PROCEEDINGS OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL COMMITTEE, ODISHA HELD ON 11TH SEPTEMBER, 2023

The SEAC met on 11th September, 2023 at 03:30 PM by Virtual mode (VC) through video conferencing in Google Meet under the Chairmanship of Sri Sashi Paul. The following members were present in the meeting.

1.	Sri Sashi Paul	-	Chairman (through VC)
2.	Dr. K. Murugesan	-	Member Secretary
3.	Dr. Chittaranjan Panda	-	Member (through VC)
4.	Prof. (Dr.) H.B. Sahu	-	Member (through VC)
5.	Sri Jayant Das	-	Member (through VC)
6.	Er. Fakir Mohan Panigrahi	-	Member (through VC)
7.	Prof. (Dr.) B.K. Satapathy	-	Member (through VC)
8.	Dr. K.C.S Panigrahi	-	Member (through VC)
9.	Prof. (Dr.) Abanti Sahoo	-	Member (through VC)
10.	Dr. Ashok Kumar Sahu	-	Member (through VC)
11.	Dr. Rabinarayan Patra	-	Member (through VC)
12.	Er. Kumud Ranjan Acharya	-	Member (through VC)

CONSIDERATION OF OLD PROPOSALS (COMPLIANCE RECEIVED):

The compliances furnished by the proponents were verified by the members through e-mail and also proceedings of the meeting were confirmed by the members through e-mail. The decision of the committee on case-to-case basis as follows:

ITEM NO. 01

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR BENIPALLI & GIRISOLA SAND QUARRIES CLUSTER OVER AN AREA OF 30.750 ACRES OR 12.4445 HECTARES IN VILLAGE BENIPALLI & GIRISOLA, TAHASIL BELLAGUNTHA, DISTRICT GANJAM OF TAHASILDAR BELLAGUNTHA - EC (SUBMITTED UNDER CLUSTER APPROACH WITH CONSISTING OF 2 SAND QUARRIES)

1. This proposal is for Environmental Clearance for Benipalli & Girisola Sand Quarries Cluster over an area of 30.750 acres or 12.4445 hectares in village Benipalli & Girisola, Tahasil Bellaguntha, District Ganjam of Tahasildar Bellaguntha.
2. **Category**: As per the EIA notification 2006 and its subsequent amendment, proposed project fall in category B1 under Schedule of item 1(a)-Mining of Minerals.
3. **Project details**: Girisola & Benipalli Sand Quarry is located at Village- Girisola & Benipalli, Tehsil-Bellaguntha, District- Ganjam, State- Odisha. The project is proposed by Tahasildar Bellaguntha on the behalf of Successful Bidder.
4. The proposed project is in cluster situation as one other lease lies within 500 m radius of lease & total lease area becomes greater than 5 ha.

5. LOI has been issued for Girisola and Benipalli vide letter no 2859 dated 21.09.21 and vide letter no 1486 and 26.04.2022 respectively.

6. Mining plan is approved for Girisola and Benipalli vide letter no 1199 dated 02.12.2021 and vide letter no 361 dated 28.03.2022 by Deputy Director, Geology, South zone, Berhampur respectively.

7. **TOR details**: Terms of Reference (ToRs) was granted by SEIAA, Odisha vide letter no 5175 dated 19.08.2022(For Girisola) and vide letter no 5173 dated 19.08.2022(For Benipalli).

8. **Public hearing details**: Public hearing was successfully executed on date 31.01.2023 at 11:00 AM over the vacant Land adjacent to Gram Panchayat Office, Benipalli in Khata Mo. 858, Plot No. - 149, under Bellaguntha Tahasil of Ganjam District. Issues raised during public hearing are transportation of sand and maintenance of these roads, transporting vehicles shall be covered with tarpaulin and community development. Budget for issues raised in Public Hearing has been shown under CER Budget (Rs.120000) and EMP budget towards maintenance of road and dust suppression.

9. **Location and connectivity**: The mine lease area is located in Village- Girisola & Benipalli, Tehsil- Bellaguntha, District- Ganjam, Odisha is on Khata No. 970, & Plot No. 01, of Girisola, & Khata No. 859 & Plot No- 210 & 211, of Benipalli of Barha river covered in the Survey of India Topo Sheet No – 74A/9 and is bounded between the Latitude - 19°50'23.10"N to 19°51'00.95"N and Longitude – 84°37'32.80"E to 84°37'35.73"E. Nearest Railway Station is Khalikote Railway Station, approx 38.22 km towards ESE direction.; Nearest Airport is Biju Patnaik International Airport is approx 130.0 km towards NE direction; Nearest Highway: SH-30 is approx 2.50 km in E direction; NH-157 is approx 3.30 km in W direction; SH-21 is approx 4.50 km in N direction. Nearest ecological sensitive areas are Bishnuchakra Reserve Forest, approx. 3.50 Km E; Dumdumi East Reserve Forest, approx. 8.40 Km SW; Malati Reserve Forest, approx. 9.50 Km SSW; Kaliamba Reserve Forest, approx. 6.50 Km WNW an Tilki Reserve Forest, approx. 9.85 Km NW.

10. **Topography:** The Sand bed is on the Barha River. The river flows from West-East direction along the quarry lease area. The quarry lease area is present about 1.0 km towards the NE of the village Girisola. The proposed area is more or less flat with highest elevation of 44m above msl. The Sand bed is on the Barha River. The river flows from South-North direction along the quarry lease area. The quarry lease area is present about 0.4 km towards the SW of the village Benipalli. The proposed area is more or less flat with highest elevation of 59m above msl.

11. **Replenishment study:** The volume of sand available in Girisola sand quarry after post monsoon study is around 31245.28 m^3, which can be treated as safe extractable within the framework of the study after arrival of river level. As it is a new mine no excavation has done in this year. So, total minable reserve available for mining is 35506 + 31245.28 = 66,751.28 m3 whereas, approved production capacity for the year is 5000 m^3. the volume of sand available in Benipalli sand quarry after post monsoon study is around 37755.48 m^3 , which can be treated as safe extractable within the framework of the study after arrival of river level. As it is a new mine no excavation has done in this year. So, total minable reserve available for mining is 37755.48 + 57789 = 95,544.48 m3 whereas, approved production capacity for the year is 7500 m^3.

12. **Reserves and production**: As estimated, geological and mineable reserves of the proposed

project (Benipalli) is 77730 and 57789 cum respectively while for Girisola, geological and mineable reserves is 41954 and 35506 cum respectively.

Year	Surface area of sand (m^2)	Thickness of Sand (m)	Volume in cum	Recovery factor (100%)	Production of Sand in (m^3/annum)
Girisola Sand Quarry					
1st	5000	1.0	5000	1.0	5000
2nd	5000	1.0	5000	1.0	5000
3rd	5000	1.0	5000	1.0	5000
4th	5000	1.0	5000	1.0	5000
5th	5000	1.0	5000	1.0	5000
Total					**25000**
Benipalli Sand Quarry					
1st	5000	1.5	7500	1.0	7500
2nd	5000	1.5	7500	1.0	7500
3rd	5000	1.5	7500	1.0	7500
4th	5000	1.5	7500	1.0	7500
5th	5000	1.5	7500	1.0	7500
Total					**37500**

13. **Baseline study**: The data collected during the month of March 2022 to Dec. 2022 & data collected has been used to understand the existing environment scenario around the proposed Quarry against which the potential impacts of the project can be assessed.

    a) **Ambient Air Quality :** Ambient Air Quality Monitoring reveals that the minimum & maximum concentrations of PM10 for all the 8 AQ monitoring stations were found to be 50.12 µg/m^3 at AQ8 and 88.32 µg/m^3 at AQ1, respectively. The minimum & maximum concentrations of PM2.5 were found to be 22.62 µg/m^3 at AQ8 and 46.25 µg/m^3 at AQ1, respectively.As far as the gaseous pollutants SO_2 and NOx are concerned, the prescribed CPCB limit of 80µg/m^3 for residential and rural areas has never surpassed at any station. The minimum & maximum concentrations of SO_2 were found to be 6.05µg/m^3 at AQ8 & 10.28 µg/m^3 at AQ1, respectively. The maximum & minimum concentrations of NO_X were found to be 10.19 µg/m^3 at AQ8 & 20.23 µg/m^3 at AQ1, respectively. The maximum & minimum concentrations of CO were found to be 0.31 mg/m^3 at AQ8 & 1.20 mg/m^3 at AQ1, respectively.

    b) **Noise quality:** Noise monitoring was carried out at six locations. The results of the monitoring program indicated that both the daytime and nighttime levels of noise were well within the prescribed limits of NAAQS, at all the 8 locations monitored.

    c) **Water quality**: The ground water from all sources remains suitable for drinking purposes as all the constituents are within the limits prescribed by drinking water standards promulgated by Indian Standards IS: 10500. From the Surface water analysis, it is evident that most of the parameters of the samples comply with 'Category 'C' standards of CPCB indicating their suitability for Drinking water source after conventional treatment and disinfection.

    d) **Soil quality:** Samples collected from identified locations indicate the soil is sandy type and the pH value ranging from 7.39 to 7.89, which shows that the soil is alkaline in nature.

14. **Mining method**: The sand will be excavated by open cast manual method. Since the depth of mining is 1.0m for Girisola Sand Bed & 1.50m for Benipalli Sand Bed, excavator, handpicks, spade, hand shovel will be used by laborers for extracting & loading of sand. Benching parameters is not feasible in case of sand mining. The maximum depth of mining will be 1.0m for

Girisola Sand Quarry & 1.50m for Benipalli Sand Quarry. The mine will be developed in North to South direction. At the end of plan period the quarry floor will be 54 m RL for Girisola Sand Bed & 59 m RL for Benipalli Sand Bed.

15. **Water requirement:** The water requirement for workers for drinking purpose will be around 0.36 KLD & the total water requirement will be around 15.44 or 16.00 KLD. This water will be supplied from the nearby area.

Activity	Calculation	Round off Figure in KLD
Drinking	@ 10 lpcd per labor 10*36/1000= 0.36 KLD	0.36
Dust Suppression	**Total approach road to be water sprinkled** = 2100 m 2100 m*6m*0.5 *2 times/1000= 12.60 KLD	12.60
Plantation	1240 plant (during plan period) @ 2 L/per plant= 1240*2lts= 2480/1000= 2.48 KLD	2.48
Total		**15.44 ~ 16.00**

16. **Greenbelt**: A time bound progressive green belt plan is given in cluster.

Year	No of plants along both side of approach road	No. of plants in buffer zone consulting local authorities	Location	Species
1st	1050	190	Approach road –1050 nos. – along both sides 1.05 km of approach road at spacing of 2 m. Village area – 190 nos. In village area like school premises, Aangawadi, Panchayat bhavan	Guava, mango, Jamun, jhaun, neem etc
2nd	Maintenance			
3rd				
4th				
5th				
Total	**1050**	**190**		
Total	**1240**			

17. **Manpower**: The number of working people required for the proposed project is 36(14 nos of persons -Girisola; nos of persons 22-Benipalli).

18. **Project cost**: Total Cost of the project will be Rs 60 Lakhs (Girisola Sand Quarry= Rs. 30 Lakhs + Benipalli Sand Quarry= Rs. 30 Lakhs). CER cost will be 2.0% of the total amount i.e., 1,20.000/-. Rs. 2,36,000 is budget for Occupational Health.

Table: Budget allotted for the Environmental Management Plan for Girisola Sand Quarry

Sl. No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
1.	Pollution Control Dust Suppression /Water Sprinkling	--	1,00,000
2.	Pollution Monitoring i) Air pollution ii) Water pollution iii) Soil Pollution iv) Noise Pollution	--	 50,000 40,000 20,000 10,000
3.	Green belt development	1,23,200	50,000

Sl. No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
4.	Maintenance of haul road	2,62,500	75,000
Total		3,85,700	3,45,000

Budget allotted for the Environmental Management Plan for Benipalli Sand Quarry

Sl. No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
1.	Pollution Control Dust Suppression /Water Sprinkling	--	1,00,000
2.	Pollution Monitoring i) Air pollution ii) Water pollution iii) Soil Pollution iv) Noise Pollution	--	 50,000 40,000 20,000 10,000
3.	Green belt development	1,24,800	50,000
4.	Maintenance of haul road	2,62,500	62,400
Total		3,87,300	3,32,400

Budget allotted for the Environmental Management Plan for Cluster

Sl. No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
1.	Pollution Control Dust Suppression /Water Sprinkling	--	2,00,000
2.	Pollution Monitoring i) Air pollution ii) Water pollution iii) Soil Pollution iv) Noise Pollution	--	 1,00,000 80,000 40,000 20,000
3.	Green belt development	2,48,000	1,00,000
4.	Maintenance of haul road	5,25,000	1,37,400
Total		7,73,000	6,77,400

Table: CER cost

S. No.	Activity	Capital Cost (in Rs.)/annum
1.	Financial aid for medical camp in Girisola & Benipalli village. @ Rs. 15,000/ camp (4 camp in a year)	60,000
2.	Skill development program camps like computer learning, sewing etc. in Girisola & Benipalli village. (In Both Village) @Rs 30,000/trainer (2 trainer)	60,000
TOTAL		1,20,000

19. **Environment Consultant**: The Environment **M/s P & M Solution, Noida** along with the proponent made a presentation on the proposal before the Committee on 07.07.2023.

20. The SEAC in its meeting held on 07-07-2023 decided to take the decision on the proposal after receipt of the following from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Proceedings of the SEAC meeting held on 11.09.2023 (Old proposals – compliance received)

Jnayak
Environmental Scientist, SEAC

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
a)	Latest KML file as the KML file was old one.	The latest KML file was sent to seac.odisha.2019@gmail.com
b)	Live video of site and also showing approach road.	Live video of site and also showing approach road was sent to seac.odisha.2019@gmail.com
c)	Details of all mines in cluster (including existing and proposed).	Both the Benipalli & Girisola Sand Quarries are proposed for grant of EC and no other mine located in cluster, as well as within 500 meter from the periphery of cluster area.
d)	As per the specific TOR point, regarding the distance of bridge, submit the distance certificate duly certified by concerned Tahasildar.	The distance of bridge i.e Chadhiapalli Bridge is situtated at 2.70 KM from Benipalli Sand Bed and 3.00 KM from Girisola Sand Bed a Certificate is attached as **Annexure – I.**

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s P & M Solution, Noida** on behalf of the proponent, the SEAC approved the EIA/EMP report in cluster approach and recommended the following:

a) The SEIAA, Odisha may consider to grant Environmental Clearance to individual lease for Benipalli & Girisola Sand Quarries Cluster without referring to SEAC with stipulated conditions as per **Annexure – A** after receipt of individual applications from the lessee in cluster along with following documents.

   i) Filled in form-I of individual lease

   ii) Prefeasibility report of individual lease

   iii) EMP of individual lease.

   iv) Approved Mining Plan of individual lease.

   v) Previous production details of individual lease duly certified by Tahasildar.

   vi) Replenishment Study Report of individual lease.

b) Following specific conditions may be stipulated in individual Environmental Clearance.

   i) Amended EIA Notification dated 25th July, 2018, Guidelines for sustainable sand mining, 2016 and Enforcement and Monitoring Guidelines for Sand Mining, January 2020 of MoEF&CC, Govt. of India shall be adhered to in execution of Mining as per **Annexure – B**.

   ii) Sand extraction shall be limited to quantity and depth as per replenishment study report. Regular replenishment study as per guidelines to be conducted and report to be submitted.

   iii) Provision of Bio-toilet shall be made at the site.

   iv) Avenue plantation and plantation on both sides of the haulage road in consultation with/ on the advice of concerned Forest Department, Government of Odisha & W.R. Department Government of Odisha as well.

   v) Stone patching with plantation in between along the stretch of the bank associated with sand mining and necessary ramp construction shall be made.

ITEM NO. 02

PROPOSAL OF ENVIRONMENTAL CLEARANCE OF BAITARANI SAND BED MINE ON BAITARANI RIVER OVER AN AREA OF 5.058 HA/12.50 ACRE IN VILLAGE TAMPO, UNDER GHASIPURA TAHASIL OF KEONJHAR DISTRICT OF SRI HRUSHIKESH JENA – EC

1. This proposal is for environmental clearance of Baitarani sand bed mine on Baitarani River over an area of 5.058 ha./12.50 Acre in village Tampo, under Ghasipura Tahasil of Keonjhar District of Sri Hrushikesh Jena.
2. **Category**: As per EIA notification 2016 and subsequent amendment this proposal is coming under Category B of Schedule 1(a)-Mining of Minerals.
3. The quarry lease has been granted by the Tahasildar, Ghasipura vide letter no.676 on dated 17.03.2020 to the applicant (successful bidder) for excavation of minor mineral (River Sand) for five years.
4. The Tahasildar of Ghasipura Tahasil vide letter no. 5740 issued on dated 28.12.2020 while submitting relevant documents of EC application to SEIAA, Odisha further communicated that Sri Hrushikesh Jena of Jena Minerals Pvt. Ltd., Saroi, Haridaspur of Jajpur Dist. is the successful bidder of the said sairat source.
5. The mining plan has been approved by the Deputy Director of Geology, Cuttack, Odisha vide memo no. 676 on dated 17.03.2020.
6. **Terms of Reference (TOR) details**: Terms of Reference (TOR) was issued by Ministry of Environment, Forest and Climate change vide file no: 59407/55-MINB1/12-2020 on dated 28.02.2021.
7. **Public hearing Details**: The Public Hearing in respect of Environment Impact Assessment for Baitarani Sand Bed Mine of M/s Jena Minerals Pvt. Ltd. on river Baitarani over an area of 5.058 ha. in village Tampo under the Ghasipur Tahasil of Keonjhar District, Odisha was conducted on 12.05.2022 at 11.00 A.M at Village Tampo (Near Tampo Baitarani Bridge) (Khata No.218 (Rakhita), Plot No.556, Kissam-Gochara, Area-Ac.32.15) in Keonjhar District. Issues raised are local employment, dust pollution, water sprinkling arrangements, tarpaulin cover on sand loaded vehicles, plantations, increase of traffic management & road transportation. Total expenses to be incurred for public hearing action plan is 6.60 lakhs.
8. **Location and connectivity**: The proposed river bed sand mining will be carried out on Baitarani River located at village: Tampo, under Tahasil: Ghasipura, DistKeonjhar, Odisha & the lease area is 5.058 ha. or 12.50 acre bearing Khata No.-221, Plot No.705, 706, Kisam: Nadi. The project is located in survey of India toposheet no. E45O4 & E45O8 between latitude of 21° 07'52.44"N to 21° 08'11.57"N and longitudes of 86° 10'56.05"E to 86° 11'21.81"E. The site is well connected to NH-215& SH-53 at a distance of 6.9 Km & 7 Km. Nearest airport is Bhubaneswar airport at a distance of 105 Km from the mining lease area. Nearest Railway station is Korai Railway Station at a distance of 16 Km from the project site. The nearest road is Batto road located at a distance of 0.6 Km.
9. **Topography**: The Baitarani sand bed deposit represents a gently sloping to almost flat terrain with the highest elevation is 29.5mRL & lowest elevation is 27 mRL in sand. The lease area

belongs to recent quaternary riverbed deposits consisting of sand, silt, clay, gravel and alluvial deposits. The sand in the lease area is a weathering product of the nearby metamorphic rocks and has been transported by 1st and 2nd order nala which ultimately gets deposited in the main nala/river bed during the rainy season.

10. **Drainage**: The drainage of the district is mainly controlled by rivers like Baitarani, Kangira, Ardei, Khairibandhan, Kanjhari, Sita, Kusei, Salandi etc. During rainy season, the river water carries sand which is formed due to disintegration of rock bodies along with other suspensions.

11. **Reserves**: Total geological reserves and mineable reserves is 50588 Cum and 29844 Cum respectively.

12. **Mining method and production details**: In the applied bed lease area, the sand will be extracted by manual mining method. Handpicks, Spade, hand shovel will be used by manual labourers for extracting & loading of sand. The sand will be loaded into tippers/tractors having capacity 4Cu.m/2.5 Cu.m for loading & dispatched as per requirement. The extraction of sand will be carried out up to the limit of maximum 1.5m depth or the water table whichever less is. The total excavated material is sellable as no waste will be generated from the mining process. There is no provision of dumping within the quarry. Only 20 trucks and tippers will be utilized for transportation of sand. At the proposed rate of annual production, total excavated sand would be maximum of 25545Cu.m during the proposed plan period. The project intend to excavate maximum sand of 5223 Cu.m per year and total 25545 Cu.m within 5 year plan period from the lease area. During plan period the mined-out land will be 2.578 ha. The safety zone to be maintained at 7.5 metre width all along the quarry which will be 0.401 ha. and water body, which will cover 2.079 ha.

Financial Year	Minerals	Surface Area in (Sq. m)	Thickness of sand (m)	Volume of sand in (Cu. m)
1st Year	Sand	3422	1.5	5133
2nd Year		3430	1.5	5145
3rd Year		3344	1.5	5016
4th Year		3352	1.5	5028
5th Year		3482	1.5	5223
Total				**25545**

13. **Water requirement**: For drinking & domestic purpose, water requirement will be 2 KLD while water requirement for green belt development and dust suppression will be 1 KLD. So total water requirement for this proposed project is 3KLD.

14. **Fuel requirement**: Tipper & Dumper will be used for transportation. The approximate quantity of the fuel/Diesel used per day is 100Lit/day.

15. **Baseline study**:

PERIOD	October to December 2020	Applicable Standards
AAQ PARAMETERS	$PM_{2.5}$ – 16.7 to 27.2 µg/cu.m	60 µg/cu.m

PERIOD	October to December 2020	Applicable Standards
AT 7 LOCATIONS	PM_{10} – 17.1 to 41.7 µg/cu.m	100 µg/cu.m
	SO_2 – 5.2 to 9.9 µg/cu.m	80 µg/cu.m
	Nox – 10.3 to 22.1 µg/cu.m	80 µg/cu.m
Ground water Quality at 6 Location	pH – 6.9 to 7.3	6.5 to 8.5
	Total Hardness – 52 – 192 mg/l	600 mg/l
	Chloride - 9.6 to 124.6 mg/l	250 mg/l
	Fluorides – 0 .15 to 0.81 mg/l	1.5 mg/l
	TDS – 110 - 470 mg/l	1000 mg/l
	Heavy metals (Cd < 0.001, As < 0.001, Hg < 0.0005) mg/l	Heavy metals (Cd <0.003, As <0.01, Hg<0.001) mg/l
Surface water at 4 locations	pH – 7.1 to 7.8	
	Dissolved Oxygen – 5.5 to 6.0 mg/l	
	Biochemical Oxygen Demand – 2 to 5 mg/l	
	Chemical Oxygen demand – 12 to 25 mg/l	
Noise at 8 locations	Day (dBA Leq) 32.4 to 45.6	55
	Night (dBA Leq) - 25.6 to 35.6	45
Soil Quality at 3 locations	pH – 5.20 to 7.4, Potassium – 202.9 to 1828 Kg/ Ha, Phosphorous – 166 to 603 Kg/ Ha, Nitrogen – 188 – 276 Kg/Ha, Electrical Conductivity- 117 to 1050 ms/Cm	

16. **Greenbelt**: There is proposal for plantation along the riverbank to protect the riverbank erosion in consultation with the forest department. Approximately 250 saplings is proposed to be planted during the 1st year of mining operation.

17. **Employment generation:** Due to the proposed sand mining, there will be generation of employment for 14 persons out of which, 04 skilled, 04 Semiskilled, 6 nos are unskilled.

18. **Project Cost**: Total cost of the proposed project is 10lakhs. The EMP cost proposed for the project will be 4.0 Lakh per annum.

19. **Environment Consultant**: The Environment consultant **M/s Kalyani Laboratories Pvt. Ltd. Bhubaneswar,** along with the proponent made a presentation on the proposal before the Committee on 14.02.2023.

20. The SEAC in its meeting held on dated **14-02-2023** decided to take decision on the proposal after receipt of the following from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
a)	NOC/permission from concerned authority for usage and	NOC for using Panchayat Road duly endorsed by BDO of Ghasipura Block	Request letter to BDO, Ghasipura Block by PP

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	maintenance of Panchayat Road.	attached as **Annexure – I.**	has been submitted.
b)	Precautionary measures to be taken for movement of vehicles in school area for safety of students.	I. Sand will be transported in early morning time to avoid traffic. II. The maximum speed of the sand transportation vehicle's is 10km/hr in school area. III. A mine worker is present with the driver of vehicle at the time of sand Transportation.	-
c)	Distance from bridge and other sand mines.	I. As per certified cluster certificate issued by The Tahasildar of Ghasipura Tahasil of Keonjhar District there is no other mines located within the 500meter of the project area. (**Annexure – II**) II. As per certified distance certificate by Tahasildar the distance of the river bridge is 550 meter from the lease area. (**Annexure –III**)	-
d)	Conduct replenishment study in pre monsoon and post monsoon and submit the report	Necessary replenishment study report is attached as **Annexure – IV.**	Replenishment study Report submitted. Pre-monsoon data collected on 04.09.2022 and post monsoon on 29.04.2023.Replenishment of sand – 19706.4cum.

21. The SEAC in its meeting held on 11-07-2023 opined that pre-monsoon study during September is not acceptable and recommended that the proposal to be considered for grant of EC after the proponent submit fresh replenishment study as per guidelines.

22. The Project Proponent has submitted a Pre-Monsoon Replenishment Study Report conducted on dated 12-05-2023 as mentioned in report.

The Committee observed and recommended the following:

i) The lessee indicated in the compliance furnished that they have conducted Pre-Monsoon Study on dated 04-09-2023. Post monsoon study of 29-04-2023 cannot be considered for undertaking mining. Hence, replenishment study report is rejected.

ii) The Project Proponent has submitted a Pre-Monsoon Replenishment Study Report conducted on dated 12-05-2023 as mentioned in report.

iii) The replenishment study report is prepared by My World Consultancy Private Ltd., Cuttack and the company is empanelled by ORSAC to carry out drone survey vide office order dated 16.10.2023. Pre-monsoon survey by drone / UAV using

photogrammetry method has been carried out on 12th May 2023. Approximately 60% of the ML area was reported to be submerged in water at the time of survey.

Parameters	Baitarani sand quarries	Remarks
Mining lease (ML) area (Ha)	5.058	Surveyed area is significantly higher than ML area.
Surveyed area (Ha)	21.6735	
Pre monsoon standard elevation RL (m)	The reported readings are in the range 20.94 to 27.17	All RL reports are by digital elevation model (DEM) that is generated by using software.
Post monsoon average standard elevation RL (m)	Post monsoon period survey not carried out. Survey done only for pre-monsoon period.	
Replenished level (m)	Not reported	
Number of points in ML area reported for RL measurement	59	
Minimum measurement error	(- 15 m + 15 m)	Error of measurements is high.
Maximum measurement error	(- 15 m + 15 m)	

In view of unsatisfactory revised replenishment report, this proposal is not accepted and it is recommended to return the proposal to SEIAA to take further action.

ITEM NO. 03

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF SALESINGH STONE QUARRY OVER AN AREA OF 22.50 ACRES OR 9.106 HECTARES IN VILLAGE SALESINGH, TAHASIL MANESWAR, DISTRICT SAMBALPUR OF SRI AJAY TIWARI – EC (SUBMITTED UNDER CLUSTER APPROACH WITH TOTAL CLUSTER AREA 14.103 HA CONSISTING OF TWO STONE QUARRIES) - EC

1. This proposal is for Environmental Clearance of Salesingh Stone Quarry over an area of 22.50 acres or 9.106 hectares in village Salesingh, Tahasil Maneswar, District Sambalpur of Sri Ajay Tiwari (submitted under cluster approach with total cluster area 14.103 ha consisting of two Stone Quarries).
2. **Category**: As per the EIA notification 2006 and its subsequent amendment, proposed project falls in category B1 under Schedule of activity 1(a)-Mining of Minerals.
3. The proposed project is in cluster situation as two leases are within 500 m radius & total lease area becomes greater than 5 ha i.e, 14.103 ha.
4. The proposed mine lease has been granted to Tahasildar Maneswar. Salesingh Stone Quarry area has been allotted to Sri Nihar Das & Smt. Kanchanbala Das by the Tahasildar Maneswar on behalf of Government of Odisha in accordance with the provision of the Odisha Minor Mineral Concession Rules, 2016 through long term quarry lease for the purpose of mining of stone.

5. The mining plan for the ML area has been approved by the Joint Director, Geology Authorized officer, Zonal Survey, Sambalpur, Odisha vide Memo no 141/ZS dated 25.01.2021 & vide letter no- 1142 dated 10.08.2021.

6. The Lease has been issued by LOI/ Form F letter no 932 dated 10.03.2022 & 633 dated 10.02.2021.

S no.	Name of Quarry	Name of the leasee	Khata/plot no.	Lease area (Ha.)	Form F letter no	Mining plan approval letter
1	Salesingh Stone Quarry	Sri Nihar Das	Khata no-229, Plot no-826(P)	9.106	Letter no.-932 dated 10.03.2022	Letter no-1142 dated 10.08.2021
2		Smt. Kanchanbala Das	Khata no-229, Plot no-826/1 & 826/2	4.997	Letter no.-633 dated 10.02.2021	Memo no-141/ZS dated 25.01.2021
Total				**14.103 ha**		

7. **TOR details**: Terms of Reference (TOR) has been prescribed by SEIAA, Odisha, vide letter no. 4591/SEIAA & 4595/SEIAA dated19.05.2022.

8. **Public hearing details**: Public hearing was conducted on 03.11.2022 in Salesingh village under Maneswar Tahasil. Issues raised during public hearing are damage of houses and school building along with noise pollution due to blasting activities, air pollution and its adverse effects on health, agricultural fields and its yield accidental issues dur to plying of vehicles, dissatisfaction of villagers regarding public hearing meeting venue.

9. **Location and connectivity**: The proposed Salesingh Stone Quarry come under the village Salesingh, Tehsil-Maneswar, District- Sambalpur, in the State of Odisha. Geographically the ML area of Mine 1 (Sri Nihar Das) extends from 210 19'03.76"N to 210 19'14.73" N and 830 57'40.64" E to 830 57'56.62"E and the ML area of Mine 2 (Smt. Kanchanbala Das) extends from 210 19'04.30' N to 210 19'17.01"N and 830 57'35.03"E to 830 57'48.95"E. Mine 1 bears Khata no-229, Plot no-826(P) and Mine 2 bears Khata no-229, Plot no-826/1 & 826/2. The proposed area falls in SOI top sheet No. F45M3, F44R1, F45M4, F44R16. The elevation of the site ranges from 155 mRL to 190mRL. The Mine Lease area is approx. 16kms of aerial distance from the district headquarters Sambalpur. The proposed ML area can be approached by SH-15 which is approx.1.3 km away from ML area. Nearest reserve forest Labdera Bulibunga at 1.20 Km southeast.

10. There are no National parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Tiger/Elephant Reserves (existing as well as proposed) with in 10 kms radius of Mine lease area

11. **Drainage**: The drainage pattern of the area of dendritic type. Surface runoff water of the area is drained through natural slopes. Mahanadi River is flowing at distance of 5.0 km in NW side of the area which controls the drainage system in the region.

12. **Baseline study**: The baseline environment quality was carried out over a radial distance of 10 km around the mining lease area during Pre-Monsoon Season of 2022 covering the months of March 2022 to May, 2022.

a) Air quality: The minimum and maximum level of PM10 recorded within the study area was in the range of 35.9 µg/m3 to 68.4µg/m3 with consolidated 98thpercentile range between 52.4 to 67.9 µg/m3 . PM2.5 recorded with in the study area is in the range of 14.5 µg/m3 to 28.6 µg/m3 and 98 percentile range between 20.7µg/m3 to 28.5µg/m3. The minimum and maximum levels of SO2 recorded with in the study area were in the range of 5.1µg/m3 to 11.3µg/m3 and 98th percentile was recorded between 6.5µg/m3 to 9.0µg/m3 . he minimum and maximum levels of NOX recorded within the study area was in the range of 7.9µg/m3 to 15.4µg/m3 with 98th percentile range between 10.2µg/m3 to 15.4µg/m3 .

b) Noise levels: Noise monitoring reveals that the minimum &maximum noise levels at day time were recorded between as 49.1 dB (A) & 53.1 dB (A) respectively. The minimum & maximum noise levels at night time were found to be 36.2 dB (A) & 41.7 dB (A) respectively It is observed that the noise levels are well within the prescribed Ambient Air Quality Standards with respect to Noise.

c) Ground water: The analysis results indicate that the pH ranges from 7.41 to 7.73. Total Dissolved Solids ranges from 509 to 588mg/l. Total Hardness (as CaCO3 Fluoride (as F)ranges from 0.4 to 0.6 mg/l.) ranges from 236 to 312 mg/l. The chlorides and Sulphates were found to be in the range.

d) Surface water : The pH ranges from 7.16 to 7.36.Chloride varies from 78 to 102 mg/l. Dissolved Oxygen (DO) ranges from 6.2to 6.9mg/l. BOD (3 Days at 27 ^{0}C) ranged from from 16 to 34mg/l.COD ranges from 3.2 to 6.6mg/l.

e) Soil quality: The analysis results show that soil is basic in nature as pH value ranges from 7.69 to 8.06 with organic carbon 0.76 to 0.91%. The concentration of Nitrogen, Phosphates & Potassium has been found to be in good amount in the soil samples. Results of soil sampling analysis showed best for fertility.

13. **Total production and reserves**: As estimated, geological and mineable reserve of quarry 1 is 12,76,213.5 cum and 8,30,250 cum respectively. Total production for 5 years is 22518 cum. Geological and mineable reserve of quarry 2 is 724592 cum and 627302 cum. Geological and mineable reserve of the cluster is 2,000,805.5 Cum and 1,457,552 Cum respectively. Total production for 5 years is 26564 cum. The life of the mine is more than 100 years.

Table- Total Reserves details of the proposed cluster

S no.	Name of the Quarry	Geological reserve (cum)	Mineable reserve (cum)
1	Salesingh Stone Quarry – (Mine 1)	12,76,213.5	8,30,250
2	Salesingh Stone Quarry – (Mine 2)	7,24,592	6,27,302

Table- Year wise production details of the proposed cluster

Year	Mine 1 (Sri Nihar Das)	Mine 2 (Smt. Kanchanbala Das)

	Volume of Evacuation (cum)	Volume of Rock Mass, 90% (cum)	Volume of waste (cum)	Volume of Evacuation (cum)	Volume of Rock Mass, 70% (cum)	Volume of waste (cum)
1st	5010	4509	501	7420	5194	2226
2nd	5010	4509	501	7420	5194	2226
3rd	4980	4482	498	7632	5342	2290
4th	5010	4509	501	7632	5342	2290
5th	5010	4509	501	7844	5491	2353
Total	**25,020**	**22,518**	**2,502**	**37,948**	**26,564**	**11,384**

14. **Mining methodology**: Mining will be carried out by opencast semi-mechanized method with adoption of drilling & blasting. Handling of rock mass will be done both manually & by excavators. Handpicks, spade, chisel, hammer will be used by manual labors for sorting & sizing. Loosening of rock mass will done by drilling & blasting. In order to prevent haphazard excavation of pits and suitable blending of ore, the excavation has been proposed at one place. In mine 1, proposed height &width of bench is 5 m & in mine 2 it is 3m. The excavated rock mass will be loaded in to 20 t capacity of trippers or truck by excavator.

15. **Water requirement**: the total water requirement will be around 7.81 KLD. This water will be supplied from the nearby area. This water will be supplied from the nearby village through hired tankers (Mine 1-6.50 KLD; Mine 2- 1.30 KLD).

16. **Waste generation and management**: No OB will be generated during plan period. There will be generation of about 10 % of total volume of rock mass i.e, 501 cum/annum from mine 1 and about 30% of total volume of rock mass i.e, 2226 cum/annum from mine 2 will be generated as waste. There will be generation of total 13,886 cum of mineral waste from both of the mines during plan period. These wastes will be utilized for making of mine road & allied infrastructure. No dumping is proposed in mine 1 as the entire waste will be directly used for the maintenance of mine road. In mine 2, about 70% of the waste will be transported to the crusher site along with valuable building stone & the remaining 30% of the total waste will be separated at the quarry head & will be stacked in the temporary waste dump of area 0.0106 ha & will be utilized by lease for making of mine road & allied infrastructures. Since the dump will be active during the plan period so no reclamation and rehabilitation have been suggested the retaining wall around the dump will be constructed to prevent the wash off dump. Around the retaining a garland drain and settling tank will be provided to prevent the possible transportation of mine dust or fines.

Year	Mine 1 (Sri Nihar Das)		Mine 2 (Smt. Kanchanbala Das)	
	Volume of waste (cum) 10%	Dump area/ dump site	Volume of waste (cum) 30%	Dump area/ dump site
1st	501	No dumping is proposed	2226	0.0106 ha./ in SE direction of lease area (above mining pit), dump height- 2m, slope- less than 45^0.
2nd	501		2226	
3rd	498		2290	
4th	501		2290	
5th	501		2353	
Total	**2,502**		**11,384**	

17. **Greenbelt**: Proposed plantation program is 1032 no. of tress for (Mine 1), 378 no. of tress for (Mine 2). Total plantation proposed for this project is 1410 nos of trees.

Year	Plantation in safety barrier zone		Plantation along approach road and in buffer zone	No. of plants in buffer zone consulting local authorities
	Mine 1 (Sri Nihar Das)	Mine 2 (Smt. Kanchanbala Das)		
1st	89 (0.891 ha)	75 (0.75 ha)	800	446
2nd	Maintenance	Maintenance	Maintenance	Maintenance
3rd				
4th				
5th				
Total	**89**	**75**	**800**	**446**
Total Plantation	**1410**			

18. **Manpower requirement**: Total Requirement of Labour and other supervisory manpower will be around 19 (for both quarry) persons during the mining period (Mine 1-13 persons; Mine 2- 6 persons)

19. **Project cost**: The estimated project cost of the cluster is about Rs. 40 lakhs (Mine 1- 20 lakhs, Mine 2 -20 lakhs). Budget for Corporate Environmental Responsibility (CER) for Mine 1 (Sri Nihar Das) is 40,000; for Mine 2 (Smt. Kanchanbala Das) is 40,000(Total CER budget for the cluster is 80,000). : Budget for occupational health is 4,00,000 and budget for water, shelter and sanitation for mine worker is 3,00,000(capital cost) and 75,000(recurring cost). Budget allotted for the Environmental Management Plan of Mine 1 is 3,86,400(capital cost) and 2,70,000 (recurring cost) and of Mine 2 is 95,600(Capital Cost) and 2,70,000 (recurring cost).For cluster EMP budget is 4,82,000(Capital Cost) 5,40,000(recurring cost).

Sl. No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
1.	Pollution Control Dust Suppression /Water Sprinkling	--	1,00,000
2.	Pollution Monitoring i) Air pollution ii) Water pollution iii) Soil Pollution iv) Noise Pollution	--	1,00,000 80,000 20,000 20,000
3.	Green belt development	2,82,000	1,00,000
4.	Maintenance of haul road	2,00,000	1,20,000
Total		**4,82,000**	**5,40,000**

Table-CSR budget in Cluster

Sl. No.	Activity	Capital Cost (in Rs.)
1.	Financial aid for medical camp in Salesingh village.	30,000
2.	Skill development program camps like computer learning, sewing etc. in village Salesingh.	20,000

3.	Construction of separate toilet for boys & girls at public place in village Salesingh.	30,000
TOTAL		**80,000**

20. **Environment Consultant**: The Environment consultant **M/s P and M Solution, Noida** along with the proponent made a presentation on the proposal before the Committee on 12.06.2023.

23. The SEAC in its meeting held on dated 12-06-2023 decided to take the decision on the proposal after receipt of the following from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	KML file shows 3 quarries in cluster approach but proposal submitted for 2 quarries under cluster approach. This may be clarified.	Although KML file shows 3 quarries in cluster approach 2 KML quarries belong to one quarry lease i.e Salesingh stone quarry over 4.997 ha of Plot no – 826/1 & 826/2 in favor of Smt. Kanchanbala Das and the other one belongs to Sri Nihar Das over 9.106 Ha. Copy attached as **Annexure – I**. The total cluster consists of two quarry lease having three quarries.	complied
2.	Proposed Transportation route for stone duly certified by the concerned Tahasildar.	Copy attached as **Annexure – II.**	complied
3.	RL of ground water table during summer and rainy season along with RL of the surface post mining as per the approved mine plan.	RL of ground water table during summaries 140 mRL and rainy season 148mRL the RL of the surface post mining as per Mining Plan would be 167mRL (Salesingh – 9.106 ha) & 155 mRL (Salesingh-4.997 ha) Which are much above the ground water table.	complied
4.	SOP to be followed during Blasting.	Copy attached as **Annexure – III.**	complied
5.	Specific measures against management of dust, noise, vibration and fly rocks.	Copy attached as **Annexure – IV.**	complied
6.	Precautionary measures to prevent the runoff affecting the nearby agricultural fields.	Planting trees, shrubs and grasses along the edges of your fields to add as a conservation buffer can help prevent any runoff.	complied
7.	Do the proposed height and width of benches follow the DGMS guidelines?	Yes, the height and width of benches proposed in mining plan area accordingly to DGMS guidelines.	complied

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s P & M Solution, C-88, Sector 65, Noida** on behalf of the proponent, the SEAC approved the EIA/EMP report in cluster approach and recommended the following:

a) The SEIAA, Odisha may consider to grant Environmental Clearance to individual lease for **Salesingh Stone Quarry** cluster without referring to SEAC with specific conditions as per **Annexure – C** after receipt of individual applications from the lessee in cluster along with following

documents.

i) Filled in form-I of individual lease

ii) Prefeasibility report of individual lease

iii) EMP of individual lease.

iv) Approved Mining Plan of individual lease.

v) Report on vibration study.

vi) DLC status of the lease area from concerned DFO as certified by the concerned Tahasildar.

vii) An Undertaking by the lessee not to use wagon drilling blasting to be submitted. Accordingly, specific condition to be stipulated in EC of individual lease.

viii) No storage and usage of blasting materials/explosives inside the lease area without license/permission/authorization from competent Authority as per Indian Explosives Rules, 1983 shall be ensured by the lessee. An undertaking to this effect shall be submitted by the lessee. Accordingly, specific condition to be stipulated in EC of individual lease.

ix) An undertaking to obtain NOC from CGWA and permission from WR department, Govt. Of Odisha for use of ground water. Accordingly, specific condition to be stipulated in EC of individual lease.

x) The project proponent shall maintain periodic health check-up records of their employees and ensure use of face mask by workers in crushing and handling sections of the stone quarry for ensuring that working personnel are not affected by silicosis.

xi) The project proponent shall undertake re-grassing of the area or any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for fodder, flora, fauna etc. after ceasing mining operation that is at the time of mine closure.

xii) A condition on SOP for blasting and safety on management of flying rock to be implemented and detail risk and hazard management procedure shall be followed by the lessee as per the **Annexure – D**.

xiii) Haulage road shall be developed and maintained perennially and perpetually by the proponent in consultation with the concerned authority of the Govt.

ITEM NO. 04

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR JHARIPADAR- I & II STONE QUARRIES CLUSTER OVER AN AREA OF 18.00 ACRES OR 7.2846 HECTARES IN VILLAGE JHARIPADAR, TAHASIL- DIGAPAHANDI, DISTRICT- GANJAM OF TAHASILDAR, DIGAPAHANDI - EC (SUBMITTED UNDER CLUSTER APPROACH WITH CONSISTING OF 2 STONE QUARRIES)

1. This proposal is for Environmental Clearance for Jharipadar- I & II Stone Quarries Cluster over an area of 18.00 acres or 7.2846 hectares in village Jharipadar, Tahasil- Digapahandi, District- Ganjam of Tahasildar, Digapahandi.
2. **Category**: As per the EIA notification 2006 and its subsequent amendment, proposed project fall in category B under schedule of Item 1(a)-Mining of minerals.

3. Jharipadar Stone Cluster Quarry lease located at Village- Jharipadar, Tahasil – Digapahandi, District- Ganjam, Odisha over a cluster area of 7.2846 ha. The proposed project is in cluster situation as two leases are within 500m radius The ML has been allotted to Sri. Saroj Kumar Sahu & Smt. B. Swapna vide letter no. - 2137 & 2138 dated 30.04.2022.
4. The proposed site doesn't come under DLC as approved vide letter no 3423 dated 31.03.2021.
5. The mining plan for the Quarry I & II has been approved by the Joint Director, Geology South Zone, Berhampur vide Memo no 319/SZ dated 16.03.2022 & vide letter no- 279 dated 07.03.2022 respectively.
6. The proposed production capacity is 12,852 cu.m/annum (Mine 1 -7,380 cu.m/annum and Mine 2- 5,472 cum/annum).
7. **Letter of Intent details:**

S no.	Name of Quarry	Name of the leasee	Khata/plot no.	Lease area (Ha.)	LOI/ Form F letter no	Mining plan approval letter
1	Jharipadar Stone Quarry I	Sri. Saroj Kumar Sahu	Khata no-980, Plot no-05, 06	4.8564	Letter no.- 2137 dated 30.04.2022	Letter no- 319/SZ dated 16.03.2022
2	Jharipadar Stone QuarryII	Smt. B. Swapna	Khata no-980, Plot no-08	2.4282	Letter no.- 2138 dated 30.04.2022	Letter no- 279 dated 07.03.2022
			Total	7.2846ha		

8. **TOR details**: The Terms of Reference (ToRs) has been granted by SEIAA vide letter no 5151 and 5155 dated 19.08.2022.
9. **Public hearing details**: Public hearing was conducted on 18.01.2023 at Chatramandir Mouza of Digapahandi Tahasil of Ganjam district. Issues raised during public hearing are mining activity should abide all rules and regulation, transportation vehicles shall be covered by tarpaulins, water sprinkling should be carried out on transportation roads, plantation, control blasting and local employment. Budget kept under CER is Rs.1,60,000.00.
10. **Location and connectivity**: The proposed Jharipadar Stone Quarry (I & II) comes under the village Jharipadar, Tahasil- Digapahandi, District- Ganjam, in the State of Odisha on Khata no-980, Plot no- 05, 06, 08. Geographically the ML area of Mine 1 (Sri. Saroj Kumar Sahu) extends from 19°19'41.95"N to 19°19'48.11"N and 84°35'28.65"E to 83057'35.03"E and the ML area of Mine 2 (Smt. B. Swapna) extends from 19°19'28.98"N to 19°19'38.47"N and 84°35'48.20"E to 84°35'51.59"E. The proposed area falls in SOI top sheet No. E45A11(74/11). The elevation of the site ranges from 92 mRL to 146 mRL. The Mine Lease area is approx. 45 kms of aerial distance from the district headquarters Chatrapur. The proposed ML area can be approached by SH-29 which is approx.4.0 km away from ML area. Nearest Airport Bhubaneswar Airport, approx. 163 km in NE direction. Nearest Railway Station Berhampur Railway Station, approx. 22 km in SE direction. Nearest reserve forest Ramagurha Reserve Forest, approx. 3.5 Km in SE direction. Nearest water body Ghodahara River is flowing at distance of 11.3 km in NW.
11. **Baseline data**: Data for baseline study was collected during pre-monsoon season March 2022 to May 2022

a) Ambient air quality: The minimum and maximum level of PM_{10} recorded within the study area was in the range of 42.5 µg/m^3 to 68.9 µg/m^3 with consolidated 98th percentile range between 52.7 to 67.7 µg/m^3. The 24-hourly average values of PM10 were compared with the National Ambient Air Quality Standards (NAAQS) and found that all sampling stations recorded in the study area are within the applicable limits i.e., 100 µg/m^3 for PM_{10} in industrial, residential, rural and other area. $PM_{2.5}$ recorded with in the study area is in the range of 17.1 µg/m^3 to 31.6 µg/m^3 and 98 percentile range between 22.9 µg/m^3 to 30.6 µg/m^3. The 24-hourly average values of $PM_{2.5}$ were compared with the National Ambient Air Quality Standards (NAAQS) and found that all sampling stations recorded in the study area are within the applicable limits i.e., 60 µg/m^3 for $PM_{2.5}$ in industrial, residential, rural and other area. The minimum and maximum levels of SO_2 recorded with in the study area was in the range of 5.4 µg/m^3 to 11.6 µg/m^3 and 98th percentile was recorded between 8.4 µg/m3 to 10.9 µg/m^3. The 24-hourly average values of SO_2 were compared with the National Ambient Air Quality Standards (NAAQS) and found that all sampling stations recorded in the study area are within the applicable limits i.e., 80 µg/m^3 for SO_2 in industrial, residential, rural and other area. The minimum and maximum levels of NOX recorded within the study area was in the range of 7.8 µg/m^3 to 17.9 µg/m^3 with 98th percentile range between 11.6 µg/m^3 to 16.8 µg/m^3. The 24-hourly average values of NOX were compared with the National Ambient Air Quality Standards (NAAQS) and found that all sampling stations recorded in the study area are within the applicable limits i.e., 80 µg/m^3 for NO_X in industrial, residential, rural and other area.

b) Noise monitoring reveals that the minimum & maximum noise levels at day time were recorded between as 48.6 dB(A) & 51.4 dB(A) respectively. The minimum & maximum noise levels at night time were found to be 38.5 dB(A) & 42.3 dB(A) respectively. It is observed that the noise levels are well within the prescribed Ambient Air Quality Standards with respect to Noise.

c) Ground water: The analysis results indicate that the pH ranges from 7.36 to 7.59. Total Dissolved Solids ranges from 479 to 515 mg/l. Total Hardness (as CaCO3) ranges from 276 to 308 mg/l. Fluoride (as F) ranges from 0.5 to 0.8 mg/l. The chlorides and Sulphates were found to be in the range.

d) Surface water: The pH ranged from 7.34 to 7.52. Chloride varied from 67 to 83 mg/l. Dissolved Oxygen (DO) ranged from 6.9 to 7.4 mg/l. BOD (3 Days at 27 0C) ranged from 1.7 to 3.3 mg/l. COD varied from 10 to 22 mg/l.

e) Soil analysis: The analysis results show that soil is basic in nature as pH value ranges from 6.76 to 7.13 with organic carbon 0.76 to 0.91%. The concentration of Nitrogen, Phosphates & Potassium has been found to be in good amount in the soil samples. Results of soil sampling analysis showed best for fertility.

12. **Reserves and Production details**: As estimated geological reserves is 13,43,519 Cum (Mine 1- 9,73,747 cu.m. & Mine 2 - 3,69,772 cu.m.) and mineable reserves is 7,48,702 Cum (Mine 1- 5,26,111 cu.m. & Mine 2 -2,22,591 cu.m.). The total ML area is 7.2846 ha. Proposed production is 12,852 cu.m/year (Mine 1 -7,380 cu.m/annum and Mine 2- 5,472 cum/annum) of stone.

Year	Mine 1 (Sri. Saroj Kumar Sahu)	Mine 2 (Smt. B. Swapna)

	Volume of RockMass, 90% (cum)	Volume of RockMass, 90% (cum)
1st	7380	6080
2nd	7380	6080
3rd	7380	6080
4th	7380	6080
5th	7380	6080
Total	**36900**	**30400**

13. **Mining method**: Mining will be done by opencast semi-mechanized method with adoption of drilling & blasting. Mining will be done by deploying machines like jackhammer, drill compressor, rock breaker, excavator and tractors/trucks. Tipper trucks will be used for transporting stone and waste. Bench height & width of bench is 5 m & width will be more than 5m. The excavated rock mass will be loaded in to 20 t capacity of trippers or truck by excavator. The life of the mine is 70 years (mine 1) & 40 years (mine 2) respectively.

14. **Waste generation:** Waste generation for Mine 1 is 4100 cum (5 years) and for mine 2 is 3040 cum (5 years)

15. **Water requirement**: The total requirement of water will be 5.5 KLD, which will be met from nearby village; NOC need to be obtained from Gram Panchayat.

16. **Greenbelt**: About 1530 number of trees will be planted in safety zone, along approach road & in village during the first year. Plantation will be done with suitable local species like Teak, Mango, Neem, Jammun, Jhaun etc after consultation with the local authorities

Year	Total Plantation	Mine 1 (Sri. Saroj Kumar Sahu)			Mine 2 (Smt. B. Swapna)		
		Plantation in safety barrierzone (0.2 ha)	Plantation along approach road	At other places in the village	Plantation in safety barrier zone (0.09 ha)	Plantation along approach road	At other places in the village
1st	780	250	150	100	130	50	100
2nd	750	250	150	100	100	50	100
3rd	Maintenance	Maintenance	Maintenance	Maintenance	Maintenance	Maintenance	Maintenance
4th							
5th							
Total	1,530	500	300	200	230	100	200
		1000			530		

17. **Employment potential**: Besides the direct and indirect employment to 33 persons, the company will provide vocational skill training to the unemployment youth of the neighbouring villages through outside agencies. Local villagers residing in the nearby villages shall be employed as semi-skilled workers

18. **Project cost**: The estimated project cost is 80 lakh. The CER budget will be 2% of total project cost of Rs 1.6 Lakh. Rs. 14.6 lakh as capital cost & 5.6 lakhs/annum (for cluster) as recurring cost is allocated for environmental protection activities

Table: Budget for Environmental protection Action plan

S.No	Particulars	Amount per Annum (Lakh)	
		Capital	Recurring
a)	Dust suppression	5.0	0.5
b)	Plantation and its protection(@ Rs. 400/sapling- including fencing)	6.2	1.0
c)	Personal Protective Equipment (@ Rs. 2000/PPE kit)	0.7	0.7
d)	Environmental Monitoring(Air, water, soil, noise)	-	1.2 (0.5 lakh, 0.4 lakh, 0.20 lakh, 0.10 lakh)
e)	Garland drain & settlingtank	2.0	1.0
f)	Haul road construction/ maintenance (Approach road, approx. 0.34 km for both mines)	0.7 (@ Rs 2.0 Lakh/km)	1.2 (@ Rs. 300*200 days* 2 labor)
g)	Patra Fencing Around thelease Cost 250/m2	5.9	
	Total	**20.5**	**5.6**

19. **Environment Consultant**: The Environment consultant **M/s Cognizance Research India Private Ltd., Noida** along with the proponent made a presentation on the proposal before the Committee.

24. The SEAC in its meeting held on dated **19-06-2023** decided to take the decision on the proposal after receipt of the following from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
a)	Brief note on Blasting and magazine management i.e. frequency and time of blasting, mitigation measures followed during blasting, protocol followed during blasting and storage of explosives. Exact distance of nearest habitation from the project site.	An Brief note on Blasting and Exact distance of nearest habitation from the project siteis attached as **Annexure - I** As far as magazine management is concern, there is no proposal for magazine because the blasting will be carried out by 3rd party (DGMS Certified)
b)	Brief note on management of flying rocks.	Attached as **Annexure – II.**
c)	There is a difference in EMP budget submitted in documents online (capital cost – Rs.14.6 lakhs and Rs. 5.6 lakhs as recurring cost) and presentation (capital cost – Rs. 20.5 lakhs and Rs. 5.6 lakhs as recurring cost). Which	Sir it is submitted that, due to some technical mistake it was estimated that capital cost was 20.5 Lakhs in presentation But the EMP budget is actually stand at capital cost – Rs.14.6 lakhs and Rs. 5.6 lakhs as recurring cost. An copy of EMP budget is submitted as **Annexure – III.**

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	one is correct? This shall be clarified.	
d)	RL of ground water during the summer and rainy season as well as RL of the surface post mining as per the approved mining lease.	The ground water Table varies during the summer is varies between 16m to 20m from the surface level. During dry season the water table falls at 20m from surface whereas during rainy season the water table remains at 16m from surface. As the mining activities, presently proposed are maximum 8m at the hill tops & slopes, so water logging in the quarry is not anticipated, the quarry floor will never intersect the ground water level. Given in Approved mining plan (Jharipadar-I-page no.12) & (Jharipadar-II Page no 11) attached as **Annexure IV.**

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Cognizance Research India Private Ltd., Noida** on behalf of the proponent, the SEAC approved the EIA/EMP report in cluster approach and recommended the following:

a) The SEIAA, Odisha may consider to grant Environmental Clearance to individual lease for Jharipadar- I & II Stone Quarries cluster without referring to SEAC with specific conditions as per **Annexure – C** after receipt of individual applications from the lessee in cluster along with following documents.

i) Filled in form-I of individual lease

ii) Prefeasibility report of individual lease

iii) EMP of individual lease.

iv) Approved Mining Plan of individual lease.

v) Report on vibration study.

vi) DLC status of the lease area from concerned DFO as certified by the concerned Tahasildar.

vii) An Undertaking by the lessee not to use wagon drilling blasting to be submitted. Accordingly, specific condition to be stipulated in EC of individual lease.

viii) No storage and usage of blasting materials/explosives inside the lease area without license/permission/authorization from competent Authority as per Indian Explosives Rules, 1983 shall be ensured by the lessee. An undertaking to this effect shall be submitted by the lessee. Accordingly, specific condition to be stipulated in EC of individual lease.

ix) An undertaking to obtain NOC from CGWA and permission from WR department, Govt. Of Odisha for use of ground water. Accordingly, specific condition to be stipulated in EC of individual lease.

x) The project proponent shall maintain periodic health check-up records of their employees and ensure use of face mask by workers in crushing and handling sections of the stone quarry for ensuring that working personnel are not affected by silicosis.

xi) The project proponent shall undertake re-grassing of the area or any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for fodder, flora, fauna etc. after ceasing mining operation that is at the time of mine closure.

xii) A condition on SOP for blasting and safety on management of flying rock to be implemented and detail risk and hazard management procedure shall be followed by the lessee as per the **Annexure – D.**

xiii) Haulage road shall be developed and maintained perennially and perpetually by the proponent in consultation with the concerned authority of the Govt.

ITEM NO. 05

PROPOSAL OF ENVIRONMENTAL CLEARANCE OF M/S FERRO ALLOYS CORPORATION LTD. FOR PATABALI COB PLANT OF CAPACITY 4,95,000 TPA THROUGHPUT OVER AN AREA OF 21.95 AC. AT VILLAGE: - PATABALI TEHSIL: - DANAGADI, DISTRICT: - JAJPUR OF SRI SANDEEP KITTANA ACHARYA - EC

1. This proposal is for Environmental Clearance of M/s Ferro Alloys Corporation Ltd. for Patabali COB Plant of Capacity 4,95,000 TPA throughput over an area of 21.95 Ac. at Village Patabali Tehsil: -Danagadi, District: - Jajpur of Sri Sandeep Kittana Acharya.
2. **Category**: As per EIA Notification 2006 and its subsequent amendments, the proposed project falls under Schedule 2(b)- Mineral beneficiation of Category "B1"
3. **TOR details**: SEIAA granted Terms of Reference (TOR) for the proposed project vide file No. SIA/OR/IND/77824/2022 dated 23 December 2022.
4. **Public hearing details**: The Public Hearing was held on 21.4.2023 (at 11:00 A.M.) at village Patabali under Danagadi tehsil of Jajpur district for Environmental Clearance in respect of M/s Ferro Alloys Corporation Limited, for Installation & operation of Patabali Chrome Ore Beneficiation Plant of Capacity 4, 95,000 TPA throughput at Village-Patabali, Tehsil-Danagadi, District- Jajpur, Odisha. Issues raised during public hearing are health, education, women empowerment, air water and noise pollution control measures, pollution control measures for Ganda Nallah, water conservation, solid waste management, local employment, local area development. Total expenses incurred for action plan of public hearing is Rs. 4,11,00,000.
5. **Location and connectivity**: The project site is located at Village - Patabali, Tehsil - Danagadi, and District - Jajpur of Odisha State. The site falls under the Survey of India Toposheet No. F45N-16 & F45O-4 bounded by Latitude-21° 5' 24.345" N& 21°5' 37.637"N and Longitude-85° 57' 54.942" E &85°58'6.328"E. The plant footprint will have an area of 21.95 acres located at Village - Patabali, Tehsil - Danagadi, District- Jajpur, Odisha. The project area is accessible through road to the nearby Expressway and is well connected to Duburi, Chandikhole, Jajpur Road and Paradeep through road network. There is no wildlife sanctuary or notified eco-sensitive area within 10 km radius of the project area. The project is situated about 2km from Tomka Railway station. The National Highway No-16 is about 15km and Keonjhar- Paradep Expressway is 0.01km away from the project area. There is no major habitation around the project area and the nearest habitation is Patbali Village at 500m away from the project boundary. There are no 1st or 2nd order natural drainage system within the project area.

6. **Baseline study:** Baseline study of the study area was conducted during Summer Season (March to May 2022).

   a) Ambient Air Quality Monitoring reveals that the concentrations of PM10 and PM 2.5 for all the 8 AAQM stations in the study area on a 24 hourly basis were found between 31.20 to 57.30 µg/m3 and 16.40 to 28.40 µg/m3 respectively. The high value of Particulate pollutant was observed at plant site which can be attributed to industrial activities and vehicular movement. The concentrations of SO2 and NOX were found to be in range of 5.10 to 8.80 µg/m3 and 10.10 to 16.50 µg/m3 respectively.

   b) Ambient noise levels were measured at 7 locations around the project site. Noise levels vary from 48.6 to 58.04 Leq dB(A) during day time and from 34.07 to 41.08 Leq dB(A) during night time.

   c) The ground water analysis for all the 5 sampling stations shows that pH value varies from 6.94 to 7.82 &Total Hardness varies from 96 to 125 mg/L.

   d) Surface water analysis for all the 6 sampling stations shows that pH varied from 7.30 to 8.19, Total Hardness varies from 90 to 126 mg/L. & Total Dissolved Solids varies from 68 to 220mg/L.

   e) Soil monitoring was carried out at 6 locations and the analysis results show pH value ranging from 6.9 to 7.5, which shows that the soil is acidic in nature. Organic Matter ranges from 0.62 to 0.92% in the soil samples. Nitrogen is found it ranges from 189.6 to 199.2 Kg/hectare and Phosphorous is from 6.8 to 7.8kg/ha, whereas the Potassium is found to be ranging from 108 to 123 Kg/ha. Soil of the area is found to be suitable for agricultural purposes.

STUDY PERIOD: MARCH - 2022 TO MAY -2022			
MONITORING STATION	PARAMETERS	RESULTS	STANDARD
AAQ PARAMETERS AT 8 LOCATIONS	$PM_{2.5}$	16.4 to 28.4 µg/m^3	60 µg/m^3
	PM_{10}	31.2 to 57.3 µg/m^3	100 µg/m^3
	SO_2	5.1 to 8.8 µg/m^3	80 µg/m^3
	NOx	10.1 to 16.5 µg/m^3	80 µg/m^3
	CO	0.11 to 0.66 mg/m^3	4 mg/m^3
AAQ MODELLING (Incremental GLCs)	PM_{10}	0.0007 to 0.03 µg/m^3	
	CO	0.005 to 0.330 µg/m^3	
GROUND WATER QUALITY AT 5 LOCATION	pH	6.73 to 7.82	6.5 to 8.5
	Total Hardness	87.36 to 125 mg/l	200 mg/l
	Chlorides	25.91 to 38.99 mg/l	250
SURFACE WATER QUALITY AT 6 LOCATIONS	pH	7.3 to 8.19	5.5 to 8.50 mg/l

	Total Hardness	84 to 126 mg/l	-
	Chlorides	29 to 39.96 mg/l	600 mg/l
	BOD	2.2 to 2.8 mg/l	3.0 mg/l
	COD	14-20 mg/l	-
	DO	4.7 to 6.1 mg/l.	4(Minimum)
WATER LEVEL	Depth From surface	2.4 mtr to 11.20 Mtr	Varies
NOISE LEVELS AT 7 LOCATIONS	Day Time	48.6 to 58.04	65 dB
	Night time	34.07 to 41.08	55 dB

7. **Size & Magnitude of Operation**: Chrome ore beneficiation plant of 4, 95,000 Ton/yr feed for maximum production of chrome ore concentrate of 2,97,000Ton/yr (with average 60% recovery rate). The plant will be setup within an area of 21.95acres and the greenbelt will be developed in an area of 7.24acres.

8. **Land use pattern**:

Sl No.	Land use pattern	Area (Ha.)	Area (Acres)
a)	Truck Parking Area	0.391	0.97
b)	Rom Storage	0.640	1.58
c)	Beneficiation Plant	1.121	2.77
d)	Tsf(Tailing Storage Facility)	1.776	4.39
e)	ETP	0.016	0.04
f)	STP	0.016	0.04
g)	WTP	0.021	0.05
h)	Concentrate Yard	0.177	0.44
i)	Other Infrastructure & Road	1.682	4.15
j)	Electrical Package (Receiving Substation +Electrical Building)	0.113	0.28
k)	Green Belt	2.930	7.24
TOTAL		8.883	21.95

9. **Process technology**: The process involves beneficiation of less than 40% Chromite Ore to upgrade it to 48%-52% concentrate. This includes the Hopper, Crusher, Washing, Ball Mill, Zigging and Gravity separation units. The wet tailings will be processed in Thickener followed by Filter press to produce Tailing Cakes, which will be stacked inside the premises in a designated area with impervious lining. The finished product concentrate shall be stored in sheds and raw

material shall be stored in separate area and handled by wheel loader for feeding and loading purposes.

10. **Raw Material**: The Raw Material used will be Chrome Ore of below 40% Grade Cr_2O_3 with 10% moisture with recovery rate equivalent to 40-60%. The finished products generated will be Chrome Concentrate Cr2O3 with 7-8% moisture. The total quantity of Raw material as throughput is estimated at 4,95,000 TPA.

11. **Power Requirement**: The specific Power Consumption will be 20 KWHr/Ton of Ore Processing at the proposed Plant and accordingly, to process 4,95,000 TPA Chrome Ore, 2.5 MWH Power is required for this proposed Plant which will be sourced from TPNODL. There will requirement of diesel 46.26MT/Annum, which will be sourced from outside on demand. In Case of Power Failure situation, it is envisaged that a D.G Set of 500 KVA of Kirloskar/Cummins make will be installed which will operate as emergency power back up for the plant during the power cut.

12. **Water Requirement:** The makeup water requirement for the proposed project will be 485 KLD including 10 KLD domestic water.

Sl No.	Particulars	Quantity	Source	Mode
1.	Fresh Water Requirement (KLD)	485 KLD	Ground water	Borewell
2.	Power Requirement	2.5 MWH	TPNODL	Under ground Cable
3.	Fuel Requirement (Diesel)	46.26 MT/Annum	Supplier	Road

13. **Waste water management:** The waste water discharged from COB plant will be passing through tailing thickener and filter system and the same water will be recycled & used as process water for the COB Plant. Part of the recycling water will be taking to the ETP and the treated water from ETP will be used for dust suppression, afforestation & other industrial use purpose.

14. **Tailing generation and management:** In the given beneficiation process, 40% by volume tailings will be generated in the form of filter cakes, which needs to be managed efficiently. The Tailing Generation is been calculated as below. Considering the range of concentrate recovery is 40-60% the tailing generation has been taken in higher side i.e. 60% tailing generation. 2,97,000 TPA tailings will be generated. Temporary storing in designated area of 297000 TPA and the accumulated solids from tailing storage yard/facility shall be transferred and disposed for the purpose of backfilling of mine void/reclamation.

15. **Greenbelt:** Based on the agro climatic conditions of the region, location of the plant and physico bio chemical properties of the soil strata in addition to the nature of pollutants and their rate of dispersion, Local plant species have been identified for green belt development. The green belt will be developed over 33% of the total project area. Species to be planted are *Shorea robusta, Terminalia bellirica. Terminalia chebula, Terminalia alata, Pterocapus marsupium, Madhuca indica, Anogeissus latifolia, Diospyros melanoxylon, Dendro calamusstrictus, Cleistanthus collinus, Cassia fistula, Carissa spinarum, Combretum roxburghii etc.*

16. **Rainwater harvesting:** The estimated hourly runoff from the area is estimated at 15.206 m^3 . Considering 90 days of rainfall per year, the daily and annual rainfall is 121.648 m^3 and 10948 m^3 respectively. This harvestable water has been planned to be stored in an open rainwater harvesting pond of capacity: 1245 Sqm x 4 = 4980 cum.

17. **Manpower Requirement:** The project will generate 84 nos. of manpower, out of which 25 skilled, semi-skilled 36 & unskilled and the rest 23 nos will be recruited as Administrative & Operating personnel and around 250 people will be indirectly engaged in various operations.

18. **Project cost:** The total investment in the project is estimated to be around Rs 55.4 Crores and out of which the firm will take a term loan of Rs 45 Crores and the remaining will be contributed by the promoters from their own source. EMP Cost is Rs. 720 Lakhs (capital Cost) &Rs.90 Lakhs (Recurring Cost).

Sl. No.	Particulars	Capital Investment (Rs. in lacs)	Recurring Investment (Rs. in lacs)
a)	Air Pollution Control	115	5
b)	Water Pollution Control	45	2
c)	Noise Pollution Control	17	2
d)	Environment Monitoring & Management	87	15
e)	Occupational Health	7	2
f)	Risk control measures	5	Included in the Environmental Monitoring
g)	Safety & Disaster Management Plan	20	5
h)	Green Belt	13	6
i)	PH compliance	411	53
Sub Total		**720**	**90**

19. **Environment Consultant:** The Environment consultant **M/s Ardra Consulting Services Pvt. Ltd, Bhubaneswar, Odisha** along with the proponent made a presentation on the proposal before the Committee.

25. The SEAC in its meeting held on 05-07-2023 decided to take the decision on the proposal after receipt of the following from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
a)	Since, part of the land has not been acquired, land document and status of land acquisition of project area to be submitted.	The total project area is 21.95 acre. Out of which, Records of Rights (ROR) has been obtained from the office of Tahasildar Danagadi for 18.30 acre. The said area has also been converted into Industrial purpose (copy of ROR	Complied

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
		Enclosed). MOU has been signed and executed with the present owners of the balance land for transfer of ownership as well as consent for possession the said land. Presently the total project area is within the boundary and under the actual physical possession of FACOR. Mutation for the balance land is under process. The ROR and MOU are attached in **Annexure-1.**	
b)	Permission /Clearance from water resources department for use of ground water.	The evidence of NOC from water resource department is attached in **Annexure-2** based on which permission from CGWA is been sought for.	Water Resource dept. has asked the project proponent to apply for Ground water since there is no water supply to that area.
c)	Design/layout of proposed 6 meter height of tailing storage and its management.	The height of tailing storage and its management is attached in **Annexure-3.**	complied
d)	Chemical analysis of the tailings for hexavalent chromium.	The Plant has not started any production and hence no tailings are generated yet. However based on the empirical derivation for Chemical Balance and other similar tailing Analysis, the chemical composition of tailings will be Cr2O3-8.87%; FeO (T)-36.21%; Al2O3-9.82%; SiO2-29.88% and MgO-3.02%. From the Leachate test of composite sample of Chrome Ore Tailings extracted with water is Cr (VI): 1.6 ppm and total Cr: 3.1 ppm.	-
e)	Water analysis report of Nala, water bodies near habitation and samples of ground water collected from the study area for contents of hexavalent chromium, manganese and other heavy metal elements such as vanadium, mercury etc.	The water analysis report of both Ground Water & Surface Water within the study area is attached in **Annexure-4.** In all the samples Heavy metal are in below detection limits.	complied
f)	Ensure that the differences between the reduced level of the bottom of rainwater harvesting pits and the reduced level of ground water during rainy season are adequate for effective recharge of collected rainwater and submit the report for the same.	As in **Annexure 5.**	submitted
g)	Explore the possibility for the installation of permanent storage tanks/ ponds for rainwater and its use as per the requirement.	Acknowledging the advice, it is now planned to harvest rooftop rainwater and store it in underground concrete storage tanks for reuse along with the makeup water for beneficiation process.	-

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
h)	Explore the possibility for the application of membrane technology for waste water treatment.	It is well taken and due to the treatment of Ferrous Sulphate for conversion of Hexavalent Chromium to Trivalent chromium along with coagulation and settling, the introduction of Membrane filters along with coagulated particle segregation shall be adopted for the waste water treatment.	-
i)	Changes made in EIA report in tabular form before and after public hearing.	The detail changes in the EIA before & after Public Hearing is tabularized in the **Annexure-6**.	submitted

Considering the information furnished and the presentation made by the consultant, **M/s Ardra Consulting Services Pvt. Ltd, Bhubaneswar, Odisha** along with the project proponent, the SEAC recommended for grant of Environmental Clearance valid for 10 years with stipulated conditions as per **Annexure – E** in addition to the following specific conditions:

i) The waste water that will be generated from the tailings shall be treated in ETP wherein hexavalent Chromium shall be reduced to trivalent Chromium by dosing it with appropriate standard chemical following due technical procedure.

ii) The PP shall obtain NOC to use the Panchayat roads from the concerned BDO for transportation of both input materials and finished products including the responsibility of maintaining the road if damaged by such transportation.

iii) As the PP will implement the dry stacking of tailings, there will be trickling down of effluent. Also during rain, the leached effluent from stack will trickling down. PP shall ensure collection of these effluents for treatment with routine analysis to ensure satisfying the standard before it is discharged. All data shall be kept for periodical compliances.

iv) The PP shall make all efforts to adopt ZLD.

ITEM NO. 06

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR HAZARIDANGA STONE QUARRY (I TO VIII) OVER A CLUSTER AREA OF 11.938 HECTARES/ 29.49ACRES (CONSISTING OF 8 NOS. QUARRIES) LOCATED AT VILLAGE- HAZARIDANGA, TAHASIL- KOLNARA, DISTRICT- RAYAGADA OF TAHASILDAR, KOLNARA – EC

1. The proposal is for Environmental Clearance for Hazaridanga Stone Quarry (I To VIII) over a cluster area of 11.938 hectares/ 29.49acres (consisting of 8 nos. quarries) located at Village- Hazaridanga, Tahasil- Kolnara, District- Rayagada of Tahasildar, Kolnara.
2. The project falls under category "B" or activity 1 (a) - Mining of Minerals under EIA Notification dated 14th September 2006 as amended from time to time.
3. Hazaridanga Stone Quarry (I to VIII, cluster of 8 Quarries) is located at village Hazaridanga, Tehsil Kolnara, District Rayagada of Odisha. The project is proposed by the Tahasildar, Kolnara, Rayagada.The proposed project is in cluster situation as 8 leases are within 500 m radius & total lease area becomes greater than 5 ha. The total cluster area granted under QL is 11.938 ha within 500m.

4. Detailsof8StoneQuarries undertotalclusterareaof11.938Ha.is given in Table:

Sl no.	Name of Quarry	Lease area (Ha.)	Land Schedule	Kissam
a)	Hazaridanga Stone Quarry I	1.011	Khata No-6 Plot No -37	Pahad
b)	Hazaridanga Stone Quarry II	2.024	Khata No-6 Plot No -37	Pahad
c)	Hazaridanga Stone Quarry III	2.024	Khata No-6 Plot No -99	Pahad
d)	Hazaridanga Stone Quarry IV	1.214	Khata No-6 Plot No - 84	Pahad
e)	Hazaridanga Stone Quarry V	1.214	Khata No-6 Plot No -84(p)	Pahad
f)	Hazaridanga Stone Quarry VI	2.023	Khata No-6 Plot No -98(p)	Pahad
g)	Hazaridanga Stone Quarry VII	1.214	Khata No-6 Plot No -98(p)	Pahad
h)	Hazaridanga Stone Quarry VIII	1.214	Khata No-6 Plot No -84	Pahad
Total		11.938		

5. The Hazaridanga Stone Quarry (I to VIII) is proposed on Khata no- 6, Plot no- 84, 37, 99, 84, 98(p), 84(p), 98(p) of PahadKissam in village - Hazaridanga in Tahasil Kolnara in Rayagada District of Odisha. The mining lease area is identified and listed in the DSR of stone and is mentioned in the DSR page no – 25, 26, 32 &34, Serial no – 1,8,2,3,6,7 & 8 of the Rayagada district . Hazaridanga Stone Quarry (I to VIII) is a minor mineral extraction project for exploitation of stone. The average production from the cluster is proposed to be 27650 cum/year and total production from the cluster will be 133332 cum during the valid lease period of 5 years.

6. **Location and Connectivity** - The area under discussion is featured in Survey of India Topo Sheet No – 65M/7, 65M/8, 65M/11 & 65M/12 and is bounded between the Latitude -19° 14' 50.00" N to 19° 15' 22.17" N , Longitude – 83° 29' 46.66" E to 83° 30' 14.85" E. The lease area is located at a distance of 0.4km from village Hazaridanga and at a distance of 04 kms from Kolnara, 13.0 kms from the District Headquarters Rayagada and 495.0 kms from the State Capital Bhubaneswar. Rayagada Railway station is the nearest railway station located at a distance of 13 kms from the lease area. Nearest Road bridge is at a distance of 4.2 km from the mining lease area. Metal road connecting to the lease area and with the village – Hazaridanga is at distance of 0.1 km. SH – 4 is the nearest State Highway at a distance of 1.1kms. Major district road is at distance of 1.1 km. NH-43 is the nearest National Highway which is at a distance of 87 km.

7. The Mining Plan of each stone quarry (8Nos.) has been approved by the approving authority, Office of the Joint Director of Geology, Zonal Survey, Koraput.

8. TOR has been granted from SEIAA vide letter no 880/SEIAA dated 09.03.2021 for Hazaridanga Stone Quarry (I to VIII) over an Cluster area of 11.938 ha/29.49 Acre of stone in village- Hazaridanga, Tehsil - Kolnara, District- Rayagada, Odisha.

9. The public hearing was conducted on 21st September, 2021 at 11.00A.M in RMC Godown at Padalekapai village (Near Hazaridanga village) under Kolnara Tehsil, District Rayagada.

10. Baseline Study was conducted during period for post monsoon season of 2020 i.e, from October to December, 2020.

11. **Geological and Mineable Reserve**: -Reserve is calculated basing on the existing quarry/surface exposures and cross sectional area method has been taken suitably for reserve estimation. The cross sectional area of the road metal is computed for each section by graphical method. For the purpose of estimation of quantity of the road, railway and building materials, recovery factor is taken as 90% of total rock mass while remaining 10% is assumed to be waste consists of weathered rock and soil.

S no.	Name of the Quarry	Geological reserve (cum)	Mineable reserve (cum)
a)	Hazaridanga Stone Quarry I	2,19,745	84,625
b)	Hazaridanga Stone Quarry II	2,87,562	1,77,973
c)	Hazaridanga Stone Quarry III	1,34,078	93,252
d)	Hazaridanga Stone Quarry IV	2,73,167	1,15,684
e)	Hazaridanga Stone Quarry V	3,15,057	1,12,417
f)	Hazaridanga Stone Quarry VI	5,16,684	2,55,888
g)	Hazaridanga Stone Quarry VII	3,19,938	1,48,230
h)	Hazaridanga Stone Quarry VIII	1,47,735	88,717
	8 nos.	22,13,966	10,76,786

12. **Method of Mining** - Mining will be done by Opencast semi-mechanized method with adopted of drilling & blasting. There is practically no OB at proposed site as it is already broken. The excavation in ore zone will be carried out by HEMM. In order to prevent haphazard excavation of pits and suitable blending of ore, the excavation has been proposed at one place. Sorting and sizing will be done manually also. The working has been proposed bench will be of height 6m and width 6m.

13. Total Production of the Hazaridanga Stone Quarry (I to VIII) Under Cluster Approach

Sl.No.	Name of Quarry	Useable Rock (cum)	Waste (cum)
a)	Hazaridanga Stone Quarry	13034	686
b)	Hazaridanga Stone Quarry II	24348	2704
c)	Hazaridanga Stone Quarry III	24402	2704
d)	Hazaridanga Stone Quarry IV	10854	1205
e)	Hazaridanga Stone Quarry V	22842	2538
f)	Hazaridanga Stone Quarry VI	11360	2840
g)	Hazaridanga Stone Quarry VII	11372	599
h)	Hazaridanga Stone Quarry VIII	15120	1680
Total	8 Nos.	**133332**	**14956**

14. The waste generated from the cluster is expected to be 14956 Cu.m. and volume of top soil is

19090 Cum. during the plan period are not useable for construction purpose, so these materials will be dumped in the temporary dump of 3 – 8 m height which will be utilized for approach road developers and maintenance purposes. The top soil available will be used for plantation activity and the waste material, which is normally in the form of weathered material, is used for filling, road making and maintenance within the lease hold area only.

15. **Employment Potential** - Total number of employments will be around 101 numbers. including Management, Supervisory personnel, Skilled, Semiskilled and Unskilled.

16. **Water Requirement** - 87 KLD of water will be required for drinking, domestic purpose and for dust suppression. Water will be withdrawn from tube wells from nearby village through water tankers.

17. **Plantation** - Green belt shall be developed along the Safety zone of the lease area with the native tree species. The plantation proposal has been given to plant around 9870 saplings over safety zone of whole cluster and both sides of approach road. Species likely to be planted are Teak, Acasia Neem, Jamun etc as per the availability. Spacing between the saplings will be kept 2.5 meters x 2.5 meters only. (Plantation has been given 2500 Plants/hac.).

18. The estimated project cost is ₹ 2.4 crores and EMP cost is Rs. 57,54,000 lakhs and recurring cost is Rs. 56,80,000.

19. The project proponent along with the consultant **M/s P&M Solution., Noida -201301 – U.P** made a detailed presentation on the proposal on 05.08.2022.

20. The SEAC in its meeting held on 05.08.2022 decided to take decision on the proposal after receipt of the following information / documents from the proponent followed by site visit of Sub-Committee of SEAC.

21. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
a)	Installation of STP of adequate capacity and requisite design.	This is not applicable as the domestic waste water will be treated by septic tank.
b)	Proposed mitigation measures/ SOP for flying rock.	Mitigation measures for the fly rock during blasting have been given below: • Parking all vehicles and equipment a safe distance from the blasting area whenever possible. • Staying behind a blast shield or blast mats for fly rock protection during blasting • Making sure everyone has evacuated the blast area before proceeding. • Always following the supervisor's instructions. • Scrupulously guarding the access roads to the blast area and otherwise maintaining good blast site control.
c)	Sketch map showing Dump management, garland drain and silt management and photographs of that area.	Detail has been attached as **Annexure I**.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
d)	Risk involved and measures to be taken for Dump stablization and dump management.	Retaining wall will be provided all along the perimeter of the dump to prevent hazardous situation and wash up of the dump and garland drain will be constructed side by of the retaining wall for proper drainage of rain water, so that dump floor area should not be damage by the rain water. Before letting the garland drain water outside the lease, it will be passed through the settling tank for settlement of the mud carried from the dump area.
e)	Green belt in safety zone of each mine and all-round the clusters to be confirmed with details.	Plantation will be done all along the safety zone of each mine site and all around the clusters. Detail has been given in **Annexure II**.
f)	Arrangement of pipeline sprinkling (permanent water line) to be explored and confirmed.	Undertaking has been attached as **Annexure III**.
g)	Silt management and detailed plan for the same to arrest /remedy of silt ingress to surrounding agricultural lands.	Management of silt management will be managed by the construction of settling tank and garland drain at a direction of water flow from the mining lease area (Settling tank and Garland Drain detail has been attached as **Annexure I**.
h)	Safety measures during blasting including provision of warning to be submitted.	Preparation of charging and stemming of holes will be done by a qualified blaster. Before a shot is charged, stemmed or fired, sufficient warnings by signal is given over the entire area falling within the danger zone and ensure that all persons within such area have taken proper shelter. • During blasting, controlled blasting will be done to prevent flying fragments which may cause injury to local inhabitants within danger zone. Proper inspection after shot firing will be done by the blaster. The number of shots which exploded shall be counted by the blaster to assess misfire. All necessary precautions as enumerated under 106(2) (b) of MMR 1961 will be followed.

22. The SEAC in its meeting held on 05.08.2022 decided to take decision on the proposal after site visit of the Sub-Committee of SEAC. The SEAC opined that the proposed area is far and possibility for site visit to the place by SEAC Members is not possible.

After detailed discussion, the SEAC decided to take decision on the proposal after receipt of the following from the proponent.

(i) Video showing the cluster lease area with geo coordinates, transportation road of the cluster, Mine area of all quarries present in cluster and previous mining activity.

Proceedings of the SEAC meeting held on 11.09.2023 (Old proposals – compliance received)

Jayak
Environmental Scientist, SEAC

(ii) Fresh KML file.

ITEM NO. 07

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR DARGULA SAND BED CLUSTER I & II, OVER AN AREA OF 6.69 HECTARES IN VILLAGE DARGULA, TAHASIL DABUGAON, DISTRICT NABARANGPUR BY TAHASILDAR DABUGAON (SUBMITTED UNDER CLUSTER APPROACH CONSISTING OF 2 SAND QUARRIES) – EC

1. This proposal is for environmental clearance for Dargula sand bed cluster I & II, over an area of 6.69 Hectares in village Dargula, Tahasil Dabugaon, District Nabarangpur of Tahasildar Dabugaon (submitted under cluster approach with consisting of 2 sand quarries).
2. **Category:** The project is categorized in Category-B-1 of Schedule under item 1(a)-Mining of Minerals in the EIA notification, 2006 and its subsequent amendments.
3. The Mining plan has been approved The Joint Director of Geology, Zonal survey, Koraput. Vide letter no – 1120, on dated 08.06.2020 (Quarry I) and 1141, dated 08.06.2020 (Quarry II)
4. The proposed mining cluster project is the river bed sand mining on Angi River at village Dargula under Tahasil: Dabugaon, Dist: Nabarangpur, Odisha over an area of 6.69 Ha. The cluster constituted of two sand bed namely Dargulla sand quarry I over an area of 2.53 Ha , Dargulla sand quarry II over an area of 4.16 Ha , on Angi river. All the two mines located within 500m radius from each other forming a cluster of sand bed. The lease has been allocated to the successful bidders by Tahasildar Dabugaon.
5. The Dargula sand quarry I have been allocated to Sri K. Paban Raju and Dargula Sand Quarry II has been allocated to Sri B. Jogi Raju.
6. **Public hearing details**: Public hearing was successfully executed on date 20.09.2022 at Gram Panchayat office premises of Jabaguda village under Dabugaon Tahasil in Nabarangpur district as per the guidelines given in EIA Notification 14th Particular September' 2006 and its subsequent amendment. Road repairing and widening of roads and supply of sand on concessional rates to local people were the main issues raised during public hearing and budget allocated for it was Rs. 1,48,000.
7. **TOR details**: TOR has been granted by SEIAA- Odisha prescribed the Reference No: 651/SEIAA dated 26-02-2021.
8. **Location and connectivity:** The proposed river bed sand mining will be carried out on Angi River located at village: Dargula, under Tahasil: Dabugaon, Dist Nabarangpur, Odisha The project site is located in survey of India toposheet no-(65I/7). Dargula Sand Quarry I falls between latitude of 19°26'09.73"N to 19°26'18.09"N and longitudes of 82°20'23.12"E to 82°20'34.50"E and Dargula Sand quarry II falls between latitude of 19^{0}26'13.93"N to 19^{0}26'29.44"N and longitudes of 82^{0}20'34.91"E to 82^{0}20'45.80"E. Nearest Railway station is Kotpar Railway Station at a distance of 44.02 Km from the project site. The nearest road is a village road located at a distance of 100m. The site is well connected to NH-201 & SH-39 at a distance of 21.09 Km & 6.7 Km respectively. Nearest airport is Jharsuguda Airport located at a distance of 326Km from the mining Lease Cluster.
9. **Topography and drainage:** Topography of the area is a flat terrain which lies at an elevation of more than 2m from the level of flow of water. The gradient of flow of water in the river is gentle.

So, in the lease area, the highest elevation is 115mRL & lowest elevation is 113mRL in sand. Drainage system in the region is dendritic. General flow direction of river is from North to South. Work will continue only during summer months when there is no water in the leasehold. Mining will be restricted to a depth above the ground water level.

10. **Replenishment report:** The estimated average erosion thickness is computed within the entire lease area and common safe workable area respectively. However, the volume of sand available in Dargula-I sand quarry after post monsoon study is around 6465.3 m^3, which can be treated as safe extractable within the framework of the study after arrival of river level. As it is a new mine no excavation has done in this year. So, total minable reserve available for mining is 36825.3 m^3 whereas, approved production capacity for the year is 6072 m^3. The volume of sand available in Dargula-II sand quarry after post monsoon study is around 12814.68 m^3, which can be treated as safe extractable within the framework of the study after arrival of river level. So, total minable reserve available for mining in Dargula-II is 46244.68 m^3 whereas, approved production capacity for the year is 6670 m^3.

11. **Reserves:** Geological reserves and mineable reserves of Dargula Sand Quarry I is 62301.96 cum and 31463.64cum respectively and for Dargula Sand Quarry II is 77265 cum (geological reserve) and 33430 cum (mineable reserve).Total production of the proposed project is given below in the following table.

Sl. No.	Year	Dargula -I Production in m^3	Dargula II Production in m^3	Total Production in m^3 (Cluster)
a)	1st	6072	6670	12742
b)	2nd	6072	6670	12742
c)	3rd	6072	6670	12742
d)	4th	6072	6670	12742
e)	5th	6072	6670	12742
Total		30360	33350	66710

12. **Mining method:** The method of excavation of sand from Dargula Sand Quarry – I & II will be by manual method. The mode of the deposits, geomorphology of the area and its hydrological condition are some of the factors that favor the open cast method of mining. In this deposit, the mining is done by dry-pit method i.e. Sand will be excavated within the active channel on dry intermittent or ephemeral stream beds. The excavator is used for removal of sand from the pits. The sands are extracted, loaded and transferred from pits to the users through trucks and tractors. The mining is done on single shift basis. The local manpower has been engaged in the mine. Benching will not feasible in case of sand mining as the maximum depth of mining will be only 1 m.

13. **Water requirement:** the water requirement for workers for the Dargula I, 7.0 KLD of water will be required and 8.0 KLD of water will be required for Dargula II. Total water requirement for the cluster will be 15.00 KLD. This water will be supplied from the nearby area.

Activity	Calculation	Round off Figure in KLD
Drinking	@ 10 lpcd per labor 10*21/1000= 0.21 KLD	0.21

Activity	Calculation	Round off Figure in KLD
Dust Suppression	Total approach road to be water sprinkled = 1540 m 1540 m*6m*0.5 *2 times/1000= 9.24 KLD	9.24
Plantation	2610 plant (during plan period) @ 2 L/per plant= 2610*2lts= 5220/1000= 5.22 KLD	5.22
Total		14.67 ~ 15.0

14. **Baseline study:** Baseline study was conducted for period of 3 months (October'21 to December'21).

a) Ambient Air Quality Monitoring reveals that the minimum & maximum concentrations of PM_{10} for all the 7 AQ monitoring stations were found to be 58.7 $\mu g/m^3$ at AQ3 and 89.34 $\mu g/m^3$ at AQ1, respectively. Ambient Air Quality Monitoring reveals that the minimum & maximum concentrations of $PM_{2.5}$ for all the 7 AQ monitoring stations were found to be 23.21 $\mu g/m^3$ at AQ3 and 56.21 $\mu g/m^3$ at AQ1, respectively. As far as the gaseous pollutants SO_2 and NO_x are concerned, the prescribed CPCB limit of 80$\mu g/m^3$ for residential and rural areas has never surpassed at any station. The minimum & maximum concentrations of SO_2 were found to be 3.24 $\mu g/m^3$ at AQ2 & 17.21 $\mu g/m^3$ at AQ1, respectively. The minimum & maximum concentrations of NO_X were found to be 9.83 $\mu g/m^3$ at AQ3 & 25.10 $\mu g/m^3$ at AQ1, respectively.

b) Analysis results of ground water during study period reveal pH varies from 7.19 at GW4 to 7.73 at GW6; total hardness varies from 280.34 mg/l at GW4 to 329.4mg/l at GW3 ;total dissolved solids vary from 846 mg/l at GW4 to 1238 mg/l at GW6.

c) Surface water analysis results indicate that the pH ranges between 7.32 and 7.72. Dissolved Oxygen (DO) was observed in the range of 6.8 to 7.4 mg/l against the minimum requirement of 4 mg/l. BOD values were observed to be in the range of 3.62 – 4.3 mg/l. The chlorides and Sulphates were found to be in the range. Bacteriological examination of surface water samples revealed the presence of total coliform in range of 1.8×10^3MPN/100 ml to 2.0×10^3. MPN/100 ml.

d) Noise monitoring reveals that the maximum & minimum noise levels at daytime were recorded as 59.4 Leq. dB (A) at NQ3 & 50.6 dB (A) at NQ5, respectively. The maximum & minimum noise levels at night-time were found to be 48.2 dB (A) at NQ3 & 38.8 dB (A) at NQ5.

e) Samples collected from identified locations indicate the soil is sandy type and the pH value ranging from 7.25 to 8.02, which shows that the soil is alkaline in nature. Potassium is found to be from 234.20mg/kg to 253.56mg/kg. The water holding capacity is found in between 26.94 % to 32.09%.

15. **Greenbelt**: Plantation will be done with suitable local species like Teak, Mango, Neem, Jammun, Jhaun etc after consultation with the local authorities. A time bound progressive schedule for

greenbelt is given in the following table. Total 2610nos. of saplings will be planted from the cluster during plan period.

Dargula Sand Quarry - I				
Year	**Safety Zone Plantation Area/No. of plants**	**No of plants along both side of approach road**	**Location**	**Species**
1st	0.480/480	740	Approach road – 740 nos – along both sides 0.74 km of approach road at spacing of 2 m.	Guava, mango, Jammun, jhaun, neem etc
2nd	Maintenance	Maintenance		
3rd				
4th				
5th				
Total	**480**	**740**		
Total	**1220**			

Dargula Sand Quarry - II					
Year	**Safety Zone Plantation Area/No. of plants**	**No of plants along both side of approach road**	**No. of plants in buffer zone consulting local authorities**	**Location**	**Species**
1st	0.491/490	800	100	Approach road – 800 nos – along both sides 0.80 km of approach road at spacing of 2 m. Village area – 100 nos. In village area like school premises, Aangawadi, Panchayat bhavan	Guava, mango, Jammun, jhaun, neem etc.
2nd	Maintenance	Maintenance	Maintenance		
3rd					
4th					
5th					
Total	**490**	**800**	**100**		
Total	**1390**				

16. **Manpower requirement:** Total manpower requirement of Dargula sand quarries is 21 nos. (i.e. Dargula sand quarry I is 10nos. and Dargula sand quarry II is 11nos.).

17. **Project cost:** The estimated cost of project is around Rs. 60 lakhs.CER budget proposed for this project is 1,20,000/- and for EMP a budget of Rs.830000 has been allocated as capital cost and Rs. 270000 as recurring cost.

Dargula Sand Quarry– I & II (For Cluster) Budget for environmental protection

Sl. No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
1.	Pollution Control Dust Suppression /Water Sprinkling	--	50,000

2.	Pollution Monitoring i) Air pollution ii) Water pollution iii) Soil Pollution iv) Noise Pollution	--	50,000 40,000 10,000 10,000
3.	Green belt development	5,22,000	50,000
4.	Maintenance of haul road	3,08,000	60,000
Total		**8,30,000**	**2,70,000**

18. **Environment Consultant**: The Environment consultant **M/s P and M Solution, Noida** along with the proponent made a presentation on the proposal before the Committee on 03.03.2023.

19. The SEAC in its meeting held on dated 03-03-2023 recommended the following;

A) The proponent may be asked to submit the followings for further processing of EC application;

a) Exclude concave portions (area prone to erosion) from the mining zone.

b) Revisit and submit replenishment study.

c) The exact distance of the nearest bridge from proposed quarry.

d) Certificate from concerned DFO for absence of Schedule – I species and the flora and fauna of the region.

B) The proposed site shall be visited by Sub-Committee of SEAC to verify the followings;

i) Actual sand deposit in the lease area as shown in KML file.

ii) Environmental settings of the lease area.

iii) Mining activity, if any carried out in the lease area.

iv) Road connectivity to the lease area.

v) Distance of the bridge from the boundary of the lease area.

vi) Cluster approach if any.

vii) Distance of embankment from sand deposit.

20. The project proponent has not replied to ADS raised by SEAC. Regarding the site visit, the SEAC opined that proposed area is far and possibility for visit to the place by SEAC Members is not possible.

After detailed discussion, the SEAC decided to take decision on the proposal after receipt of the following from the proponent.

i) Video showing the cluster lease area with geo coordinates, transportation road of the cluster, Mine area of all quarries present in cluster and previous mining activity.

ii) Fresh KML file.

ITEM NO. 08

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR TAMIAN SAND QUARRY OVER AN AREA OF 12.00 ACRES OR 4.856 HECTARES IN VILLAGE TAMIAN UNDER PATNAGARH TAHASIL OF BALANGIR DISTRICT OF SRI BHAKTA CHARAN PATEL - EC

1. The proposal was appraised in SEAC Meeting dated 28.06.2023. The SEAC decided to take decision on the proposal after site visit by sub-committee of SEAC to verify the availability of sand in the proposed quarry.
2. The SEAC opined that proposed area is far and possibility for visit to the place by SEAC Members is not possible

After detailed discussion, the SEAC decided to take decision on the proposal after receipt of the following from the proponent.

i) Video showing the cluster lease area with geo coordinates, transportation road of the cluster, Mine area of all quarries present in cluster and previous mining activity.

ii) Fresh KML file.

ITEM NO. 09

PROPOSAL OF ENVIRONMENTAL CLEARANCE OF BHUBANESWAR DEVELOPMENT AUTHORITY FOR CONSTRUCTION OF B+S+9 STORIED COMMERCIAL/ RESIDENTIAL APARTMENT CONSTRUCTION WITH BUILT-UP AREA FOR THE PROJECT WAS 17923 SQ.M. AT PRESENT WITH PARKING AREA OF 7477 SQ.M THE TOTAL BUILTUP AREA IS NOW 25400 SQ.M I.E > 20,000 SQ.M AT BHAGABANPUR MOUZA, BHUBANESWAR, KHORDHA OF SRI LOKANATH PRASAD MOHAPATRA – EC (VIOLATION CASE)

1. This proposal is for Environmental Clearance of Bhubaneswar Development Authority for Construction of B+S+9 storied commercial/ residential apartment construction with built-up area for the project was 17923 Sq.m. At present with parking area of 7477 Sq.m the total builtup area is now 25400 Sq.m i.e > 20,000 Sq.m at Bhagabanpur Mouza, Bhubaneswar, Khordha of Sri Lokanath Prasad Mohapatra.
2. **Category**: This project falls under Category "B", Project or Activity 8(a) Building and Construction projects as per EIA Notification dated 14th Sep, 2006 as its amendments.
3. **Project details**: BDA was constituted on 1st Sept, 1983 under provisions of ODA Act, 1982. Initially, 115 revenue villages of Bhubaneswar, Khordha and Jatni were taken into its jurisdiction, but due to bifurcation and inclusion of new villages, at present the number of villages under its jurisdiction stands at 556.The construction project of B+S+9 storied commercial and residential apartment is spread over about 1.48 acres of land, the construction project is for commercial and residential purpose. Total built-up area of the project is 25400 sq.m with parking area of 7477 Sq.m. Green area allocated for the project is 600 sq.m. The project will create commercial facility in the ground and first floor of the project site, parking in the basement and stilt and 7 floors for residential purpose. There will be 70 nos of residential apartments in the project. The construction work for the project has been carried out by Bhubaneswar Development authority as the initial built-up area for the project was 17923 Sq.m. However, after the completion of the project, there was the requirement of parking area of 6500 Sq.m. Looking to the additional requirement of parking as the project include commercial space, BDA allocated an area of 7477 Sq.m of the area for parking purpose, leading to total built up area 25400 Sq.m.

4. **Violation justification**: As the built-up area is now greater than 20,000 Sq.m, Environment clearance is required for the project as per EIA Notification, 14th September 2006, and subsequent amendments. As the construction of the project has been completed, the project is coming under violation to EIA Notification 2006. Violation ToR was issued for EIA Study by the SEIAA, Odisha vide file no. SIA/OR/INFRA2/414838/2023, dated 28.04.2023.

5. Land has been allocated by Odisha State Govt. to Bhubaneswar Development Authority for Developmental purpose.

6. **Location and connectivity**: The proposed project includes the Plot area of 1.48 Acres with built-up area: 25400 Sqm and located on Khata No. 683/1, Plot No: 86, 193, 347/2415, 1046/1480, 83/1680; Kissam – Gharabari, Mouza – Bhagabanpur, Bhubaneswar, Odisha. The area is located in Survey of India Toposheet No. 73 H/11. The project site is connected by NH16 road and located near DN Regelia mall.The site is surrounded by 30m wide approach road towards south and NH 5 on the north direction. BDA has already taken up residential and commercial projects at Kalinga Nagar.

7. **Topography and drainage**: The area for the construction project is in alignment with the surrounding developmental plan of Bhubaneswar. The nearby area is being used for construction of building; apartments used for residential purposes. So the existing land use pattern of the area will not significantly change due to the construction of "Bhubaneswar Development Authority – Bhubaneswar. The drainage of the district is mainly controlled by rivers like The Mahanadi, Kuakhai, Kushabhadra, Daya, Ran, Kalijiri, Sulia, Kharia & the Kusumi. Being a coastal district the river basins are much wider and the sand sources are very much suitable for construction purposes. There is no natural drainage system passing through the project area.

8. **Area details:**

Sl. No	Building Name	Stories	No. of Dwelling units	Built up area in Sq.m
1.	Basement + Stilt for parking	2	--	7477 Sq.m
2.	Ground + 1st Floor (Commercial)	2	--	5620 Sq.m
3.	2nd Floor – 8th Floor (Residential)	7	70	12303.2 Sq.m
Total Built up area				25400 Sq.m
Total Green area				600 Sq.m (10%)
FAR achieved				2.99
Permissible FAR as per the local bye laws - 2.25 Achieved FAR as per the Master Plan - 2.99 Max Built up area achieved - 87756.41 Sq.m Max Ground Coverage permissible - 40% Ground coverage achieved as per Master Plan - 37%				

9. **Baseline study:**

PERIOD	April 2023
AAQ Monitoring result	PM 10 – 64.7 to 78.6 µg/cu.m; PM2.5 – 35.6 to 43.2 µg/cu.m SO2 – 6.5 – 12.8 µg/cu.m; Nox – 14.4 to 21.5

Ground water Quality at 6 Location	pH- 7.2 – 7.3 Total Hardness – 140-160 mg/l ,, Fluorides – 0.3 to 0.35 mg/l, TDS – 0.5 – 0.8 mg/l, Iron – 04 to 0.8 mg/l; Heavy metals (Cd <0.001, Hg<0.0005, As<0.001)
Surface water at 4 locations	pH –7.0 to 7. 2, DO- 5.8 to 6.1mg/l, BOD- 1.8- 2.5 mg/l, COD 8 to 15 mg/l, Chloride – 20 to 40 mg/lHeavy metals (Cd <0.001, Hg<0.001, As<0.01)
Noise level at 7 locations	In the project site the daytime noise level is 51.0 dB (A) and the night time noise level is 39.6. The maximum noise level is 53.3 dB (A) during the day time and maximum noise level is 46.5 dB (A) during the night time at Patrapada area.
Soil Quality at 5 locations	pH: 5.4-6.1; Organic Carbon content is moderate to high (0.56 to 0.98%) Nitrogen (N) is Low (176-213 Kg/Ha), Available phosphorus content (28.5 to 33.8 kg/Ha), Available potassium low (84.7-104.8 Kg/Ha). Soil analysis result shows that soils are moderately leached, acidic in reaction, low in available nitrogen content and high in phosphorus content & potassium content. The soil of the area is found to have low fertility.

10. **Power requirement**: Total electricity requirement for the buildings will be 1597 KW which will be supplied by the central Electricity supply Utility, Bhubaneswar Odisha. Out of the total power requirement, 2x40 KW will be from solar energy and other 1517 KW will be sourced from CESU, Bhubaneswar. Two nos. of D.G set of 380 kVA has been installed for emergency power back up in the housing complex.

11. **Solar power generation:** Out of the total energy consumption 5% i.e. 80 KW will be fed from Solar energy. No of Solar panels to be installed are 125 nos. Size of solar panel is 2m x 1 m. Area required for installation of roof top solar panel is 250 sq.m.

12. **Water requirement**: Total water requirement for the housing complex will be 100 KLD out of which 70 KLD will be required for domestic purpose and 30 KLD will be required for flushing purpose. Dual plumbing system will be adopted in the buildings. 30 KLD of water required for flushing will be the STP treated water and the fresh water requirement will be 70 KLD.

I. o.	Description	Total Population	Fresh Water Requirement					Water Flow To STP					
			Flushing (recycled water)		Domestic (Fresh Water)		Gross Water	Flushing		Domestic			Total
			LPCD	LPD	LPCD	LPD	LPD	%	LPD	%		LPD	LPD
Domestic Water													
1	Housing complex	350	45	15750	90	31500	47250	100	15750	85		26775	42525
2	Commercial area (Floating population)	200	45	9000	90	18000	27000	100	9000	85		15300	24300

2	Commercial area (Fixed population)	200	--	--	55	11000	11000			85	9350	9350
2	Misc.	100	45	4500	90	9000	13500	100	4500	85	7650	12150
Total				29250		69500	98750		29250		59075	88325
Lpd: Litres Per Day												
Lpcd: Litres Per Capita Per Day												
Total water requirement for the project will be 100 KLD, Out of which 70 KLD will be fresh water required for domestic purpose, 30 KLD will be STP treated water used for flushing and another 30 KLD of STP treated water will be used for gardening purpose												
Water will be sourced from PHED												

13. **Wastewater generation and management**: About 90 KLD of waste water will be generated from the housing complex and community hall. There is the proposal of establishment of 100 KLD STP.

14. **Rainwater harvesting details**: There is the proposal for rain water harvesting within the project site. The project will create 6 nos of rain water recharge pit with 6m x4.5mx1.5m capacity.

15. **Solid-waste generation and management**: About 215 Kg of solid waste will be generated from the propose group housing project which include bio degradable and non biodegradable waste. The recyclable material like thermocol, cartoon boxes, newspaper waste is given back to suppliers for recycling. The non bio degradable waste will be disposed through BMC and the Biodegradable waste will be utilized for composting. The sludge generated from the STP (10 Kg approx.) will be dried in sludge drying yard and used as fertilizer for the plants within the project site.

Generation of solid Waste			
Total Floating Population as calculated in water balance table		400	nos
25% of the floating population=		100	nos
Total paved area street sweeping		300	sqm
NBC Standard			
Type of User	Kg/capita/day	in kgs	
Residential reuse	0.3 to 0.6	160	
Commercial reuse	0.1 to 0.2	40	
Street Sweeping	0.05 to 0.2	15	
Total		215	directly disposed through municipality

16. **Greenbelt**: Total open space available for green belt development is 660 sq.m which is 11% of the total plot area. Further there are four nos. of 15 sq.m area allocated within the building area to be developed as lawn. Total of 165 saplings will be planted within the project site. Proposed species

for plantation includes Karanja, Neem, Krushachuda, Chatiana, Ashok, Nageswar, Bottle brush, Kathachampa, Sunari etc. Due to non-availability of space within the project, the proponent (BDA) responsible for responsible for development and greenery development of Bhubaneswar will develop greenery in compensation to this project.

17. **Parking details**: The permissible parking space required for the group housing is 6500 Sq.m. However, the achieved Parking area for the project will be 7477 Sq.m. It has been estimated that per capita requirement of parking space for an Indian household is 230 sq. ft.

18. **Traffic details:**

S. No.	Particulars of the Road	NH 16
1.	Type of Carriage way	Four Lane two way
2.	As per IRC: 106 -1990 Lane Capacity (PCU /hour)	3600
3.	Existing Volume Count (PCU)	1370
	V/C Index **LOS**	**0.38** **C**
4.	Incremental Volume Count (PCU)	1444
	V/C Index **LOS**	**0.40** **C**

19. **Project cost**: Total project cost is 61.19 Cr. which include all the construction and installation cost of the building.

20. **The cost estimated towards Violation as follows** - As per the damage assessment study carried out for the project, the cost allocated is 193.74 Lakhs out of which Rs. 186.14 Lakhs has been already spent in the project and 7.60 Lakhs will be incurred during the next 1 year. For natural resource augmentation programme total cost allocated will be 49.43 Lakhs which will be used for installation of rooftop solar panel and plantation.

Sl. No	Activities	Total Cost (Lakh of Rs.)
A	Budget under Remediation plan based on the damage assessment due to violation	193.74
B	Natural Resource Augmentation Plan	49.43
Total		**243.17**
Cost allocated for the activities already carried out for the project		186.14 Lakhs
Proposed Budgetary allocation towards implementation of Remediation plan based on the damage assessment and natural resource augmentation plan due to violation		57.03 lakhs
Proposed Mandatory cost of EMP including annual operation cost		**110.85**

Table: EMP cost

Sl. No	Particulars	Amount (Rs in Lakhs)

Capital Cost		
01	Installation of STP within the project site	45.0
02	Construction of Rain Water Harvesting structure and recharge pits	20.0
03	Plantation along the project boundary	0.5
04	Construction of Surface Water Drains	20.0
05	Construction of DG stack	10.0
06	Solid waste management	2.0
Total		**105.5**

Sl. No.	Activities	Allocated Budget (Rs.)/ Annum
Recurring Cost		
1.	Maintenance of STP	4,00,000.00
2.	Plantation and maintenance of the green belt and avenue plantation	25,000.00
3.	Regular maintenance of DG set and monitoring of DG stack	50,000.00
4.	Environmental monitoring	60,000.00
Total		**5,35,000.00**

21. **Penalty cost for Violation**: In compliance to SoP for violation dated 28.01.2022, penalty provision as calculated will be 1% of the project cost of Rs. 61.19 Lakhs. As per the guideline the percentage rate will be halved if the project proponent suo-moto declares the violation. In this case the proponent has claimed that they have declared the violation and requested that penalty amount should be made halved.

22. **Environment Consultant**: The Environment consultant **M/s Kalyani Laboratories Pvt. Ltd., Bhubaneswar** along with the proponent made a presentation on the proposal before the Committee.

23. The SEAC in its meeting held on 05.07.2023 recommended the following:

A. **The proponent may be asked to submit the following for further processing of EC application:**

i) Ensure that the differences between the reduced level of the bottom of rainwater harvesting pits and the reduced level of ground water during rainy season are adequate for effective recharge of collected rainwater and submit the report for the same.

ii) Disaster management plan for firefighting and provision for diesel-based hydrant.

iii) Traffic study report vetted by reputed institute.

iv) Details of case filed under violation.

v) Undertaking by PP that no occupant certificate has been issued.

vi) Safety measures to be taken, to avoid accidents as the approach road of the project is connected to NH.

vii) Total cost of the project & total turnover cost for calculation of penalty.

viii) Greenbelt area proposed is 11%. They have to submit a proposal for 20% greenbelt within the project site.

ix) The breakup of EMP cost shown in above table are costs of capital investments for creation of facilities as per EMP. Recurring cost given in table below is only Rs.5.35 lakh per annum for these facilities. Hence "**Proposed Mandatory EMP Cost per annum Rs.110.85 lakh**" needs to be corrected accordingly.

B. **The proposed site shall be visited by Sub-Committee of SEAC to verify the followings**

i) Environmental settings of the project site.

ii) Extent of construction activity.

iii) Road connectivity to the project site.

iv) Drainage network at the site.

v) Discharge point for discharge of treated water and distance of the discharge point from the project site.

vi) Greenbelt area.

vii) Any other issues including local issues

24. The proposed site was visited by the sub-committee of SEAC on **08.08.2023**. Following are the observations of the sub-committee

a) It is a violation case. BDA officials explained the project layout and plan.

b) The project is almost completed. Certain additional plantations were seen inside the boundary. Some more plantations planned adjacent to the boundary.

c) All required facilities related to Environment like: RWH, green belt, Parking, Separate parking areas and Gates for residential and commercial facilities, STP, Fire corridor etc. were shown by the PP.

d) They were asked to submit the drain lay out showing the final fall of excess treated water along with NOC from appropriate authority (This could be a condition of EC).

e) Fire clearance, Airport authority clearance needs to be taken before occupancy and other documents asked during presentation to be submitted.

f) To submit the details Fire fighting provisions and Solar power to be installed.

25. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	Ensure that the differences between the reduced level of the bottom of rainwater harvesting pits and the reduced level of ground water during rainy season are adequate for effective recharge of collected rainwater and submit the report for the same.	The surface level of the project site is 61 mRL. Reduced level of the bottom of the rain water harvesting is 4.5m below the surface level is 56.5 mRL. The depth of ground water table found during the digging of borehole is 45	submitted

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
		mRL. The rain water pits are adequate for effective recharge of rain water. Details of rain water calculation and capacity of recharge pit is attached as **Annexure 1.**	
2.	Disaster management plan for firefighting and provision for diesel-based hydrant.	Disaster management plan for firefighting measures has been attached as **Annexure 2.**	submitted
3.	Traffic study report vetted by reputed institute.	Vetted traffic study report attached **Annexure 3.**	Traffic study Report vetted by Trident Academy of Technology. LOS is under "C" category.
4.	Details of case filed under violation.	The govt. is under the process of filing the case under violation. We will be submitting the documents within a month.	Not submitted
5.	Undertaking by PP that no occupant certificate has been issued.	Undertaking by PP that no occupant certificate has been issued attached as **Annexure 4.**	Not submitted
6.	Safety measures to be taken, to avoid accidents as the approach road of the project is connected to NH.	The main entrance of the project is open to 9m service road which connect to 30m wide internal road connecting to NH 5. Map showing details of transportation route of the project is attached **Annexure 5.**	-
7.	Total cost of the project & total turnover cost for calculation of penalty.	• Cost of the project: 61.19 Crores • Penalty provision as calculated is as below: • 1% of the project cost: Rs. 61.19 Lakhs • As per the guideline the percentage rate will be halved if the project proponent suo-moto declares the violation. • In this case the violation has been declared by the project proponent (Suo-moto). So the penalty will be halved = Rs. 30.595 Lakhs.	-
8.	Greenbelt area proposed is 11%. They have to submit a proposal for 20% greenbelt within the project site.	An area of 660 sq.m along the boundary of the project site has been developed as green belt. Further another 600 sq.m of area in front of the project site has been developed as green belt. Total green area is 1260 sq.m (21%) of the project site. Proposed species for plantation includes Karanja, Neem, Krushachuda, Chatiana, Ashok, Nageswar, Bottle	submitted

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
		brush, Kathachampa, Sunari etc. Plantation has been initiated by BDA along the boundary and the open space in front of the project site. Detail plan showing the green belt is attached **Annexure 6**.	
9.	The breakup of EMP cost shown in above table are costs of capital investments for creation of facilities as per EMP. Recurring cost given in table below is only Rs.5.35 lakh per annum for these facilities. Hence "**Proposed Mandatory EMP Cost per annum Rs.110.85 lakh**" needs to be corrected accordingly.	It may be clarified that the capital cost for EMP is Rs. 105.5 Lakhs and Recurring cost for EMP is Rs. 5.35 lakhs per annum. Detail breakup of the EMP cost is attached as **Annexure 7**.	submitted

After detailed discussion, the SEAC decided to take decision on the proposal after receipt of the following from the proponent.

i) Total turnover cost of project duly certified by concerned authority for calculation of penalty.

Member Secretary, SEAC

ANNEXURE - A

SPECIFIC CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE OF INDIVIDUAL MINING LEASE OF BENIPALLI & GIRISOLA SAND QUARRIES CLUSTER OVER AN AREA OF 30.750 ACRES OR 12.4445 HECTARES IN VILLAGE BENIPALLI & GIRISOLA, TAHASIL BELLAGUNTHA, DISTRICT GANJAM OF TAHASILDAR BELLAGUNTHA - EC (SUBMITTED UNDER CLUSTER APPROACH WITH CONSISTING OF 2 SAND QUARRIES).

1. This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court of Odisha, Hon'ble NGT and any other Court of Law, if any, as may be applicable to the quarry lease.
2. The Environmental Clearance is subject to obtaining requisite NBWL Clearance, if any, from the Standing Committee of National Board for Wildlife for Mining project.
3. The lessee shall implement the Pollution Control Measures and safeguards as proposed in the approved EIA/Environment Management Plan (EMP) in the cluster approach.
4. The lessee shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and records maintained; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smokers, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. Recommendations of National Institute for Labour for ensuring good occupational environment for mine workers would also be adopted; All the old age people of the surrounding villages may be provided medical facilities.
5. Transport of minerals shall be done either by dedicated road or it should be ensured that the trucks/dumpers carrying the mineral should not be allowed to pass through the villages. The lessee shall ensure that the road may not be damaged due to transportation of the mineral; and transport of minerals will be as per IRC Guidelines with respect to complying with traffic congestion and density.
6. The lessee shall obtain NOC from concerned Block Development Officer (BDO) for usage of haulage road/Panchayat Road.
7. The lessee shall ensure safety of human life and livestock from accidents in case village / any habitation is very nearby the mining lease area.
8. The lessee shall ensure the safeguard and wellbeing of villagers and school, regular health monitoring of all residents in the area and the compliance Report shall be submitted to the regional office of the MOEF & CC and SEIAA, Odisha.
9. The lessee/concerned Tahasildar shall follow the detailed procedure for De-reservation of Gochar kissam land if involve in the lease area before going for mining activity.
10. Under no circumstances, the lessee shall use wagon drilling blasting during mining activity.
11. The lessee shall not store and use blasting materials/explosives inside the lease area without obtaining license/permission/authorization from competent Authority as per Indian Explosives Rules, 1983.
12. The lessee shall obtain NOC from CGWA and permission from WR department, Govt. Of Odisha for use of ground water.

Nayak
Environmental Scientist, SEAC

13. The lessee shall complete the rejuvenation of ponds if any within lease area on priority basis after obtaining Environment Clearance.

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

15. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Odisha.

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

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

18. Protection of vegetation in the surrounding areas, and proper storage of solid waste, subgrade ore and their use have to be given priority during mining operation.

19. The illumination and sound at night at the lease area 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. Project Proponents must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours.

20. 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.

21. The soil to be generated during mining activity shall be stacked in the earmarked temporary soil stack and shall be utilized for the plantation purpose to be undertaken around the respective hill/patch and adjacent to haul roads of the same in lease area.

22. The abandoned mine pit shall be converted to rain water storage tank and the rain water stored in pit shall be utilized for plantation as well as dust suppression.

23. Total Plantation shall be carried out within 2-3 years of mining activity and maintenance shall be continued in remaining years. Trees present in mining area shall be uprooted & transplanted in safety zone.

24. All the lease holders in a cluster to join hand through a registered MOU on cluster to cluster basis for laying of permanent pipeline by the side (one side) of the main haulage road with half-moon automatic sprinklers system for suppression of dust during movement of vehicles.

25. All the lease holders in a cluster should join hand for grading of the main haulage road to maintain the gradient facilitating smooth movement of vehicles.

26. The same cluster approach to be taken for development of green belt all around the cluster area baring catch dams for flow of runoff water during rainy season. These activities may be coordinated by the leadership in the cluster leases or RQP for the cluster with help from Revenue Inspector of the area for better results.

Jwayak

Environmental Scientist, SEAC

27. The SEIAA, Odisha may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

28. Any appeal against this 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.

29. The above-mentioned stipulated conditions shall be complied in a time-bound manner. Failure to comply with any of the conditions mentioned above may result in cancellation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

Jnayak
Environmental Scientist, SEAC

Annexure - B

ESSENTIAL PHYSICAL CRITERIA AS PER ENFORCEMENT AND MONITORING GUIDELINES FOR SAND MINING, JANUARY 2020 OF MOEF&CC, GOVT. OF INDIA

Sl. No.	Essential Criteria	Reference
1.	"No Mining Zone": 1/4the part of the river width (excluding 3/4the central part of the river width) on both sides of the river towards the river bank	4.1.1 (Para - e) Page - 16
2.	a) Distance between two clusters : ≥2.5 km b) Area of mining lease area is a cluster: ≤10 ha.	4.1.1 (Para - k) Page - 19
3.	Concave River Bank : No extraction of sand	
4.	No mining if a) Upstream: Lease is 1 km from major Bridge and high ways or 5(x) of the Bridge / public civil structure / water intakes point subject to lease is located at a minimum 250 meter distance. Where x = Span of the bridge. b) Downstream side: Lease is 1 km from the major bridge and Highways Or 10x of the bridge / public civil structure /water intake point Subject to lease is located at a minimum distance of 500 meter where x = span of the bridge	4.3 (Para - h) Page - 23
5.	Mining depth : ≤ 3 meter (maximum 3 meter)	4.3 (Para - m) Page - 24
6.	Mining distance from river bank: 1/4th of the river width, But subject to not less than 7.5 meter	4.31 (Para - m) Page - 24
7.	Area for removal of minerals : ≤60% of mine lease area	4.3 (Para - s) Page - 25
8.	Minable sand per ha. Available for actual mining : ≤60,000 MT/Annum	
9.	Regular replenishment study and replenishment rate	

JNayak
Environmental Scientist, SEAC

ANNEXURE -C

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR DECORATIVE STONE MINES & STONE QUARRY

A. Specific conditions

1. The Project Proponent shall obtain consent from the State Pollution Control Board, Odisha and effectively implement all the conditions stipulated therein.
2. Project Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and records maintained; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smokers, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. Recommendations of National Institute for Labour for ensuring good occupational environment for mine workers would also be adopted; All the old age people of the surrounding villages may be provided medical facilities.
3. Transport of minerals shall be done either by dedicated road or it should be ensured that the trucks/dumpers carrying the mineral should not be allowed to pass through the villages. The Project Proponent shall ensure that the road may not be damaged due to transportation of the mineral; and transport of minerals will be as per IRC Guidelines with respect to complying with traffic congestion and density.
4. Project Proponent shall ensure the safeguard and wellbeing of villagers and school, regular health monitoring of all residents in the area and the compliance Report shall be submitted to the Regional office of the Ministry and SEIAA, Odisha.

B. Standard conditions

1. A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the SEIAA, Odisha 5 years in advance of final mine closure for approval.
2. No mining activities will be allowed in forest area, if any, for which the Forest Clearance is not available.
3. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Odisha.
4. No change in the calendar plan including excavation, quantum of mineral and waste should be made.
5. The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of water (surface water and ground water) for the project.
6. Mining shall be carried out as per the provisions outlined in the approved mining plan as well as by abiding to the guidelines of Directorate General Mines Safety (DGMS).
7. Protection of vegetation in the surrounding areas, and proper storage of solid waste, subgrade ore and their use have to be given priority during mining operation.
8. Digital processing of the entire lease area using remote sensing technique shall be

Jnayak
Environmental Scientist, SEAC

carried out regularly once in three years for monitoring land use pattern and report submitted to Ministry of Environment, Forest and Climate Change its Regional Office and SEIAA, Odisha.

9. Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of PM10 and PM2.5 such as haul road, loading and unloading point and transfer points. Fugitive dust emissions from all the sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard. Monitoring of Ambient Air Quality to be carried out based on the Notification 2009, as amended from time to time by the Central Pollution Control Board.

10. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and constructing new piezometers during the mining operation. The project proponent shall ensure that no natural water course and/or water resources shall be obstructed due to any mining operations. The monitoring shall be carried out four times in a year pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board.

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

12. The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours.

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

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

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

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

Environmental Scientist, SEAC

parameters and allows only species adopted to that micro climate.

17. The top soil, if any, shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation. The over burden (OB) generated during the mining operations shall be stacked at earmarked dump site(s) only and it should not be kept active for a long period of time. The maximum height of the dumps shall not exceed 8m and width 20 m and overall slope of the dumps shall be maintained to 45°. The OB dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles shall be undertaken for stabilization of the dump. The entire excavated area shall be backfilled and afforested. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office on six monthly basis.

18. Catch drains and siltation ponds of appropriate size shall be constructed around the mine working,mineral and OB dumps toprevent run off of water and flow of sediments directly into the river and other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly. The drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed both around the mine pit and over burden dumps to prevent run off of water and flow of sediments directly into the river and other water bodies and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits shall be constructed at the corners of the garland drains and desilted at regular intervals.

19. Plantation shall be raised in a 7.5m wide green belt in the safety zone around the mining lease, backfilled and reclaimed area, around water body, along the roads etc. by planting the native species in consultation with the local DFO/Agriculture Department and as per CPCB Guidelines. The density of the trees should be around 2500 plants per ha. Greenbelt shall be developed all along the mine lease area in a phased manner and shall be completed within first five years.

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

21. The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna, if any, spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. A copy of action plan shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office.

22. As per the Company Act, the CSR cost should be 2 % of average net profit of last three years. Hence CSR expenses should be as per the Company Act/Rule for the Socio

JNayak
Environmental Scientist, SEAC

Economic Development of the neighborhood Habitats which could be planned and executed by the Project Proponent more systematically based on the 'Need based door to door survey' by established Social Institutes/Workers. The report shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office on six monthly basis.

23. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

24. 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.

25. 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.

26. 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.

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

28. A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom suggestion / representation has been received while processing the proposal.

29. State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office/ Tehsildar's Office for 30 days.

30. The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment, Forest and Climate Change at www.environmentclearance.nic.in and a copy of the same should be forwarded to the Regional Office.

31. The SEIAA, Odisha may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

32. Any appeal against this 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.

33. The above mentioned stipulated conditions shall be complied in a time-bound manner. Failure to comply with any of the conditions mentioned above may result in cancellation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

Environmental Scientist, SEAC

5.5. HAZARDS AND RISK MANAGEMENT

5.5.1 Explosives

Blasting is done by means of explosives which are hazardous during of handling, storage and blasting.

5.5.1.1. Storage and Handling

The Applicant is advised to store the explosives as per the Indian Explosives Act, 1958 and the Explosive Rules, 1983. Necessary permissions should be obtained from the Joint Controller of Explosives to store and uses of explosives in the quarry in the magazine permit under Form - 23 or Agreement shall be made with holder of Form - 22 who can supply and fire explosives as per safety practices. However blasting in the mine or quarry shall be done as per the MMR, 1961 under the supervision of Mines Blaster certificate holder, appointed under Reg. 160 of Metalliferous Mines Regulations, 1961.

5.5.1.2. Blasting

Poorly designed shots can result in misfires early ignition and flying rock. Safety can be ensured by planning for round of shots to ensure face properly surveyed, holes correctly drilled, direction logged, the weight of explosion for good fragmentation. Blast design, charge and fire around of explosives should be carried out by a trained person.

5.5.1.3. Drilling

Slipping and Falling of labours from the edge of a bench during drilling is possible. Part of training should include instructions to face towards the open edge of the bench so any inadvertent backward step is away from the edge. Suitable portable rail fencing which can be erected between the drilling operations and the edge of the mine can be provided. Attachment of a safety line to the drilling rig and provide harness for the driller to wear can be done. Newer drill machines are provided with cabin which controls noise level within cabins. Driller operators should be protected with ear protection.

5.5.2. Loading

Possible risks during loading of mined rocks are falling of rock on the driver, plant toppling aver due to uneven ground, failure of hydraulic system, fires, fall while gaining access to operating cabin, electrocution in Draglines, failure of wire ropes in Dragline. In order to overcome these risks:

- Operator cabin should be of suitable strength to protect the driver in event of rock fall.
- Electrical supply to dragline should be properly installed with adequate earth continuity and earth leakage protection.
- Wire rope should be suitable for work undertaken and be examined periodically.
- Ensure that loaders are positioned sufficiently away from face edges

5.5.3. Transportation

Brake failure, lack of all-around visibility from driver position, vehicle movements particularly while reversing, rollover, Vibrations, Noise, Dust and improper / no signalling are some of the factors causing risk. This can be avoided by following measures:

- Visibility defects can be eliminated by the use of visibility aids such as closed circuit television and suitable mirrors.
- Edge protection is necessary to prevent inadvertent movement.
- Seatbelt to protect driver in event of vehicle rollover.
- Good maintenance and regular testing necessary to reduce possibility of brake failure.
- Avoid driving at the edge of roadway under construction
- Heavy earth moving equipment and vehicle drivers and those giving signals should be well trained.

5.5.4. Unstable face

Chances of Rock fall or slide exists. Regular examination of face must be done and remedial measures must be taken to make it safe if there is any doubt that a collapse could take place. Working should be advanced in a direction taken into account the geology such that face and quarry side remain stable.

5.5.5. General safety measures

Provisions of the Mines Act, Rules and Regulations orders made there under shall be complied with, so that the safety of the mine, machinery and persons will be ensured. Permission, relaxation or exemption wherever required for the safe and scientific mining of the deposit will be obtained from the Department of Mine Safety. Copy of Agreement for handling of Explosives under License Holder at Proposed site is given in additional document.

- Safety kits should be located in easily accessible place with major first aid materials in it.
- Entry of any unauthorized person into mine and plant areas shall be completely prohibited
- Arrangements for fire fighting in the mine's office complex and mining area

- Provision of all the safety appliances such as safety boot, helmets, goggles, ear plugs etc. shall be made available for the employees
- Mining will be undertaken in coexistence with the requirements of the Mining Plan which shall be updated from time to time
- Handling of explosives, charging and blasting shall be undertaken only by a competent person
- Adequate safety equipment shall be provided at the explosive magazine

All the mining equipment shall be maintained as per the guidelines of the manufacturer.

ANNEXURE- E

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE OF OF M/S FERRO ALLOYS CORPORATION LTD. FOR PATABALI COB PLANT OF CAPACITY 4,95,000 TPA THROUGHPUT OVER AN AREA OF 21.95 AC. AT VILLAGE: - PATABALI TEHSIL:- DANAGADI, DISTRICT:- JAJPUR OF SRI SANDEEP KITTANA ACHARYA – EC

I. Statutory compliance:

(i) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.

(ii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

(iii) The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report, (incase of the presence of schedule-I species in the study area)

(iv) The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State pollution Control Board.

(v) The project proponent shall obtain the necessary permission from the Central Ground Water Authority and other concerned authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.

(vi) The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.

II. Air quality monitoring and preservation

(i) The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognized under Environment (Protection) Act, 1986.

(ii) The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality /fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.

(iii) Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply

Jnayak
Environmental Scientist, SEAC

prescribed stack emission and fugitive emission standards.

(iv) The project proponent use leak proof trucks/dumpers carrying ore and other raw materials and cover them with tarpaulin.

(v) Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.

(vi) Design the ventilation system for adequate air changes as per ACGIH document for all tunnels, motor houses, Oil Cellars.

(vii) The project proponent shall carry out conditioning of the ore with water to mitigate fugitive dust emission, without affecting flow of ore in the ore processing and handling areas.

(viii) Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of air pollutants such as haul road, loading and unloading point and transfer points. It shall be ensured that the Ambient Air Quality parameters conform to the National ambient air quality standards.

(ix) The transportation of mineral shall be carried out through the covered trucks. Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in beneficiation operations and in transportation of ore to the beneficiation plant. The vehicles carrying the mineral shall not be overloaded.

(x) Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.

(xi) Occupational health surveillance program of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed. Health records of the workers shall be maintained.

(xii) Regular Ambient Air Quality Monitoring shall be carried out. The monitoring stations will be set up in consultation with the SPCB. At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of $PM_{2.5}$, PM_{10}, SO_2 and NOx are anticipated in consultation with the State Pollution control Board. It will be ensured that at least one monitoring station is set up in up-wind & in down-wind direction along with those in other directions. The instruments used for ambient air quality monitoring shall be calibrated regularly.

(xiii) Data on ambient air quality ($PM_{2.5}$, PM_{10}, SO_2, NOx) shall be regularly submitted to the Ministry including its Regional office located at Bhubaneswar and the State Pollution Control Board/Central Pollution Control Board once in six months.

III. Water quality monitoring and preservation

(i) The project proponent shall monitor regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of piezometers/sampling wells in the plant

JNayak
Environmental Scientist, SEAC

and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.

(ii) Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.

(iii) Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.

(iv) The project proponent shall practice rainwater harvesting to maximum possible extent.

(v) The effluent from the ore beneficiation plant shall be treated in the tailing thickener and the tailings slurry shall be transported through a closed pipeline to the tailing pond.

(vi) The tailing pond shall be lined with appropriate impervious lining on all sides as well as the bottom to prevent any leachate going from the tailing pond into groundwater.

(vii) The garland drain shall be constructed around the tailing pond before the starting operation on the project.

(viii) The decanted water from the tailing pond shall be re-circulated and there should be zero discharge from the tailing pond.

(ix) Appropriate technology shall be used for maximum recovery of ore in order to reduce slurry discharge and to increase the life of the tailing pond.

(x) Garland drains with appropriate size, gradient and length shall be constructed to arrest silt and sediment flows from ore dumps and directly into the water bodies. The water so collected shall be utilized for watering the roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.

(xi) Effluents containing Cr+6 shall be treated to meet the prescribed standards before reuse. Effluent Treatment Plant should be provided for treatment of wastewater generated from the beneficiation plant.

(xii) Run off from the mineral and reject dumps and other surface run off should be analyzed for Cr+6 and in case its concentration is found higher than the permissible limit the water should be treated before reuse.

(xiii) Adhere to "Zero Liquid Discharge".

(xiv) Regular monitoring of water quality for surface water sources as well as ground water sources shall be carried out. The groundwater shall be monitored downstream of beneficiation plant as well as tailing pond upto groundwater table and record of monitoring data should be maintained and submitted on six monthly basis to the Ministry of Environment and Forests, its Regional Office, Bhubaneswar, the Central Ground Water Authority, the Regional Director Central Ground Water Board and the State Pollution Control Board.

(xv) Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board.

JNayak

Environmental Scientist, SEAC

(xvi) Appropriate mitigative measures shall be taken to prevent pollution of the nearby surface water source in consultation with the State Pollution control Board.

IV. Noise monitoring and prevention

(i) Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Office, MoEF&CC, Govt. of India, Bhubaneswar as well as SEIAA, Odisha as a part of six-monthly compliance report.

(ii) The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time

V. Energy Conservation measures

(i) Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;

(ii) Provide LED lights in their offices and residential areas.

VI. Waste management

(i) The waste oil, grease and other hazardous waste shall be disposed of as per the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016

(ii) Kitchen waste shall be composted or converted to biogas for further use.(/o be decided on case to case basis depending on type and size of plant)

(iii) Separate impervious concrete pits for disposal of sludge shall be provided for the safe disposal of sludge generated from the beneficiation operation.

VII. Green Belt and EMP

(i) Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant

(ii) The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.

(iii) Plantation shall be raised all around the beneficiation plant site and the tailing pond around the plant, tailing disposal area, roads etc. by planting the native species in consultation with the local DFO/ Agriculture Department.

VIII. Human Health Issues

(i) Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

(ii) The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.

Jnayak
Environmental Scientist, SEAC

(iii) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile

a) STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

(iv) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

IX. Corporate Environment Responsibility

(i) The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-1 A.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

(ii) The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the Regional Office, MoEF&CC, Govt. of India, Bhubaneswar as well as SEIAA, Odisha as a part of six-monthly report.

(iii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

(iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Regional Office, MoEF&CC, Govt. of India, Bhubaneswar as well as SEIAA, Odisha along with the Six Monthly Compliance Report.

(v) Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out

(vi) All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Mineral Beneficiation plants shall be implemented.

X. Miscellaneous

(i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this

JNayak
Environmental Scientist, SEAC

shall also be displayed in the project proponent's website permanently.

(ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

(iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

(iv) The construction and demolition wastes to be generated from the proposed project shall be disposed of in accordance with the provision under "Construction & Demolition Wastes Management Rules 2016".

(v) The project proponent shall monitor the criteria pollutants level namely; PM_{10}, SO_2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

(vi) The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

(vii) The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

(viii) The project proponent shall inform the Regional Office, MoEF&CC, Govt. of India, Bhubaneswar as well as SEIAA, Odisha the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

(ix) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

(x) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report and also that during their presentation to the State Level Expert Appraisal Committee.

(xi) No further expansion or modifications in the plant shall be carried out without prior approval of the SEIAA, Odisha.

(xii) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

(xiii) The SEIAA, Odisha may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

Jnayak
Environmental Scientist, SEAC

(xiv) The SEIAA, Odisha reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

(xv) The Regional Office, MoEF&CC, Govt. of India, Bhubaneswar shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

(xvi) The above conditions shall 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, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

(xvii) Any appeal against this EC 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.

JNayak
Environmental Scientist, SEAC