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**F. No. J-11015/202/2016-IA.II (M)**  
**Government of India**  
**Ministry of Environment, Forest and Climate Change**  
**Impact Assessment Division**

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**Dated: 04<sup>th</sup> March, 2020**

To,

**M/s. OCL INDIA Limited**  
Hansalya Building, 12<sup>th</sup> Floor,  
15, BaraKhamba Road,  
New Delhi-110001.

**Subject: Lanjiberna Limestone and Dolomite Mine of M/s. OCL INDIA Limited with expansion in production of limestone from 4.2 million TPA to 9.5 million TPA, 0.08 million TPA of Dolomite and Rejects/Waste 7.42 Million TPA (Total Excavation: 17 MTPA) along with four existing crushers installed within mine lease area i.e. 400 TPH, 1200 TPH and 2x 200 TPH (aggregate) and installation of one new crusher of 1600 TPH in the mine lease area of 873.057 ha located at Villages-Alanda, Bihabandh, Jhagarpur, Kesramal, Raiberna, Katang, Dhauraada, Lanjiberna and Kukuda, Tehsil-Rajgangpur and Kutra, District Sundargarh, Odisha -Environmental Clearance- Regarding.**

**Ref.: Proposal No: IA/OR/MIN/100679/2016**

Sir,

The proposal of M/s. OCL India Ltd is for Lanjiberna Limestone and Dolomite Mine with expansion in limestone production capacity from 4.2 million TPA to 9.5 million TPA, Dolomite 0.08 million TPA and Rejects/Waste 7.42 million TPA (Total excavation 17.0 Million TPA) along with four existing crushers installed within mine lease area i.e. 400 TPH, 1200 TPH and 2x 200 TPH (aggregate) and installation of one new crusher of 1600 TPH in the mine lease area of 873.057 ha. The mine lease area is located at Villages-Alanda, Bihabandh, Jhagarpur, Kesramal, Raiberna, Katang, Dhauraada, Lanjiberna and Kukuda, Tehsil-Rajgangpur and Kutra District- Sundargarh, Odisha. The mine lease area falls between Latitude-22<sup>o</sup>14'31.96383"N to 22<sup>o</sup>15'37.47389"N and Longitude-84<sup>o</sup>29'10.73846"E to 84<sup>o</sup>36'17.79270"E. The Survey of India toposheet Numbers are 76B/7, 76B/8, 76B/11 and 76B/12.

2. PP submitted that the project falls under Schedule 1(a) of mining and is a Category - 'A' project as per EIA notification 14th September, 2006 (amended time to time) as the mining lease area is more than 100 ha.

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3. PP submitted that the Ministry has accorded environmental clearance on 02.12.2005 for production of 1.7 million TPA of Limestone and 0.08 million TPA of Dolomite. Subsequently, the Ministry has granted environmental clearance for expansion in production of limestone from 1.7 MTPA to 4.2 MTPA and 0.08 MTPA Dolomite vide letter no. J-11015/372/2007-IA-II (M) dated 28.04. 2010. PP submitted compliance report for existing EC from RO, MoEF&CC, Bhubaneswar vide letter No. 101-673/EPE/ 3581, dated 27.11.2018. PP submitted that the ToR proposal was appraised by the EAC in its meeting held during November 23-25, 2016 and the Ministry issued Terms of Reference (ToRs) vide letter no. J-11015/202/2016-IA.II (M) dated 16 December 2016 for the preparation of Environmental Impact Assessment (EIA) Report and Environmental Management Plan (EMP). PP submitted the EIA/EMP report to Ministry at PARIVESH Portal, accordingly, the proposal is considered in the 11<sup>th</sup> EAC meeting held during November 27-28, 2019. Wherein the Committee deferred the proposal and sought the requisite information, PP submitted the information online on 31 December 2019 accordingly the proposal was considered in the EAC in its meeting held on January 30-31, 2020 wherein the Committee recommended the proposal for grant of environmental clearance.

4. PP submitted that total mining lease area is 873.057 ha, out of which 65.40 ha is Government land, 745.097 ha is tenancy land (agricultural & village settlement) and about 62.560 ha is Forest land. PP further submitted the diversion of 62.56 ha of forest land (62.04 ha for mining and allied activities and 0.52 ha for safety zone) has been obtained from MoEFCC vide letter no. F. No 8-56/1994-FC (pt) dated 30 September 2013. In addition, PP submitted that the NPV has been paid to the Forest Department vide PP's letter dated 15.05.2010. The Office of the Divisional Forest Officer (DFO) vide letter No 2889 4F/Misc/10 dated 21.05.2010 approved the same. Furthermore, PP submitted that 20.493 ha area comprising 0.093 ha forest land (DLC) and 20.400 ha thickly populated Alanda Village has been surrendered to State Government. State Government vide letter no 8604 / SM / Bhubnaeshwar dated 23.10.2017 accepted the surrender of par area of 20.493 ha out of existing total mining lease area of 893.55 ha, so the total mine lease area reduced to 873.057 ha. PP further certificate that the FRA certificate has been obtained from District collector for village Dhaudara dated 03.09.2011, village Bihabandh dated 03.09.2011 & village Katang vides letter no. 865, dated 18.03.2011.

5. PP submitted that the Lanjiberna Limestone & Dolomite area was originally leased to M/s Bisra Stone & Limestone Company Limited (BSLC) over an area of 1002 Ha with effect from 02.05.1951. In order to fulfil the requirement of limestone for the cement plant of M/S Orissa Cement Limited, the company managed its limestone requirement from BSLC as a sub-lessee till 28.02.1990. Subsequently, a direct Mining lease was granted to OCL over an area of 893.55 ha with effect from 01.03.1990 for 20 years (from 01.03.1990 to 28.02.2010) and the mining lease was executed on 29.01.1997. The company in the meantime changed its name from Orissa Cement Ltd to OCL India Limited w.e.f.

15.01.1996. PP further submitted that the application for renewal of mining lease was filed by OCL India Limited and the mine was working under deemed renewal. In view of section 8A of Mines and Minerals (Development and Regulation) Act, 2015 (as amended), the validity period of lease has now been extended up to 29.02.2040 over the originally granted area of 893.55 ha vide letter no-II(LD) SM-34/16 5365/SM, Bhubaneswar, dated 27.06.2016. Furthermore, PP surrendered the lease area of 20.493 ha, so the lease deed for reduced lease area (873.057 ha) was executed on 15.12.2017 and the lease is valid up to 29 February 2040.

6. PP submitted that the modification of Mining Plan along with Progressive Mine Closure plan for Lanjiberna Limestone and Dolomite Mine (M.L. Area- 873.057 ha) was approved by IBM vide letter no MSM/FM/37-ORI/BHU/2017-18 dated 25.01.2018 which is valid up to 31.03. 2020. PP submitted that the open cast mechanized system will be used for mining with a system of bench formation with deep hole blasting keeping in mind the quality, cost, safety and conservation of mineral. PP submitted that the use of rock breaker for primary breaking of boulders in quarries near village settlements has been adopted and the materials are loaded and sent to crusher by dumpers and excavator combination. Further, PP submitted that the blasting is carried out by conventional explosives and with the SME & ANFO and the charging pattern as recommended by CMRI to restrict the ground vibration, fly rock & sound within safe limit. Use of NONEL and multi-delay detonators in a hole is practiced to reduce sound, ground vibration, back break, fly rock within the safe limit. The fragmentation is reasonably well and the oversize is-10%. Maximum permissible feed size of ROM limestone to crusher is -1200 mm. Loading of limestone from quarries is monitored at different ratio for proper pre blending at mine head. The blasted ROM is loaded by Hydraulic Excavators of various sizes from 3.8 m<sup>3</sup> to 4.5 m<sup>3</sup> bucket size and also by 6.5 m<sup>3</sup> to 35 tonner capacity and 50 tonner rear dump trucks and ultimately the material is transported to the crushing plant/reclamation area. PP further submitted that the limestone production capacity per annum will be 9.5 Million TPA, so the estimated life of mine will be ~10 years which may be increased after further exploration.

7. PP submitted that baseline data were collected during December 2016-February 2017. PP further submitted that Public Hearing (PH) was conducted on 03.10.2018 at Playground gate of Dalmia Industrial Training Institute (DITI), GP Jhagarpur, Tehsil Rajgangpur, District Sundergarh, Odisha. The public hearing was chaired by Shri Bhaskar Chandra Turuk, OAS (SAG), Additional District Magistrate (ADM), Sundergarh and Shri HemendraNathNayak, Regional Officer, Rourkela, SPCB, Odisha. PP submitted that around 500 to 600 people locked the gate and blocked the entry route for officials, they were requesting for conducting Gram Sabha. Authorities explained that the conducting the Gram Sabha is not required as per EIA notification, 2006 and amended thereafter. Therefore, the public hearing was conducted at in front of playground gate of DITI. Around 3000 participants have attended the public hearing and about 600

have put their signature in the attendance sheet. Furthermore, 52 persons took part in the deliberation and expressed views in the public hearing. PP further submitted that the issues raised during Public Hearing were about Employments to the local unemployed youths, Social Welfare activities like Drinking water facility, Electricity facility, and Health care facility etc. PP submitted the action plans for public concerns.

8. PP submitted that there is no National Park, Wildlife Sanctuary, and Biosphere Reserve, Wildlife Corridors, Tiger/Elephant Reserves etc. within 10 km radius of the Mine site. PP further submitted the letter for the same along with authenticated location map from the Forest Department vide their letter no 7328/4F(Misc)/2017 dated 13.11.2017. PP further submitted that there are 19 Reserved Forests and 2 Protected Forests falling within 10 km radius of the mining lease area and No schedule I species exist in the study area.

9. PP submitted that existing water requirement for the project is 295 KLD, water requirement for the proposed expansion project will be 214 KLD, and so, the total water requirement after the expansion project will be 509 KLD. The water will be sourced from Rainwater stored in mine pit, mine seepage and ground water from dug well. PP further submitted that the NOC for withdrawal of 58 cu.m/day of ground water (and not exceeding 2,11,70 cu.m/year) through one (1) existing bore well and 1,411 cu.m/day (not exceeding 4,23,300 cu.m/year) through dewatering the mine seepage from three (3) proposed mine pits on account of mining intersecting the water table has been granted by CGWA vide file no. 21-4/1311/OR/MIN/2017-2277 & NOC No CGWA/NOC/MIN/ORIG/2018/4309 dated 07.12.2018. Accordingly, total water withdrawal should not exceed 1,469 cu.m/day (not exceeding 4,44,470 cu.m/year).

10. PP submitted the affidavit dated 05.10.2018 in compliance of Ministry's OM dated 30.05.2018 in respect of the order of Hon'ble of Supreme Court dated 02.8.2017 in W.P.(C) No. 114/2014. Furthermore, PP submitted the past production details from Office of Deputy Director of Mines, Rourkela circle vide letter no. 2334/mines dated 17.09.2019 for the year of 1990-91 to 2018-19. The record of production suggests that PP has not exceeded production with respect to EC condition during the period.

11. PP submitted the R&R as "M/s OCL INDIA Limited has already obtained administrative approval over an area of 113.52ha under the first phase land acquisition and the District Collector, Sundergarh has recommended an area 290.21ha to the steel and Mines Department Govt. Of Odisha for administrative approval and balance area will be applied for acquisition in subsequent phase. Further PP submitted that M/s OCL will initially provide one-time 40% partial payment of total compensation in joint bank account (Name of Husband & wife), in case of widow and widower money will be transferred in single name bank account. PP also submitted that after the 40% fixed deposit of total compensation 20% amount will be fixed on the name of girl child for her

education and marriage for 10 years. 20% amount will be fixed on the name of the land owner and 20% payment will be done at the of possession of land as a monthly income scheme on joint name (Wife and Husband), in case of widow and widower scheme will be done on single name". PP mentioned that the company shall facilitate employability training under its skill development initiatives (ACC DISHA-HunarShala) and enhance their skill for employability and placement elsewhere. PP submitted that three pronged approach such as employment at company operations (i.e. Mines and Plant), Employment elsewhere and Livelihood through self-employment opportunity (Budget: Rs. 1.97 Crores, 3-4 years). PP submitted the compliance to OM No. Z-11013/57/2014-IA-II(M) dated 29.10.2014 on mitigation measures on impact of mining activities on Habitations.

12. PP submitted that out of total mining lease area (582.962 ha), total excavated area will be 360 ha, out of which about 54 ha area will be backfilled and remaining area i.e. 306 ha will be converted as water reservoir. At the end of the life of mine total 127 ha (54 ha on backfilled area, 43 ha around lease periphery and 30 ha on non-mineralized area) area will be covered under greenbelt and plantation.

13. PP submitted that there are two legal court cases pending against the project. The case details such as W.P. (C) no. 15143/ 2013 pending at Hon'ble High Court, Odisha and the Revision application No:-22/(11)/2015/RC-I at Revision Authority, Ministry of Mines.

14. PP submitted that total project cost is Rs. 70 Crores, capital cost for EMP is Rs. 2.0 Crore and annual recurring cost for EMP is Rs. 80 lakhs per annum. PP further submitted that the additional manpower required for the proposed expansion project will be around 689 persons.

15. PP submitted that total cost of the project is Rs. 70 Crores, and PP proposed under the CER, Rs. 4.0 crores the same will be implemented in 1st three-year plan period on execution of mining lease deed and commencement of mining activities. Company will budget 2% of the profit each year towards CSR fund.

16. The Committee also found that the current proposal is for expansion in production of limestone from 4.2 million TPA to 9.5 million TPA only and other production is not proposed to be increases viz. 0.08 million TPA of Dolomite, which is minor mineral thus DSR requirement as per the Ministry Notification S.O.3611(E) dated 25th July, 2018 may not be necessary at this stage. However, PP will not increase Dolomite (minor mineral) production from the permitted EC capacity.

17. The Ministry has examined the proposal in accordance with the Environmental Impact Assessment Notification, 2006 and further amendments thereto; and after accepting the recommendation of EAC, hereby decided to accord the environmental clearance under the provisions thereof to the above

mentioned proposal of M/s. OCL INDIA Limited **for** Lanjiberna Limestone and Dolomite Mine with expansion in production of limestone from 4.2 million TPA to 9.5 million TPA, 0.08 million TPA of Dolomite and Rejects/Waste 7.42 Million TPA (Total Excavation: 17 MTPA) along with four existing crushers installed within mine lease area i.e. 400 TPH, 1200 TPH and 2x 200 TPH (aggregate) and installation of one new crusher of 1600 TPH in the mine lease area of 873.057 ha located at Villages-Alanda, Bihabandh, Jhagarpur, Kesramal, Raiberna, Katang, Dhauraada, Lanjiberna and Kukuda, Tehsil-Rajgangpur and Kutra, District Sundargarh, Odisha with the following **Specific conditions** and **Standard conditions** subject to compliance of the followings terms and conditions and environmental safeguards mentioned below:

#### **A. Specific Conditions**

- I. Water requirement will be restricted to 509 KLD and PP to improvise on the water uses and adopt better technology for water use along with enhances water conservation practices.
- II. PP to ensure that the necessary EMP should be implemented and monitored properly to ensure better compliance in order to contain the vehicular emission to minimum.

#### **B. 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) This Environmental Clearance shall become operational only after receiving formal NBWL Clearance from MoEF&CC subsequent to the recommendations of the Standing Committee of National Board for Wildlife, if applicable to the Project.

- 5) This Environmental Clearance shall become operational only after receiving formal Forest Clearance (FC) under the provision of Forest Conservation Act, 1980, if applicable to the Project.
- 6) Project Proponent (PP) shall obtain Consent to Operate after grant of EC and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent to Establish / Consent to Operate from the concerned State Pollution Control Board/Committee.
- 7) The PP shall adhere to the provision of the Mines Act, 1952, Mines and Mineral (Development & Regulation), Act, 2015 and rules & regulations made there under. PP shall adhere to various circulars issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines from time to time.
- 8) The Project Proponent shall obtain consents from all the concerned land owners, before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made there under in respect of lands which are not owned by it.
- 9) 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".
- 10) The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of ground water for the project.
- 11) 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.
- 12) 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.
- 13) 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

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of the Ministry of Environment, Forest and Climate Change ([www.parivesh.nic.in](http://www.parivesh.nic.in)). A copy of the advertisement may be forwarded to the concerned MoEFCC Regional Office for compliance and record.

- 14) 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 than mining operation shall only be carried out after transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.

## **II. Air quality monitoring and preservation**

- 1) 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, NO<sub>2</sub>, CO and SO<sub>2</sub> 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.
- 2) 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**

- 1) 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.

- 2) Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintain. The natural water bodies and or streams which are flowing in an around the village, should not be disturbed. The Water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug wall located in village should be incorporated to ascertain the impact of mining over ground water table. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.
- 3) 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.
- 4) The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/ adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carryout regular monitoring w.r.t. pH and included the same in monitoring plan. The parameters to be monitored shall include their water quality vis-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.

- 5) Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off; acid mine drainage and metal contamination in runoff shall be monitored along with Total Suspended Solids (TDS), Dissolved Oxygen (DO), pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board, at a suitable location near the main gate of the Company. The circular No. J- 20012/1/2006-IA.II (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred in this regard.
- 6) 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.
- 7) 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.
- 8) 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**

- 1) The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.
- 2) 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.
- 3) 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**

- 1) The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form to Short Term Permit (STP), Query license or any other name.
- 2) The Project Proponent shall get the Final Mine Closure Plan along with Financial Assurance approved from Indian Bureau of Mines/Department of Mining & Geology as required under the Provision of the MMDR Act, 1957 and Rules/ Guidelines made there under. A copy of approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and verification.
- 3) 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**

- 1) The Overburden (O.B.) generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB dumps

like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by D.G.M.S w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of top soil/OB dumps. The topsoil shall be used for land reclamation and plantation.

- 2) The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.
- 3) The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.
- 4) 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.
- 5) The Project Proponent shall carry out slope stability study in case the dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of MoEF&CC.
- 6) 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.
- 7) 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.

- 8) The top soil, if any, shall temporarily be stored at earmarked site(s) within the mine lease only and should not be kept unutilized for long. The physical parameters of the top soil dumps like height, width and angle of slope shall be governed as per the approved Mining Plan and as per the guidelines framed by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of dumps. The topsoil shall be used for land reclamation and plantation purpose.

## **VII. Transportation**

- 1) 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.
- 2) 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**

- 1) 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.

- 2) 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.
- 3) 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.
- 4) The Project Proponent shall undertake all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-I species during mining operation. A Wildlife Conservation Plan shall be prepared for the same clearly delineating action to be taken for conservation of flora and fauna. The Plan shall be approved by Chief Wild Life Warden of the State Govt.
- 5) And implemented in consultation with the State Forest and Wildlife Department. A copy of Wildlife Conservation Plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.

#### **IX. Public hearing and human health issues**

- 1) The Project Proponent shall appoint an Occupational Health Specialist for Regular as well as Periodical medical examination of the workers engaged in the mining activities, as per the DGMS guidelines. The records shall be maintained properly. PP shall also carryout Occupational health check-ups in respect of workers which are having ailments like BP, diabetes, habitual smoking, etc. The check-ups shall be undertaken once in six months and

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necessary remedial/ preventive measures be taken. A status report on the same may be sent to MoEFCC Regional Office and DGMS on half-yearly basis.

- 2) The Project Proponent must demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighborhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections due to bio mass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation, Personal Hygiene, Hand washing, not to defecate in open, Women Health and Hygiene (Providing Sanitary Napkins), hazard of tobacco and alcohol use. The Proponent shall carryout base line HRA for all the category of workers and thereafter every five years.
- 3) The Proponent shall carry out Occupational health surveillance which be a part of HRA and include Biological Monitoring where practical and feasible, and the tests and investigations relevant to the exposure (e.g. for Dust a X-Ray chest; For Noise Audiometric; for Lead Exposure Blood Lead, For Welders Full Ophthalmologic Assessment; for Manganese Miners a complete Neurological Assessment by a Certified Neurologist, and Manganese (Mn) Estimation in Blood; For Inorganic Chromium- Fortnightly skin inspection of hands and forearms by a responsible person. Except routine tests all tests would be carried out in a Lab accredited by NABH. Records of Health Surveillance must be kept for 30 years, including the results of and the records of Physical examination and tests. The record of exposure due to materials like Asbestos, Hard Rock Mining, Silica, Gold, Kaolin, Aluminium, Iron, Manganese, Chromium, Lead, Uranium need to be handed over to the Mining Department of the State in case the life of the mine is less than 30 years. It would be obligatory for the State Mines Departments to make arrangements for the safe and secure storage of the records including X-Ray. Only conventional X-Ray will be accepted for record purposes and not the digital one). X-Ray must meet ILO criteria (17 x14 inches and of good quality).
- 4) The Proponent shall maintained a record of performance indicators for workers which includes (a) there should not be a significant decline in their Body Mass Index and it should stay between 18.5 -24.9, (b) the Final Chest X-Ray compared with the base line X-Ray should not show any capacities ,(c) At the end of their leaving job there should be no Diminution in their Lung Functions Forced Expiratory Volume in one second (FEV1),Forced Vital Capacity (FVC), and the ratio) unless they are

smokers which has to be adjusted, and the effect of age, (d) their hearing should not be affected. As a proof an Audiogram (first and last need to be presented), (e) they should not have developed any Persistent Back Pain, Neck Pain, and the movement of their Hip, Knee and other joints should have normal range of movement, (f) they should not have suffered loss of any body part. The record of the same should be submitted to the Regional Office, MoEFCC annually along with details of the relief and compensation paid to workers having above indications.

- 5) The Project Proponent shall ensure that Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.
- 6) 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.
- 7) The activities proposed in Action plan prepared for addressing the issues raised during the Public Hearing shall be completed as per the budgetary provisions mentioned in the Action Plan and within the stipulated time frame. The Status Report on implementation of Action Plan shall be submitted to the concerned Regional Office of the Ministry along with District Administration.

#### **X. Corporate Environment Responsibility (CER)**

- 1) The activities and budget earmarked for Corporate Environmental Responsibility (CER) as per Ministry's O.M No 22-65/2017-IA. II (M) dated 01.05.2018 or as proposed by EAC should be kept in a separate bank account. The activities proposed for CER shall be implemented in a time bound manner and annual report of implementation of the same along with documentary proof viz. photographs, purchase documents, latitude & longitude of infrastructure developed & road constructed needs to be submitted to Regional Office MoEF&CC annually along with audited statement.
- 2) Project Proponent shall keep the funds earmarked for environmental protection measures in a separate account and refrain from diverting the



same for other purposes. The Year wise expenditure of such funds should be reported to the MoEFCC and its concerned Regional Office.

## **XI. Miscellaneous**

- 1) 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.
  - 2) 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.
  - 3) 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.
  - 4) 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, MoEFCC.
  - 5) The concerned Regional Office of the MoEFCC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEFCC officer(s) by furnishing the requisite data / information / monitoring reports.
18. The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
19. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attracts action under the provisions of Environment (Protection) Act, 1986.
20. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/ High Court of Chhattisgarh and any other Court of Law relating to the subject matter.

21. 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.

22. This issues with the approval of Competent Authority.

Yours faithfully,

  
(Sharat Kumar Pallerla)  
Director/Scientist 'F'

**Copy to:**

- (i) The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
- (ii) The Secretary, Department of Environment, Government of Odisha, Secretariat, Bhubaneswar.
- (iii) The Secretary, Department of Mines and Geology, Government of Odisha, Secretariat, Bhubaneswar.
- (iv) The Secretary, Department of Forests, Government of Odisha, Secretariat, Bhubaneswar.
- (v) The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
- (vi) The Additional Principal Chief Conservator of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office (EZ), A/3, Chandrasekharpur, Bhubaneswar - 751023.
- (vii) The Chairman, Odisha State Pollution Control Board, Parivesh Bhawan, A/118 Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012.
- (viii) The Controller General, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.
- (ix) The Member Secretary, Central Ground Water Authority, 18/11, Jam Nagar House, Man Singh Road, New Delhi-110011.
- (x) The District Collector, Keonjhar District, State of Odisha.
- (xi) Guard File.
- (xii) PARIVESH Portal.

  
(Sharat Kumar Pallerla)  
Director/Scientist 'F'

