 44.50 Lakhs to Rs 165.25 Lakhs. The Project Proponent informed the EAC that the no mining activity is proposed in and around the nala 50m safety zone on each side of seasonal nala will be left. Site Specific Wildlife Conservation Plan was approved by the Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Odisha vide letter dated 01.02.2023 at financial outlay of Rs 91.80 Lakhs for a period of 5 years.

The Project Proponent informed the EAC that the payment raised by the Directorate of Mines has been paid and one court case filed by State Govt in the JMFC Court, Barbil, Odisha vide case no. 115/2013 dated 30.07.2013 u/s 15 of the Environment (Protection) Act, 1986 is pending. The EAC asked the Project Proponent to submit the undertaking in this regard. The Project Proponent vide email and letter dated 01.03.2023 submitted an undertaking stating that (i) M/s The Orissa Minerals Development Company Limited does not have any demand notice pending for payment in the matter of Common cause versus Union of India and Ors. vide Writ Petition (Civil) No. 114 of 2014. All the demand notices served by Directorate of Mines, Govt. of Odisha have been paid and (ii) There is no litigation pending against the project and/or land in which the project is existing except the case filed by State Govt in the JMFC Court, Barbil, Odisha vide case no. 115/2013 dated 30.07.2013 u/s 15 of the Environment (Protection) Act, 1986. The Project Proponent also vide email dated

01.03.2023 submitted the letter issued by the State Govt vide Lr.No: 7856/IV(AB) SM-61/2018/SM, Bhubaneswar dated 17.10.2019 stating that M/s OMDC has fully paid along with interest in respect of Baglaburu mining lease for violation of EC/FC and MP/CTO.

After detailed deliberations made by the Project Proponent and the Consultant, the EAC in its EAC (Non-Coal Mining) meeting held during 1-2 March, 2023 recommended the proposal under the provisions of EIA Notification, 2006 and its subsequent amendments for grant of Environmental Clearance under the Ministry's Notification S.O 804 (E) dated 14.03.2017 to M/s The Orissa Minerals Development Company Limited for mining of Iron Ore in Baglaburu Iron Ore mine for increase in Iron Ore production to 0.36 MTPA (ROM), OB/SB/IB: 0.11 MTPA (Total Excavation: 0.47 MTPA) in the mine lease area of 21.52 ha, located at Village Uliburu, Tehsil Barbil, District Keonjhar, Odisha subject to the specific conditions in addition to the standard EC conditions applicable for non-coal mining projects.

4. The matter was examined in the EAC in accordance with the Environmental Impact Assessment Notification, 2006 and further amendments thereto and the undersigned is directed to say that the Ministry of Environment Forest & Climate Change after accepting the recommendation of EAC during its 11th EAC (Non-Coal Mining) meeting held during 1-2 March 2023 hereby accords Environmental Clearance (EC) under the Ministry's Notification S.O 804 (E) dated 14.03.2017 to M/s The Orissa Minerals Development Company Limited for mining of Iron Ore in Baglaburu Iron Ore mine for increase in Iron Ore production to 0.36 MTPA (ROM), OB/SB/IB: 0.11 MTPA (Total Excavation: 0.47 MTPA) in the mine lease area of 21.52 ha, located at Village Uliburu, Tehsil Barbil, District Keonjhar, Odisha subject to compliance of the terms & conditions and the environmental safeguards mentioned below:-

A. SPECIFIC CONDITIONS:

- i. This Environmental Clearance will be valid upto 11 years as the life of the mine is 11 years.
- ii. EAC recommended for an amount of Rs. 165.25/- Lakhs towards Remediation plan and Natural and Community Resource Augmentation plan to be spent within a span of three years. The details of Remediation plan, Natural resource Augmentation plan and Community Resource Augmentation plan with budgetary provisions are mentioned below:

Remediation Plan & Budgetary Provisions:

S. No	Particulars	Remediation Budget (INR)			Remediation budget
		1 st year	2 nd year	3 rd year	
1	Land Environment (Water sprinkling)	9,00,000	9,00,000	9,00,000	Rs 27,00,000
2	Air Environment (Air Monitoring)	40,000	30,000	30,000	Rs 1,00,000
	Plantation	1,50,000	1,50,000	1,50,000	Rs 4,50,000
3	Water Environment (Rainwater Harvesting (2) at sites)	2,00,000	2,00,000	2,00,000	Rs 6,00,000
	Construction of septic tank & soak pit	4,00,000	3,00,000	3,00,000	10,00,000
4	Noise Environment (Noise monitoring & earbuds/ earplugs for	50,000	50,000	50,000	1,50,000

	workers safety)				
5	Biological Environment (Flora - Plantation (1.0 lakh already done and balance 7.5 lakhs to be done) and green belt development in inside premises)	2,50,000	2,50,000	2,50,000	8,50,000
	Fauna - Conservation of schedule-I species in (the study area)	4,00,000	3,50,000	3,00,000	10,50,000
6	Socio-economic Environment (Solar Lights etc.)	2,00,000	2,00,000	2,00,000	Rs 6,00,000
Total					Rs 75,00,000

Natural Resource Augmentation Plan

S. No	Activity	Year-wise budget (INR)			Total Budget (INR)
		1 st year	2 nd year	3 rd year	
1	Avenue Plantation (200 m) - 30 plants on each side of the road	2,00,000	2,00,000	2,00,000	6,00,000
2	Maintenance of Avenue Plantation	50,000	50,000	50,000	1,50,000
3	Installation of Rainwater harvesting at 3 nearby Govt. Schools of Keonjhar District	5,00,000	5,00,000	5,00,000	15,00,000
4	Recharge pond (40 x 30 feet - 1,00,000 each)	6,00,000	6,00,000	6,00,000	18,00,000
Total					Rs 40,50,000

Community Resource Augmentation Plan:

S. No	Activity	Year-wise budget (INR)			Total Budget (INR)
		1 st year	2 nd year	3 rd year	
1	RO with water cooler at 5 Govt. Schools	1,50,000	1,50,000	1,50,000	4,50,000
2	6 Computer in 5 Govt. School each year	3,00,000	3,00,000	3,00,000	9,00,000
3	Plantation at public parks in nearby areas	1,50,000	1,50,000	1,50,000	4,50,000
4	Goat farming promotion and financial assistance to locals	2,00,000	2,00,000	2,00,000	6,00,000
5	Poultry farming promotion and financial assistance to locals	3,00,000	3,00,000	1,75,905	7,75,905
6	Mushroom farming	2,00,000	2,00,000	2,00,000	6,00,000
7	Sewing machine distribution to local female for financial stability & income generation	4,00,000	4,00,000	4,00,000	12,00,000

		Total	Rs 49,75,905
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Total budget for Remediation, Natural & Community Resource Augmentation Plan

S. No	Particulars	Proposed Budget (INR)
1	Remediation Plan	Rs 75,00,000
2	Natural Resource Augmentation Plan	Rs 40,50,000
3	Community Resource Augmentation Plan	Rs 49,75,905
	Total	Rs 1,65,25,905

- iii. Total budgetary provision with respect to Remediation plan and Natural & Community Resource Augmentation plan is Rs. 165.25/- Lakhs. Therefore, Project Proponent shall be required to submit a bank guarantee of an amount of Rs. 165.25/- Lakhs towards Remediation plan and Natural and Community Resource Augmentation plan with the SPCB prior to the grant of EC.
- iv. Remediation plan shall be completed in 3 years whereas bank guarantee shall be for 5 years. The bank guarantee will be released after successful implementation of the remediation plan and Natural and Community Resource Augmentation Plan, and after the recommendation by regional office of the Ministry, Expert Appraisal Committee and approval of the Regulatory Authority
- v. The Project Proponent needs to submit the action taken report on plantation, damage recovery, Natural Resource Augmentation Plan (NRAP), Community Resource Augmentation Plan (CRAP) annually to the Ministry's Integrated Regional Office which should be monitorable and verifiable. The period of addressing these issues is restricted to a period of 3 years.
- vi. The Environmental Clearance will not be operational till such time the Project Proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.
- vii. State Government concerned shall ensure that mining operation shall not commence 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 the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.
- viii. The natural water bodies and or streams which are flowing in and around the mine lease area should not be disturbed.
- ix. The Project Proponent shall strictly adhere to the timeline proposed in the compliance of recommendation of CSIR-NEERI Report on Carrying Capacity Study for Environmentally Sustainable Iron & Manganese Ore Mining Activity. The progress and the implementation of the same shall be submitted to the Ministry's Integrated Regional Office along with half yearly compliance report.
- x. The Project Proponent shall continue to monitor the air quality, noise level, water quality, water level and ground vibration during drilling and blasting at the edge of the mine, near the village, crusher and at other sensitive receptors and such collected data shall be submitted quarterly to the Ministry's Integrated Regional Office.

- xi. The Project Proponent should install the one Continuous Ambient Air Quality Monitoring Stations (CAAQMS) as per the scientific study and in consultation with CPCB/SPCB. The real time data so generated should be displayed digitally at entry and exit gate of mine lease area for public display and shall be linked to server of CPCB/SPCB.
- xii. The Project Proponent needs to use modern equipment's such as Camera Traps for ensuring presence and movement of wild animals in the study area in consultation with Wildlife Wing of Forest Department. Appropriate interventions shall be taken to minimise stress conditions for wild animals and to avoid Man-Animal conflict.
- xiii. The Project Proponent shall ensure that the low grade ore shall be effectively utilized. PP should also explore the possibility of utilizing the mineral rejects by blending.
- xiv. The Project Proponent shall take adequate measures to prevent the pilferage of mineral.
- xv. The Project Proponent should follow-up the status of implementation on Wildlife Conservation Plan from the Forest Officials and the same shall be submitted to the Ministry's Integrated Regional Office in the six monthly compliance report.
- xvi. The Project Proponent needs to install the permanent water sprinklers instead of water tankers along the haul road and the approach road. Further, 10 nos. of fog canon/mist sprayer of atleast 40 m throw shall be installed at various locations in the mine area. Effective dust suppression system shall also be adopted at other parts of the mining lease to arrest the fugitive dust emission.
- xvii. The Project Proponent shall carryout the blasting in such a way that the direction of the blasting should be perpendicular to the village and DGMS shall ensure the same.
- xviii. The Project Proponent shall explore the possibility of using atleast 20% of Electric vehicles/CNG/Solar instead of diesel operation within three years.
- xix. The air pollution control equipment's like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, and other areas prone to air pollution. PP shall take necessary measures to avoid generation of fugitive dust emissions. The dense plantation shall be carried out in the vicinity of the crusher. The Stack emission monitoring of the Crusher shall be carried out at periodic intervals.
- xx. The Project Proponent should adopt the proper mitigation measures as proposed under EMP with budgetary provision of Rs. 0.35 Crores. The adoption of mitigation measures and monitoring of the same as proposed in the EMP shall be done under the supervision of the qualified environmental personnel. The implementation status of the same shall be submitted to the Ministry's Integrated Regional Office.
- xxi. The Project Proponent should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground). A dedicated team to oversee environment management shall be setup at site which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis instead of engaging environment monitoring

laboratories/consultants. Any non-compliance or infringement should be reported to the concerned authority.

- xxii. The Project Proponent shall conduct third party audit of compliance of EC condition at an interval one year and its report shall be submitted to IRO, MoEF&CC.
- xxiii. The Project Proponent shall ensure the survival rate of 95% for planting the gap plantation and new plantation. The Project Proponent shall make the actual count on the saplings planted and its survival rate and in case of failure of achievement of 95% survival rate, action plan for achieving the target survival rate shall be submitted to the Ministry's Integrated Regional Office. Project proponent shall use saplings of 10 ft height for plantation. PP shall make provision for drip irrigation to conserve the water.
- xxiv. The budget of Rs. 22.0 Lakhs to address the concerns raised by the public in the public hearing to be completed within 3 years from the date of start of mining operations. PP shall comply with all action plans made for public hearing concerns and make regular maintenance and record the progressive activity outcomes. The Project proponent shall ensure that the activities proposed under the public hearing is different from the CSR activities.
- xxv. The Project Proponent needs to provide the RO drinking water supply and also by laying network of pipelines to the local people at free of cost.
- xxvi. The Project Proponent shall provide the rainwater harvesting structure at mine office and quarters to recharge the ground water.
- xxvii. The Project Proponent shall also organize employment-based apprenticeship/ internship training program every year with appropriate stipend for the youth and other programs to enhance the skill of the local people. The data should be maintained for the training imparted to the persons and the outcome of the training, for the assessment of the training program should be analyzed periodically and improved accordingly.
- xxviii. The Project Proponent should periodically monitor and maintain the health records of the mine workers digitally prior to mining operations, at the time of operation of mine and post mining operations. Regular surveillance shall be carried through regular occupational health check-up every year for mine workers. PP shall also organize medical camp for the benefit of the local people and also the monitor the health impacts due to mining activity.
- xxix. The mining lease holders shall, after ceasing mining operations, undertake regrassing 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. The implementation report of the above said condition shall be submitted to the Ministry's Integrated Regional Office.
- xxx. Approval/permission of the CGWA/SGWA shall be obtained before drawing ground water for the project activities, if applicable. State Pollution Control Board (SPCB) concerned shall not issue Consent to Operate (CTO) till the project proponent obtains such permission.
- xxxi. Project proponent shall take necessary other clearances/permissions under various Acts and Rules if any, from the respective authorities / department.

xxxii. If Elephant Corridors are notified as Protected Area under Wildlife (Protection) Act, 1972, the proposal that are connected with the corridors needs to be go through the Standing Committee of National Board for Wildlife (SCNBWL).

xxxiii. Project proponent needs to comply the court orders in WP (C) No. 14057/2023, 14706/2022 before Hon'ble High Court of Orissa and OA No. 129/2016/EZ & Executive application no.03/2022 before Hon'ble NGT, Case no. 115/2013 before Judicial Magistrate of First Class (JMFC) Court, Barbil, Orissa and any court of law.

B. Recommendation of CSIR-NEERI Report on "Carrying Capacity Study for Environmentally Sustainable Iron and Manganese Ore Mining Activity in Keonjhar, Sundargarh and Mayurbhanj districts of Odisha State: The Committee has also deliberated the various specific recommendations of carrying capacity study report conducted by CSIR-NEERI w.r.t. mining proposal of Iron Ore and/or manganese in the State of Odisha. There are recommendations which needs to be implemented by the State Govt. of Odisha and Project Proponent. Based on detailed deliberations on the recommendations of the carrying capacity study report, the Committee has also recommended the following specific conditions viz.

1. Project Proponent and Department of Steel & Mines, Govt. of Odisha shall ensure the implementation of recommendations of carrying capacity study report conducted by CSIR-NEERI w.r.t. mining proposal of Iron Ore and/or manganese in the State of Odisha.
2. Department of Steel & Mines, Govt. of Odisha should prepare 5 years regional plan for annual iron ore requirement from the state, which in turn shall be met from different mines/zones (e.g. Joda, Kaira.) in the state. Accordingly, sustainable annual production (SAP) for each zone/mine may be followed adopting necessary environmental protection measures.
3. Project Proponent shall construct the cement concrete road from mine entrance and exit to the main road with proper drainage system and green belt development along the roads and also construction of road with minimum 300 m inside the mine. This should be done within one year for existing mines and new mine should have since beginning. The Department of Steel & Mines, Govt. of Odisha should ensure the compliance and should not issue the Mining Permits, if mine lease holder, has not constructed proper cement concrete road as suggested. **This Environmental Clearance for the expansion project shall be operated only after the compliance of the above mentioned specific condition.**
4. The Committee observed that as per the recommendations of NEERI report the PP needs to do regular vacuum cleaning of all mineral carrying roads aiming at "zero dust re-suspension" within 3 months. **This Environmental Clearance for the expansion project shall be operated only after the compliance of the above mentioned specific condition.**
5. Project Proponent shall monitor the environmental quality parameters as per EC and CTE/CTO conditions, and implementation of suggested measures for control of road dust and air pollution. Odisha State Pollution Control Board has to ensure the compliance of CTE/CTO. Regional office of the MoEF&CC, Bhubaneswar shall monitor the compliance of the EC conditions. Regional office of the Indian Bureau of Mines (IBM) shall monitor the compliance of mining plan and progressive mine closure plan. Any violation by mine lease holder may invite actions per the provisions of applicable Acts.
6. Project Proponent shall ensure the compliance of Suggested Ore Transport Mode (SOTM) with association of the State Government of Odisha. All existing mines

- should ensure adoption of SOTM within next 5 years. New mines or mines seeking expansion should incorporate provision of SOTM in the beginning itself, and should have system in place within next 5 years.
7. The State Govt. of Odisha shall ensure dust free roads in mining areas wherever the road transportation of mineral is involved. The road shoulders shall be paved with fence besides compliance with IRC guidelines. All the roads should have proper drainage system and apart from paving of entire carriage width the remaining right of way should have native plantation (dust capturing species). Further, regular maintenance should also be ensured by the Govt. of Odisha. Progress on development of dust free roads, implementation of SOTM, increased use of existing rail network, development of additional railway network/conveyor belt/ pipelines etc. shall be submitted periodically to Regional office of the MoEF&CC.
 8. Project Proponent shall develop the parking plazas for trucks with proper basic amenities/ facilities inside the mine. This should be done within one year for existing mines and new mines should have since beginning. **This Environmental Clearance for the expansion project shall be operated only after the compliance of the above mentioned specific condition.**
 9. Department of Steel & Mines shall ensure the construction of NH 215 as minimum 4 lane road with proper drainage system and plantation and subsequent regular maintenance of the road as per IRC guidelines. Construction of other mineral carrying roads with proper width and drainage system along with road side plantation to be carried out. This shall be completed within 2 Years.
 10. Regular vacuum cleaning of all mineral carrying roads aiming at "Zero Dust Re-suspension" shall be adopted by PWD / NHAI/ Mine Lease Holders within a time Period of 3 months for existing roads. **This Environmental Clearance for the expansion project shall be operated only after the compliance of the above mentioned specific condition.**
 11. In case the total requirement of iron ore exceeds the suggested limit for that year, permission for annual production by an individual mine may be decided depending on approved EC capacity (for total actual dispatch) and actual production rate of individual mine during last year or any other criteria set by the State Govt., i.e. Dept. of Steel & Mines. Department of Steel and Mines in consultation with Indian Bureau of Mines RO should prepare in advance mine-wise annual production scenario so that demand for iron ore can be anticipated, and actual production/dispatch does not exceed the suggested annual production.
 12. R&D studies towards utilization of low-grade iron ore should be conducted through research/academic institutes like IMMT, Bhubaneswar, NML, Jamshedpur, and concerned metallurgical departments in IITs, NITs etc., targeting full utilization of low-grade iron ore (Fe content upto 45% by 2020 and upto 40% by 2025). In fact, life cycle assessment of whole process including environmental considerations should be done for techno-economic and environmental viability. R&D studies on utilization of mine wastewater having high concentration of Fe content for different commercial applications in industries such as cosmetics, pharmaceutical, paint industry should also be explored. Responsibility: IBM, Dept. of Steel & Mines, Individual Mine Lease Holders.
 13. The mining activity in Joda-Koira sector is expected to continue for another 100 years, therefore, it will be desirable to develop proper rail network in the region. Rail transport shall not only be pollution free mode but also will be much economical option for iron ore transport. The rail network and/or conveyor belt system upto public railway siding needs to be created. The total length of the conveyor belt system/ rail network to be developed from mines to nearest railway sidings by 11 mines in Joda region is estimated to be about 64 km. Similarly, in Koira region, total length of rail network/ conveyor system for 8 mines (under

SOTM 1 & 2) is estimated to be around 95 km. Further, it is suggested to develop a rail network connecting Banspani (Joda region) and Roxy railway sidings in Koira region. Responsibility: Dept. of Steel & Mines, Govt. of Odisha and Concerned Mines along with Indian Railways. Time Period: Maximum 7 years (by 2025). The Department of Steel & Mines, Govt. of Odisha should follow-up with the concerned Departments and railways so that proposed proper rail network is in place by 2025.

14. State Govt. of Odisha shall make all efforts to ensure exhausting all the Iron & manganese ore resources in the existing working mines and from disturbed mining leases/zones in Joda and Koira region. The criteria suggested shall be applicable while suggesting appropriate lease area and sustainable mining rate. Responsibility: Dept. of Steel & Mines, Govt. of Odisha.

15. **Mining Operations/Process Related:** Project Proponent shall implement the following mitigation measures: (i) Appropriate mining process and machinery (viz. right capacity, fuel efficient) should be selected to carry out various mining operations that generate minimal dust/air pollution, noise, wastewater and solid waste. e.g. drills should either be operated with dust extractors or equipped with water injection system. (ii) After commencement of mining operation, a study should be conducted to assess and quantify emission load generation (in terms of air pollution, noise, waste water and solid waste) from each of the mining activity (including transportation) on annual basis. Efforts should be made to further eliminate/ minimize generation of air pollution/dust, noise, wastewater, solid waste generation in successive years through use of better technology. This shall be ensured by the respective mine lease holders. (iii) Various machineries/equipment selected (viz. dumpers, excavators, crushers, screen plants etc.) and transport means should have optimum fuel/power consumption, and their fuel/power consumption should be recorded on monthly basis. Further, inspection and maintenance of all the machineries/ equipment/ transport vehicles should be followed as per manufacturer's instructions/ recommended time schedule and record should be maintained by the respective mine lease holders. (iv) Digital processing of the entire lease area using remote sensing technique should be carried out regularly once in 3 years for monitoring land use pattern and mining activity taken place. Further, the extent of pit area excavated should also be demarcated based on remote sensing analysis. This should be done by ORSAC (Odisha Space Applications Centre, Bhubaneswar) or an agency of national repute or if done by a private agency, the report shall be vetted/ authenticated by ORSAC, Bhubaneswar. Expenses towards the same shall be borne by the respective mine lease holders. Responsibility: Individual Mine Lease Holders.

16. **Air Environment Related:** Project Proponent shall implement the following mitigation measures: (i) Fugitive dust emissions from all the sources should be controlled regularly on daily basis. Water spraying arrangement on haul roads, loading and unloading and at other transfer points should be provided and properly maintained. Further, it will be desirable to use water fogging system to minimize water consumption. It should be ensured that the ambient air quality parameters conform to the norms prescribed by the CPCB in this regard. (ii) The core zone of mining activity should be monitored on daily basis. Minimum four ambient air quality monitoring stations should be established in the core zone for SPM, PM10, PM2.5, SO2, NOx and CO monitoring. Location of air quality monitoring stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board (based on Emission Load Assessment Study). The number of monitoring locations may be more for larger capacity mines and working in larger area. Out of four stations, one should be online monitoring

station in the mines having more than 3 MTPA EC Capacity. (iii) Monitoring in buffer zone should be carried out by SPCB or through NABET accredited agency. In addition, air quality parameters (SPM, PM10, PM2.5, SO2, NOx and CO) shall be regularly monitored at locations of nearest human habitation including schools and other public amenities located nearest to source of the dust generation as applicable. (iv) Emissions from vehicles as well as heavy machinery should be kept under control and regularly monitored. Measures should be taken for regular maintenance of vehicles used in mining operations and in transportation of mineral. (v) The vehicles shall be covered with a tarpaulin and should not be overloaded. Further, possibility of closed container trucks should be explored for direct to destination movement of iron ore. Air quality monitoring at one location should also be carried out along the transport route within the mine (periodically, near truck entry and exit gate). Responsibility: Individual Mine Lease Holders and SPCB.

17. Noise and Vibration Related: Project Proponent shall implement the following mitigation measures: (i) Blasting operation should be carried out only during daytime. Controlled blasting such as Nonel, should be practiced. The mitigation measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented. (ii) Appropriate 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. (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone. Further, date, time and distance of measurement should also be indicated with the noise levels in the report. The data should be used to map the noise generation from different activities and efforts should be made to maintain the noise levels with the acceptable limits of CPOB (CPCB, 2000). (iv) Similarly, vibration at various sensitive locations should be monitored atleast once in month, and mapped for any significant changes due to successive mining operations. Responsibility: Individual Mine Lease Holders.

18. Water/Wastewater Related: Project Proponent shall implement the following mitigation measures: (i) In general, the mining operations should be restricted to above ground water table and it should not intersect groundwater table. However, if enough resources are estimated below the ground water table, the same may be explored after conducting detailed geological studies by GSI and hydro-geological studies by CGWB or NIH or Institute of national repute, and ensuring that no damage to the land stability/ water aquifer system shall happen. The details/ outcome of such study may be reflected/incorporated in the EIA/EMP report of the mine appropriately. (ii) Natural watercourse and/or water resources should not be obstructed due to any mining operations. Regular monitoring of the flow rate of the springs and perennial nallas should be carried out and records should be maintained. Further, regular monitoring of water quality of nallas and river passing thorough the mine lease area (upstream and downstream locations) should be carried out on monthly basis. (iii) Regular monitoring of ground water level and its quality should be carried out within the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should be carried out on monthly basis. (iv) In order to optimize water requirement, suitable conservation measures to augment ground water resources in the area should be undertaken in consultation with Central Ground Water Board (CGWB). (v) Suitable rainwater harvesting measures on long term basis should be planned and implemented in consultation with CGWB, to recharge the ground water source. Further, CGWB can prepare a comprehensive plan for the whole region. (vi) Appropriate mitigation measures (viz. ETP, STP, garland drains, retaining walls, collection of runoff etc.) should be taken to prevent pollution of nearby river/other water bodies. Water quality

monitoring study should be conducted by State Pollution Control Board to ensure quality of surface and ground water sources on regular basis. The study can be conducted through NABL/ NABET approved water testing laboratory. However, the report should be vetted by SPCB. (vii) Industrial wastewater (workshop and wastewater from the mine) should be properly collected, treated in ETP so as to conform to the discharge standards applicable. (viii) Oil and grease trap should be installed before discharge of workshop effluents. Further, sewage treatment plant should be installed for the employees/colony, wherever applicable. (ix) Mine lease holder should ensure that no silt originating due to mining activity is transported in the surface water course or any other water body. Appropriate measures for prevention and control of soil erosion and management of silt should be undertaken. Quantity of silt/soil generated should be measured on regular basis for its better utilization. (x) Erosion from dumps site should be protected by providing geo-textile matting or other suitable material, and thick plantation of native trees and shrubs should be carried out at the dump slopes. Further, dumps should be protected by retaining walls. (xi) Trenches / garland drain should be constructed at the foot of dumps to arrest silt from being carried to water bodies. Adequate number of check dams should be constructed across seasonal/perennial nallas (if any) flowing through the mine lease areas and silt be arrested. De-silting at regular intervals should be carried out and quantity should be recorded for its better utilization, after proper soil quality analysis. (xii) The water so collected in the reservoir within the mine should be utilized for the sprinkling on hauls roads, green belt development etc. (xiii) There should be zero waste water discharge from the mine. Based on actual water withdrawal and consumption/ utilization in different activities, water balance diagram should be prepared on monthly basis, and efforts should be made to optimize consumption of water per ton of ore production in successive years. Responsibility: Individual Mine Lease Holders, SPCB and CGWB.

19. **Land/ Soil/ Overburden Related:** Project Proponent shall implement the following mitigation measures: (i) The top soil should temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long (not more than 3 years or as per provisions mentioned in the mine plan/ scheme). The topsoil should be used for land reclamation and plantation appropriately. (ii) Fodder plots should be developed in the non-mineralized area in lieu of use of grazing land, if any. (iii) Over-burden/ low grade ore should be stacked at earmarked dump site (s) only and should not be kept active for long period. The dump height should be decided on case to case basis, depending on the size of mine and quantity of waste material generated. However, slope stability study should be conducted for larger heights, as per IBM approved mine plan and DGMS guidelines. The OB dump should be scientifically vegetated with suitable native species to prevent erosion and surface run-off. In critical areas, use of geo textiles should be undertaken for stabilization of the dump. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Proper records should be maintained regarding species, their growth, area coverage etc. (iv) Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine operation, soil, OB and mineral dumps. The water so collected can be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly de-silted, particularly after monsoon and should be maintained properly. Appropriate documents should be maintained. Garland drain of appropriate size, gradient and length should be constructed for mine pit, soil, OB and mineral dumps and sump capacity should be designed with appropriate safety margin based on long term rainfall data. Sump capacity should be provided for adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at

the corners of the garland drains and de-silted at regular intervals. (v) Backfilling should be done as per approved mining plan/scheme. There should be no OB dumps outside the mine lease area. The backfilled area should be afforested, aiming to restore the normal ground level. Monitoring and management of rehabilitated areas should continue till the vegetation is established and becomes self-generating. (vi) Hazardous waste such as, waste oil, lubricants, resin, and coal tar etc. should be disposed off as per provisions of Hazardous Waste Management Rules, 2016, as amended from time to time. Responsibility: Individual Mine Lease Holders.

20 Ecology/Biodiversity (Flora-Fauna) Related: Project Proponent shall implement the following mitigation measures: (i) All precautionary measures should be taken during mining operation for conservation and protection of endangered fauna namely elephant, sloth bear etc. spotted in the study area. Action plan for conservation of flora and fauna should be prepared and implemented in consultation with the State Forest and Wildlife Department within the mine lease area, whereas outside the mine lease area, the same should be maintained by State Forest Department. (ii) Afforestation is to be done by using local and mixed species saplings within and outside the mining lease area. The reclamation and afforestation is to be done in such a manner like exploring the growth of fruit bearing trees which will attract the fauna and thus maintaining the biodiversity of the area. As afforestation done so far is very less, forest department needs to identify adequate land and do afforestation by involving local people in a time bound manner. (iii) Green belt development carried out by mines should be monitored regularly in every season and parameters like area under vegetation/plantation, type of plantation, type of tree species /grass species/scrubs etc., distance between the plants and survival rate should be recorded. (iv) Greenbelt is an important sink of air pollutants including noise. Development of green cover in mining area will not only help reducing air and noise pollution but also will improve the ecological conditions and prevent soil erosion to a greater extent. Further, selection of tree species for green belt should constitute dust removal/dust capturing plants since plants can act as efficient biological filters removing significant amounts of particulate pollution. Thus, the identified native trees in the mine area may be encouraged for plantation. Tree species having small leaf area, dense hair on leaf surface (rough surface), deep channels on leaves should be included for plantation. (v) Vetiver plantation on inactive dumps may be encouraged as the grass species has high strength of anchoring besides medicinal value. (vi) Details of compensatory afforestation done should be recorded and documented by respective forest divisions, and State Forest Department should present mine-wise annual status along with expenditure details. Responsibility: Individual Mine Lease Holders and State Forest & Wildlife Department.

21. Socio-Economic Related: Project Proponent shall implement the following mitigation measures: (i) Public interaction should be done on regular basis and social welfare activities should be done to meet the requirements of the local communities. Further, basic amenities and infrastructure facilities like education, medical, roads, safe drinking water, sanitation, employment, skill development, training institute etc. should be developed to alleviate the quality of life of the people of the region. (ii) Land outees and land losers/affected people, if any, should be compensated and rehabilitated as per the national/state policy on Resettlement and Rehabilitation. (iii) The socio-economic development in the region should be focused and aligned with the guidelines/initiatives of Govt. of India/ NITI Aayog around prosperity, equality, justice, cleanliness, transparency, employment, respect to women, hope etc. This can be achieved by providing adequate and quality facilities for education, medical and developing skills in the

people of the region. District administration in association with mine lease holders should plan for "Samagra Vikas" of these blocks well as other blocks of the district. While planning for different schemes in the region, the activities should be prioritized as per Pradhan Mantri Khanij Kshetra Kalyan Yojna (PMKKKY), notified by Ministry of Mines, Govt. of India, vide letter no. 16/7/2017-M.VI (Part), dated September 16, 2015. Responsibility: District Administration and Individual Mine Lease Holders.

22. Road Transport Related: Project Proponent shall implement the following mitigation measures: (i) All the mine lease holders should follow the suggested ore transport mode (SOTM), based on its EC capacity within next 5 years. (ii) The mine lease holders should ensure construction of cement road of appropriate width from and to the entry and exit gate of the mine. Further, maintenance of all the roads should be carried out as per the requirement to ensure dust free road transport. (iii) Transportation of ore should be done by covering the trucks with tarpaulin or other suitable mechanism so that no spillage of ore/dust takes place. Further, air quality in terms of dust, PM10 should be monitored near the roads towards entry & exit gate on regular basis, and be maintained within the acceptable limits. Responsibility: Individual Mine Lease Holders and Dept. of Steel & Mines.

23. Occupational Health Related: Project Proponent shall implement the following mitigation measures: (i) 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 periodically. (ii) Occupational health surveillance program for all the employees/workers (including casual workers) should be undertaken periodically (on annual basis) to observe any changes due to exposure to dust, and corrective measures should be taken immediately, if needed. (iii) Occupational health and safety measures related awareness programs including identification of work related health hazard, training on malaria eradication, HIV and health effects on exposure to mineral dust etc. should be carried out for all the workers on regular basis. A full time qualified doctor should be engaged for the purpose. Periodic monitoring (on 6 monthly basis) for exposure to respirable minerals dust on the workers should be conducted, and record should be maintained including health record of all the workers. Review of impact of various health measures undertaken (at an interval of 3 years or less) should be conducted followed by follow-up of actions, wherever required. Occupational health centre should be established near mine site itself. Responsibility: Individual Mine Lease Holders and District Administration (District Medical Officer).

C. STANDARD CONDITIONS

I. Statutory compliance

1. 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.
2. 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.
3. 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.

4. The Project Proponent shall follow the mitigation measures provided in MoEFCC's 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".
5. 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.
6. State Pollution Control Board/Committee 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.
7. 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/Committee and web site of the Ministry of Environment, Forest and Climate Change (www.parivesh.nic.in). A copy of the advertisement may be forwarded to the concerned MoEFCC Regional Office for compliance and record.
8. The Project Proponent shall inform the MoEF&CC for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred, PP needs to apply for 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

9. 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, PM2.5, 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.
10. 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 PM2.5 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 MoEFCC/ Central Pollution Control Board.

III. Water quality monitoring and preservation

11. 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 MoEFCC 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.
12. 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.
13. 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 including upstream and downstream. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. The parameters to be monitored shall include their water quality vis-à-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 MoEFCC. 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 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, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six-monthly basis.
14. 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 (TSS), 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.
15. 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 MoEFCC annually.
16. Industrial waste water (workshop and waste water from the mine) should be properly collected and treated 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.
17. 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/Committee.

IV. Noise and vibration monitoring and prevention

18. The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.
19. 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.
20. The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The workers 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

21. The Project Proponent shall adhere to approved mining plan, inter alia, including, total excavation (quantum of mineral waste, over burden, inter burden and top soil etc.); mining technology; lease area, scope of working (method of mining, overburden & dump management, O.B& dump mining, mineral transportation mode, ultimate depth of mining, concurrent reclamation and reclamation at mine closure; land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life; etc.)
22. 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-à-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 MoEFCC and its concerned Regional Office.

VI. Land reclamation

23. The Overburden (O.B), waste and topsoil 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 / waste dumps / topsoil dump like height, width and angle of slope shall be governed as per the approved Mining Plan and the guidelines/circulars issued by D.G.M.S. The topsoil shall be used for land reclamation and plantation.
24. 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.
25. Catch drains, settling tanks and siltation ponds of appropriate size shall be constructed around the mine working, mineral yards and Top Soil/OB/Waste dumps to prevent run off 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.
 26. 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.

VII. Transportation

27. No Transportation of the minerals shall be allowed in case of roads passing through villages/ habitations. In such cases, PP shall construct a 'bypass' road for the purpose of 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. [If applicable in case of road transport].
28. The Main haulage road within the mine lease should be provided with a permanent water sprinkling 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.

VIII. Green Belt

29. 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.
30. 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.
31. 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.

IX. Public hearing and human health issues

32. 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, crèche 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.

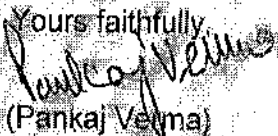
X. Corporate Environment Responsibility (CER)

33. The Project Proponent shall submit the time- bound action plan to the concerned regional office of the Ministry within 6 months from the date of issuance of environmental clearance for undertaking the activities committed during public consultation by the project proponent and as discussed by the EAC, in terms of the provisions of the MoEF&CC Office Memorandum No.22-65/2017-IA.III dated 30 September, 2020. The action plan shall be implemented within three years of commencement of the project.

XI. Miscellaneous

34. 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.
35. 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.

36. The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEFCC & its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board.
37. 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.
38. 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.
39. In pursuant to Ministry's O.M No 22-34/2018-IA.III dated 16.01.2020 to comply with the direction made by Hon'ble Supreme Court on 8.01.2020 in W.P. (Civil) No 114/2014 in the matter Common Cause vs Union of India, the mining lease holder shall after ceasing mining operations, undertake regrassing the mining area and any other area which may have been disturbed due to other mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
40. The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
41. Concealing factual data failure to comply with any or submission of false/fabricated data and of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
5. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/High Court and any other Court of Law relating to the subject matter.
6. 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.
7. This issues with the approval of Competent Authority.

Yours faithfully

(Pankaj Verma)
Scientist E

Copy to:

- i. **The Secretary, Ministry of Mines, Government of India Shastri Bhawan, New Delhi.**
- ii. **The Chief Secretary, Government of Odisha, Secretariat, Bhubaneswar.**
- iii. **The Secretary, Department of Environment, Government of Odisha, Secretariat, Bhubaneswar.**
- iv. **The Secretary, Department of Mines and Geology, Government of Odisha, Secretariat, Bhubaneswar.**

- v. **The Secretary, Department of Forests, Government of Odisha, Secretariat, Bhubaneswar.**
- vi. **The Secretary, Department of Steel and Mines, Government of Odisha, Secretariat, Bhubaneswar.**
- vii. **The Member Secretary, Odisha Pollution Control Board, Parivesh Bhawan, A/118 Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012.**
- viii. **The Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Integrated Regional Office, A/3, Chandersekharpur, Bhubaneswar - 751023.**
- ix. **The Chief Wildlife Warden, Prakurti Bhawan, 5th floor, BDA Apartment, Nilakanthanagar, Nayapalli, Bhubaneswar-751012, Odisha.**
- x. **The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.**
- xi. **The Controller General, Indian Bureau of Mines, Indira Bhawan, Civil Lines, Nagpur-440001.**
- xii. **The Member Secretary, Central Ground Water Board, Jamnagar House, 18/11, Man Singh Road Area, New Delhi, Delhi 110001.**
- xiii. **The District Collector, Keonjhar District, Govt. of Odisha.**
- xiv. **Guard File.**
- xv. **PARIVESH Portal.**

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