

**PROCEEDINGS OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL
COMMITTEE, ODISHA HELD ON 22ND SEPTEMBER 2023**

The SEAC met on 22nd September 2023 at 10:30 AM in the Conference Hall of Odisha State Pollution Control Board, Bhubaneswar under the Chairmanship of Sri Sashi Paul. The following members were present in the meeting.

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

Draft proceedings of the meeting was finalized by the members through e-mail and final proceedings of the meeting was confirmed by the members through e-mail. The agenda-wise proceedings and recommendations of the committee are detailed below.

ITEM NO. 01

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR M/S EVOS BUILDCON PVT. LTD. OF RESIDENTIAL PROJECT "EVOS AMANI" PLOT AREA 17,342.50 SQUARE METER (4.285 ACRES), PROPOSED BUILT UP AREA – 92,774.928 SQM, DWELLING UNITS (414 NOS.), 4 BLOCKS/TOWERS AT CHANDAKA, TEHSIL - BHUBANESWAR, DISTRICT- KHURDA OF SRI KALINGA KESHARI RATH - EC

1. This proposal is for Environmental Clearance for M/s Evos Buildcon Pvt. Ltd. of Residential project "Evos Amani" Plot area 17,342.50 Square Meter (4.285 Acre), Proposed Built up Area – 92,774.928 sqm, Dwelling Units (414 nos.), 4 blocks/Towers at Village - Chandaka, Tahasil- Bhubaneswar, District-Khurda of Sri Kalinga Keshari Rath.
2. **Category:** This project falls under Category "B", Project or Activity 8(a) Building and Construction projects as per EIA Notification dated 14th Sept, 2006 as its amendments.
3. **Location and connectivity:** The project site is located at Plot no. 2157, 2161/7460, 2161/7461, 2161/7462, 2161/7463, 2161/7464, 2161/7465, 2161/7466, 2161/7467, 2162, 2164, 2210, 2212, 2209/8684, 2209/4303 & 2209/4304, Khata No. 697, 603/5485, 603/5486, 603/5487, 603/5488, 603/5489, 603/5490, 603/5491, 603/5492, 603/1253, 312, 603/825, 603/6905 & 603/564 in Village - Chandaka, Tahasil- Bhubaneswar in Khurda district, Odisha bounded by Latitude: 20°22'8.66"N and Longitude: 85°46'8.99"E. The project site is well connected by Chandaka

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Nandankanan Road. The nearest highway is NH-16 approx. 10.0 km in SSE direction. The nearest railway station is Bhubaneswar New Junction approx. 7.0 km in ENE direction from the project site and Biju Patnaik International Airport is at a distance of approx. 11.7 km in SE direction from the project site.

4. The Plot area measures 17,342.50 m² (4.285 Acre) and proposed Built-up area = 92,774.928 m².

5. **Area Statement:**

S. No.	PARTICULARS	AREA (sq.m.)
i)	Plot area as per possession	17,342.50
ii)	• 15 mt land left adjacent to existing drain	2,794.10
	• Road widening affected area	1,446.70
iii)	Net Plot Area	13,101.70
iv)	Permissible Ground coverage (@40% of the net plot area)	5,240.68
v)	Proposed Ground coverage (@39.99 % of the net plot area)	5,240.53
vi)	Permissible FAR (@5 of the Net plot area)	65,508.5
vii)	Proposed FAR (@ 4.88 of Net plot area)	63,954.44
viii)	Area of Public Washroom	19.426
ix)	ICT Room Built up Area and Security RM	20.872
x)	Non-FAR area	28,780.19
xi)	Total Built-up Area (6+7 + 8 +9)	92,774.928
xii)	Required Parking area (30% of FAR)	19,186.33
xiii)	Proposed Parking area (36.04 % of FAR)	23,048.551
xiv)	Landscape area (30.95%)	4055.00
xv)	Height of the Building (m)	83.30

6. **Water requirement:** The total water requirement approx. 373 KLD out of which domestic water requirement is 348 KLD. The total freshwater requirement is approx. 237 KLD which will be met from ground water augmented with rain water.

S. No.	Description	Occupancy	Rate of water demand (LPCD)		Total Water Requirement (KLD)		
			Fresh	Flushing	Fresh	Flushing	Total
A.	Domestic Water						
i)	Residents	2490	90	45	224.1	112.05	336.15
ii)	Staff (total)	159	25	20	3.975	3.18	7.155
iii)	Visitors	249	5	10	1.245	2.49	3.735
		2898			229.32	117.72	347.04
Total Domestic Water = 348 KLD							
B.	Horticulture		4055 m ²	4l/sqm	17 KLD		
C.	Swimming Pool make-up				7.5		
Grand Total (A+B+C) = 373KLD							

7. **Wastewater details:** It is expected that the project will generate approx. 302 KLD of wastewater. The wastewater will be treated in an onsite STP of 360 KL capacity. The treated effluent will be reused for Flushing and Horticulture. Surplus treated effluent will be discharged to external sewer

137KLD in Summer Season and 151KLD in Monsoon season with due permission of Development Authority.

Domestic Water Requirement	348 KLD
• Potable	230 KLD
• Flushing	118 KLD
Waste water [@80% fresh + 100% flushing)	184+118+=302 KLD
STP Capacity	360

8. **Rainwater harvesting details:** Total 2 nos. of Rainwater Collection Sump tanks will be provided for storage of rain water. Peak hourly rainfall has been considered as 140 mm/hr.
9. **Parking Proposed:** Total parking proposed is 731 ECS (583 ECS basement +148 ECS Stilt).
10. **Power Requirement:** The power supply will be supplied by TPCODL. The load requirement for the project will be 3,170 kVA. There is provision of 3 nos. of DG sets of 750 kVA capacity for power back up. The DG sets will be equipped with acoustic enclosure to minimize noise generation and adequate stack height for proper dispersion.
11. **Solid waste generation:** The total solid waste generation will be 1,366 kg/day for the proposed project.

S. No.	Category	Norms (Kg/capita/day)	Waste generated (kg/day)
i)	Residents (2490)	@ 0.5 kg/day	1245
ii)	Staff (159)	@ 0.25 kg/day	40
iii)	Visitors (249)	@ 0.15 kg/day	38
iv)	Landscape waste (1.002acre)	@ 0.2 kg/acre/day	0.2
v)	STP sludge	Waste water x 0.35 x B.O.D difference/1000	43
TOTAL SOLID WASTE			1,366 kg/day

12. **Greenbelt:** Total green area measures 4055.00 m² (30.95% of Net plot area). Evergreen tall and ornamental trees have been proposed to be planted inside the premises. No. of trees required = 1 tree/80 sq.m. of plot area = 13,101.70 /80 = 163.87 say 164 Nos. Total no. of trees proposed = 200.
13. **Project cost:** Total estimated cost of the proposed project is INR 438.44 Cr. including land and development cost. EMP cost includes a capital cost of 54.13 lakhs and recurring cost of 20.2 lakhs.

TABLE: Cost of Environmental management Plan

COMPONENT	CAPITAL COST (INR LAKH)	RECURRING COST (INR LAKH/YR)
Sewage Treatment Plant	36	9
Rain Water Collection System	3	0.75
Solid Waste Management	2.73	0.683
Environmental Monitoring	0	9
Green Area/ Landscape Area	2.4	0.608
Others (Energy saving devices, miscellaneous)	10	0.15
Total	54.13	20.2

14. **Environment Consultant:** The Environment consultant **M/s Grass Roots Research & Creation India (P) Ltd., Noida** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant **M/s Grass Roots Research & Creation India (P) Ltd., Noida** along with the project proponent, the SEAC recommended the following:

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

- i) Land documents and Kissam of land.
- ii) A natural nallah is passing beside the plot area. Submit the internal drainage map and connecting drain to public/natural drain with due permission/NOC for discharge of excess treated water and storm water into the natural drain from concerned authority. The project proponent also to confirm unhindered access to the proposed point of storm water / excess sewage treated water drain discharge from its project site.
- iii) The Project Proponent shall revisit the water balance and have provision to reduce the discharge of treated water by increasing greenbelt.
- iv) Surface runoff /storm water management.
- v) Submit Reduced Level (RL) of ground water and place where STP is installed during summer and rainy season.
- vi) 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.
- vii) The PP shall increase the greenbelt from 20.15 % to 25% as proposed.
- viii) The SEAC suggested the PP to explore the possibility of using synthetic sand for construction purposes.
- ix) Details of PV Panel and solar generation from Solar power.
- x) Traffic study report duly vetted by a reputed institution.
- xi) Municipal Solid Waste Management practice and agency to take the municipal solid waste.
- xii) Certificate from concerned DFO that the project is not located within the Eco-Sensitive Zone of Chandaka-Dampada Wildlife Sanctuary and Nandankanan Sanctuary.
- xiii) Copy of permission from Airport Authority of India w.r.t. height of the building.
- xiv) Document in support of land gifted for widening of road and access to land to be submitted.

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 if any.
- 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

ITEM NO. 02

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR M/S ZONEX INFRA PROJECTS PVT. LTD. OF PROPOSED (B+G+18) STORIED MIG RESIDENTIAL APARTMENT BUILDING OVER AN BUILT-UP AREA 40,827.928 SQM LOCATED AT MOUZA- RAGHUNATHPUR, TAHASIL- BHUBANESWAR, DIST- KHURDA OF SRI GAURANGA CHARAN BARIK - EC

1. This proposal is for Environmental Clearance for M/s Zonex Infra Projects Pvt. Ltd. of Proposed (B+G+18) Storied MIG Residential Apartment Building over an built-up area 40,827.928 sqm located at Mouza - Raghunathpur, Tahasil - Bhubaneswar, Dist - Khurda of Sri Gauranga Charan Barik.
1. **Category:** This project falls under Category "B", Project or Activity 8(a) Building and Construction projects as per EIA Notification dated 14th Sept, 2006 as its amendments.
2. **Location and Connectivity** – The proposed site is located at Mouza - Raghunathpur, Bhubaneswar, Dist - Khurda, Odisha. The Geographical co-ordinates of the project site is: Latitude- 20° 22' 58.52"N & Longitude- 85° 49' 25.63"E. The project site is well connected with Nandan Kanan road which take towards National Highway-16 (Kolkata-Chennai Road). Nandan Kanan road is 0.1 Km from proposed site. The nearest railway station is Bhubaneswar Railway station at a distance of approx 13.2 Km in South direction. The nearest airport is Biju Patnaik Airport at a distance of approx. 14.5 Km in South West direction from project site. The site is easily accessible from Nandan Kanan Road. Kuakhai River at a distance of 6.2 km from project site.
3. The site is coming under which Development Authority – Bhubaneswar Development Authority (BDA).
4. BDA has provisionally approved the building vide Letter No. SUJOG/OBPS/NOC/2023/044, Bhubaneswar, Dated: 11/07/2023.
5. The total plot area is 7,431.33 sq.mt. with total built-up area 40,827.928 sq.mt.
6. The Building Area Details of the Project in tabulated form

Particular	Permissible	Proposed
Plot Area	Total Plot Area- 8,122.19 sqm Road Affected Area- 690.86 sqm Net Plot Area- 7,431.33 sqm	
Ground Coverage		2,660.42 sqm (35.8%)
FAR	7.5	4.39
Total Built up Area	--	40,827.928 sqm
Maximum Height	--	58 m
Road Area	--	1114.70 sqm

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Particular	Permissible	Proposed
Open Visitor Parking	--	835.106 sqm
Basement Parking	--	6,034.964 sqm
Ground Floor Parking	--	1,395.794 sqm
Total Parking Area	8,158.077 sqm (25% of FAR Area)	8,265.864 sqm
Green Area	1,486.266 sqm (20% of Plot Area)	1,490.85 sqm (20.06% of Plot Area)
Maximum No. of Floor	--	B+G+18
Power/Electricity Requirement & Sources	--	842.0 KW Source: TPCODL
No. of DG sets	--	1 x 750 KVA
Solar Energy	--	44.3 KW (5.3%)
Water requirement & Sources	--	82.0 KLD
Wastewater Generation	--	104.5 KLD
Sewage Treatment & Disposal	--	STP Capacity – 120 KLD
Solid Waste Generation	--	461.5 kg/day
No. of Dwelling Unit	--	176 Nos.
Estimated Population-Residential, Floating/visitors	--	Residential- 880 Nos. Floating- 88 Nos.

7. **Water requirement:** Fresh make up of 82.0 m³/day will be required for the project which will be sourced from Ground Water. Total waste water generated from the proposed building will be 104.5 KLD which is treated in STP of capacity 120.0 KLD. Rain Water harvested through 21 nos. of Rain Water recharging pits.

Sl. No.	Description	Total Population	Per Capita Consumption (ltr/day)	Water Requirement		
				Domestic	Flushing	Total
i)	Residential Building	880 nos	135	79.2	39.6	118.8
ii)	Visitor @ 10 %	88 nos	45	2.2	1.7	3.9
TOTAL				81.4 82.0	≈ 41.3 ≈ 41.0	122.7 ≈ 123.0

8. **Wastewater management:** The wastewater will be treated in the STP of capacity of 120 m³/day provided within the complex. Out of which 99.3 m³/day will be recycled within the project for flushing (41.0 m³/day), landscaping (6.5 m³/day), STP loss (5.2 m³/day) & Dust suppression in Road Area (8.5 m³/day). 43.3 m³/day will be discharged to drain in case of non-monsoon period.

Details	Water (KLD)
Water requirement for domestic purpose	82.0
Wastewater generated from domestic use (@ 80 % of domestic water requirement)	65.6
Water requirement for Flushing Purpose	41.0
Wastewater generated from Flushing (@ 95 % of flushing requirement)	38.9
Total Wastewater generated	65.6+38.9 = 104.5 KLD
Sewage Treatment Plant Capacity	120.0 KLD

Details	Water (KLD)
STP Loss (5 % of wastewater generation)	5.2
Recycled water form STP @ 95 % of wastewater generated	99.3

9. **Power requirement:** Total Power requirement of the proposed residential building is 842.0 KW, Source is TPCODL, 1x750 KVA DG Set will be provided. Total 44.3 KW Solar Power Generation which is 5.3% of total power required in project.
10. **Rain Water Harvesting:** Total 137 cum Rain Water is harvested through 21 no. of recharge pits.
11. **Parking Requirement:** Total parking area provided is 8265.86 Sq.mt. and total 272 nos. of ECS and location of parking area is Basement & Ground Floor.

Parking Area Provided			
Basement Parking			6034.964 sqm
Ground Floor Parking			1395.794 sqm
Open Parking			835.106 sqm
Total Parking	--	--	8265.864 sqm
Equivalent Car Space Provided			
	Area (sqm)	Area/ECS	
Basement Parking	6034.964	32	189 ECS
Ground Floor Parking	1395.794	28	50 ECS
Open Parking	835.106	25	33 ECS
Total Parking Provided			272 ECS
Total Four-Wheeler Parking			195 Nos.
Total Two-Wheeler Parking			100 Nos.
Parking for Visitor (10%)			831.53 sqm

12. **Green Belt Development:** Green belt is developed over an area of 1,490.85sqm which is 20.06% of the total plot area. Total 96.0nos. of plants to be planted and 3 tier plantation to be carried out.
13. **Solid Waste Management:** Solid waste generated, and its management is given in the following table:

Detail of Solid Waste Management

S. No.	Category	Counts (heads)	Waste generated (kg/day)
i)	Residents	880 @ 0.45 kg/day	396.0
ii)	Floating	88 @ 0.15 kg/day	13.2
iii)	STP sludge		52.3
TOTAL SOLID WASTE GENERATED			461.5 kg/day

14. **Project cost:** The estimated project cost is 75.0 Crores and cost for EMP is 1.7 Crores.
15. **Environment Consultant:** The Environment consultant M/s Centre for Envotech & Management Consultancy Pvt. Ltd., Bhubaneswar along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant **M/s Centre for Envotech & Management Consultancy Pvt. Ltd., Bhubaneswar** along with the project proponent, the SEAC recommended the following:

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

- a) Certificate from concerned DFO that the project is not located within the Eco-Sensitive Zone of Chandaka-Dampada Wildlife Sanctuary and Nandankanan Sanctuary.
- b) Land documents and Kissam of land.
- c) Copy of land use map.
- d) NOC/permission from PWD / concerned Department for discharge of excess treated water to public drain. The project proponent also to confirm unhindered access to the proposed point of storm water / excess sewage treated water drain discharge from its project site.
- e) Correct drainage map as suggested by PP and if deposited for approval from the concerned authority.
- f) Reduced Level (RL) of ground water and place where STP is installed during summer and rainy season.
- g) 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.
- h) Method and detailed technique to be used for disinfection in STP.
- i) Traffic study Report vetted by institute of repute.
- j) Structural stability certificate prepared by reputed institutes like NIT/IIT, Odisha
- k) Copy of affidavit as mentioned in Drainage Permission Letter.

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 if any.
- 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.

ITEM NO. 03

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR M/S. KALINGA ALUMINA LIMITED OF BALLADA BAUXITE MINE FOR A PEAK RATED CAPACITY OF 4.0 MTPA OVER A MINING LEASE AREA OF 144.945 HA AT VILLAGE - BALLADA, TALUKA – NANDAPUR, DISTRICT- KORAPUT OF SRI KASSIREDDY ANIL KUMAR - TOR

2. The proposal was considered by the committee to determine the "Terms of Reference (ToR)" for undertaking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of EIA Notification, 2006 and amendment thereafter.
3. This proposal is for Terms of Reference for environmental clearance of M/s. Kalinga Alumina Limited of Ballada Bauxite Mine for a Peak Rated Capacity of 4.0 MTPA over a mining lease area of 144.945 ha at Village - Ballada, Taluka – Nandapur, District- Koraput of Sri Kassireddy Anil Kumar.
4. **Category:** The proposed project falls in schedule 1 (a) - Mining of Minerals, under Category "B", as per EIA notification – 2006 and amendment thereof issued by the Ministry of Environment, Forests and Climate Change, New Delhi.
5. The company was declared preferred bidder for this block on 17-02-2023. The letter of Intent has been issued vide letter no. SM-MC2-MC-0007-2023/2143/S&M Bhubaneswar dated 1st March 2023 by Steel and Mines Department, Government of Odisha.
6. The project involves open cast mining of Bauxite (ROM) with 4.0 MTPA capacity & setting up of 800 TPH Crusher/screening plant at pit head.
7. Mining Plan along with Progressive Mine Closure Plan has been approved by IBM vide letter No. MCDR-MIFL0BXT/5/2023-BBS-IBM_RO-BBS dated 8th August 2023.
8. Forest application has been submitted vide proposal no. FP/OR/MIN/QRY/442417/2023 dated 1st September 2023. Ballada Block is virgin bauxite block located in Nandapur Tehsil of Koraput district in Odisha, total mining lease area is 144.945 ha, located entirely within Nagasari reserve forest. The project contemplates to develop the mine and surrounding infrastructures for commercial production of bauxite of 4 MTPA peak rated capacity using opencast mining. In addition to ML area 12.267 ha area to be required for evacuation of minerals. Hence forest diversion application has been submitted for 157.212 ha.
9. **Location and connectivity:** Ballada Bauxite Block by opencast mining method with an annual Peak Rated Capacity of ~ 4.0 MTPA of Bauxite (ROM), located at village - Ballada, Tehsil – Nandapur, District – Koraput, Odisha. Ballada Bauxite Block covers an area of about 144.945 ha bounded by latitudes 18°26'05.61588" N / 18°27'13.34448" N and Longitudes 82°39'32.39136" / 82°40'25.36716" E. The lease area is covered under Survey of India toposheet no. E44K11 (65J/11). 144.945 Ha of Mine Lease area is Forest Land (Nagasari RF) under Koraput Forest Division. The mineral bearing plateau is situated about one kilometer west of Ballada village and about 8 km north of Padwa in Koraput district, Odisha. Jeypore, a major town in the Koraput district, is about 82 km NNW of the Ballada deposit and is approachable by major district road No.52. Koraput, the district headquarters is at 60 km north of the deposit and is connected by a metalled road via Similiguda on NH 26. Bheja, the nearest Railway Station is about 5 km due north-east. The nearest airport is at Visakhapatnam, about 140 km SE from the lease area. The

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Nearest Water body is Jalaput reservoir located at a distance of 3 km South and SW. Nearest reserve forest is Nagasari RF i.e., entire mine lease area of 144.945 Ha. Nearest habitation is Ballada village, about 1 km in East.

10. **Method of Mining:** The deposit lies on surface, and it is proposed to be mined by mechanized opencast method of mining with excavator/ dumper combination. Deep hole drilling/Short hole drilling and blasting is proposed after taking prior permission from DGMS. Further, it is proposed to mine with Ripping-Dozing method and/or deployment of Surface Miner at a later date, based on feasibility.

Table: Proposed list of equipment

S No	Particulars	Make	Capacity	No. of equipment
i)	Diesel hydraulic shovel	Volvo EC480/Komatsu PC 450/TATA Hitachi ZX 670	3.1 cum	4
ii)	Dumper	Bharat Benz 3528	16 m ³	11
iii)	DTH drill	Epiroc-T40	Hole Dia -115 mm	3
iv)	Dozer	BEML D-155	324 p)	1

11. **Transport:** Mined bauxite (R.O.M) shall be transported to the crushing/screening plant through mine haul trucks. Evacuation of crushed bauxite is planned through a combination of road and rail route. There is an existing motorable approach road to the east of the mine which connects MDR-52 (Visakhapatnam-Jeypore Road). Bauxite shall be transported through 30 tonner dump trucks via the aforesaid road to the nearest "Bheja Railway Station" from where it will be loaded on railway wagons using front end loaders and subsequently despatched to destination. Empty trucks shall return to mine for repeat loading. OB within the lease will be transported through rear-dump trucks to the dump area within the lease.

12. **Waste generation and management:** The waste generated in course of pre-mining development and subsequent mining operation will consist of topsoil and laterite with occasional occurrences of khondalite. During the first five years the rate of generation of waste is expected to be of the order of 0.073 Mm³ or 0.15 MT of along with generation of 0.026 Mm³ of Topsoil. Considering this, an average ore to waste ration of 1:0.018 is estimated. It is planned to stack topsoil and waste separately on ground during the initial 4 years of plan period. From 5th year onwards, waste material will be dumped systematically. Topsoil, stacked separately, would be spread over the reclaimed areas, to enable planting and growing of trees. The waste stacked on ground during the initial years of operation will be utilized to fill the worked-out areas at the end of the working life of the mine as well as during the interim period, as and when practicable. The generation of waste during the 5 year plan period will be very less and shall be dumped systematically. No backfilling is proposed during the initial 5 year period.

Table: Proposed production plan during first five-year period

Year	Top Soil Volume (m ³)	Over Burden/Waste Volume (m ³)	ROM Quantity (t)
Year 1	24072	0	1000120
Year 2	1710	24783	2024020

Year 3	0	44671	2001482
Year 4	0	3800	2002414
Year 5	0	0	4001868

13. **Water requirement and wastewater management:** The water requirement of the project during operation phase is 690 KLD. Water will be sourced from nearby Jalaput lake located at distance of 3 km. Wastewater generated from workshop will be treated using oil-water separator and treated water will be used in vehicle washing. Wastewater generated from mine office, rest shelters etc. will be disposed in soak pit via septic tank.

14. **Power requirement:** The estimated average power requirement is 1 MW, the peak requirement being 1.5 MW. Power shall be sourced from nearest substation located at a distance of 8 km at Padwa. Renewable energy source proposed to install is around 160 KW, which will be about 10 % contribution for the total power requirement.

15. **Greenbelt:** The greenbelt is proposed as per the following table.

Sr. No	Year	Area Proposed to be Covered (Ha)	Number of Plants Proposed	Expected Survival Rate (%)	Estimated Expenditure (INR)
1	Year 1	0.72	1440	75	2,01,600
2	Year 2	0.86	1720	75	2,40,800
3	Year 3	1.16	2320	75	3,24,800
4	Year 4	0.68	1360	75	1,90,400
5	Year 5	0.80	1600	75	2,24,000
Total		4.22	8440		11,81,600

16. **Manpower requirement:** Project will generate employment for about 126 persons directly, besides its potential to generate considerable indirect employment and livelihood opportunities.

17. **Project cost:** Total cost of the project is about Rs. 230 Crores which includes cost of Infrastructures, Land Acquisition and other development costs.

18. **Environment Consultant:** The Environment consultant **M/s Vardan Environet, Gurugram** along with the proponent made a presentation on the proposal before the Committee.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Vardan Environet, Gurugram**, the SEAC prescribed the following specific ToRs in addition to standard ToRs as per **Annexure – A** for conducting detailed EIA study.

i) The following information to be submitted.

- Compliance of mining plan, including waste and OB dump management, mine closure plan etc.
- Compliance to Common cause judgment
- Status of R&R
- Compliance of plantation
- Compliance of public hearing issues

- f) Status of complaints/ court cases/legal action
- g) Any other relevant environmental issue / parameter.
- h) The following studies be undertaken by domain experts, viz:
- Blast vibration study
 - Socio economic study of the neighbouring habitation
 - Biodiversity study with audit mechanism.
 - Slope stability study for both mines and OB /waste dumps.
 - Surface runoff management along with rainwater harvesting and ground water recharge include the design of drainage structures.
 - Traffic density study, both inside the mines and at haulage roads, intersecting points of haulage road with public road.
 - Hydrology study: The study findings and the mitigation measures thereof to be submitted.
 - Process scheme details of the crusher / screening plant such as dry / wet crushing etc. If dry crushing, then management plan for dust control. If wet crushing, then plan for treating used water and its recycle etc.
- ii) Cost of the CER calculated shall be utilized for the concerns of the people in terms of health, education, and infrastructure and environment protection. Project Proponent also shall include the budget for the betterment of schools nearby and to facilitate the online education system by providing Wi-Fi connectivity and desktops/tablets.
- iii) The project proponent should provide in the EIA Report details of all the statutory clearances, permissions, no objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after grant of EC.
- iv) The project proponent should submit the revenue plan for mining lease, revenue plan should be imposed on the satellite imaginary clearly demarcate the Govt. land, private land, agricultural land etc.
- v) The project proponent should submit the real-time aerial footage & video of the mining lease area and of the transportation route. The project proponent should submit the detailed plan in tabular format (year-wise for life of mine) for afforestation and green belt development in and around the mining lease. The project proponent should submit the number of saplings to be planted, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. In addition to this the project proponent should show on a surface plan (5-year interval for life of mine) of suitable scale the area to be covered under afforestation & green belt clearly mentioning the latitude and longitude of the area to be covered during each 5 years. The capital and recurring expenditure to be incurred needs to be submitted. Presently in India there are many agencies which are developing forest in short interval of time. Thus, for the plantation activities details of the experts/agencies to be engaged needs to be provided with budgetary provisions.
- vi) The project proponent should submit the quantity of surface or ground water to be used for this

- project. The complete water balance cycle needs to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. PP should submit the year wise target for reduction in consumption of the ground/surface water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.
- vii) The project proponent should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this the project proponent should mention the number and designation of person to be engaged for implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted.
 - viii) The project proponent should submit the year-wise, activity wise and time bound budget earmarked for EMP, occupational health surveillance & Corporate Environmental Responsibility. The capital and recurring expenditure to be incurred needs to be submitted.
 - ix) The project proponent should submit the measures/technology to be adopted for prevention of illegal mining and pilferage of mineral. The project proponent should submit the detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory.
 - x) The project proponent should clearly show the transport route of the mineral and protection and mitigative measure to be adopted while transportation of the mineral. The impact from the center line of the road on either side should be clearly brought out supported with the line source modelling and isopleth. Further, frequency of testing of Poly Achromatic Hydrocarbon needs to be submitted along with budget. Based on the above study the compensation to be paid in the event of damage to the crop and land on the either side of the road needs to be mentioned. The project proponent should provide the source of equations used and complete calculations for computing the emission rate from the various sources.
 - xi) The project proponent should clearly bring out that what is the specific diesel consumption and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted.
 - xii) The project proponent should bring out the awareness campaign to be carried out on various environmental issues, practical training facility to be provided to the environmental engineer/diploma holders, mining engineer/diploma holders, geologists, and other trades related to mining operations. Target for the same needs to be submitted.
 - xiii) The budget to be earmarked for the various activities shall be decided after perusal of the Standard EC conditions. After perusal of Standard EC conditions if agreed the project proponent should also submit an undertaking by the way of affidavit for Compliance of Standard EC conditions already prescribed by the Ministry vide O.M. No and Specific condition if prescribed by the SEAC/SEIAA, Odisha.
 - xiv) The project proponent should ensure that only NABET accredited consultant shall be engaged for the preparation of EIA/EMP Reports. The project proponent shall ensure that accreditation of consultant shall be valid during the collection of baseline data, preparation of EIA/EMP report and during the appraisal process. The project proponent and consultant should submit an undertaking the information and data provided in the EIA Report and submitted to the SEIAA,

Odisha are factually correct and the project proponent and consultant are fully accountable for the same.

- xv) The project proponent should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this the project proponent should submit the original test reports and certificates of the labs which will analyze the samples.
- xvi) "Zero discharge" management & "Zero Dust Re-suppression" management with SOP be submitted.
- xvii) Internal roads, drain management with network of the drain, retaining walls and settling tanks with ETPs be submitted.
- xviii) Details of air quality monitoring stations of the area and additional stations at entry and exit of mines and haulage roads, habitation to be considered.
- xix) Construction and perennial maintenance of haulage road with details of plantation and the species thereof to be submitted.
- xx) Parking plaza layout with maximum no. of vehicles and types of vehicles that can be parked with basic amenities and facilities.
- xxi) Forest Clearance details with copy of all Forest Clearance.
- xxii) Status of complaints/ court cases/legal action regarding to lease along with a detailed write up indicating case no., purpose of the case etc.
- xxiii) Copy of lease document.
- xxiv) Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage.
- xxv) Project Proponent shall consider developing a good nursery in nearby village for production of saplings of 4-6 feet height for planting in safety zone, sides of external haulage roads and distribution among villagers for planting in their private land/ community land. The nursery may be developed by company on their own or in collaboration with forest department. A detailed proposal to this effect shall be submitted. The proponent shall ensure to use organic fertilizer in the nursery.
- xxvi) Comprehensive water management, water balance with water harvesting and its reuse both monsoon and non-monsoon period.
- xxvii) STP plan with design with location in the layout map for domestic waste water treatment.
- xxviii) Provision of solar power (percentage wise) with detail plan.
- xxix) To submit the network with dimension of concrete cement roads inside the mining lease area and haulage road.
- xxx) To submit parking plaza at entry and exit of the mines with basic amenities.
- xxxi) Plan and SoP to be submitted for water sprinkling inside the mines and outside in haulage road including regular vacuum cleaning and Zero Dust Resuspension system to completely mitigate and arrest fugitive dust emission.

- xxxii) Total water management including domestic use w.r.t sourcing from borewell, rain water harvesting and recycling of waste water from ETP/STP, both for monsoon and non-monsoon be submitted.
- xxxiii) Measures to be taken for arresting and mitigation of occupational health hazard including identification of the same, both for employees and nearby/surrounding habitation.
- xxxiv) Year wise waste/OB management with reference to generation and utilization in consideration with dynamic movement of inventory indicating dump area and dimension of storage be submitted.
- xxxv) Find out the possibility of other alternatives for approach road so that felling of 1000 trees proposed can be avoided.
- xxxvi) Submit Wildlife Conservation plan duly certified from the concerned DFO.
- xxxvii) Submit copy of application of forest diversion proposal and current status of it.
- xxxviii) Explore possibility for construction of reservoir or adopt appropriate rainwater harvesting methods for collection of rain water and its usage.
- xxxix) Submit Mine closure Plan with supporting documentation.
- xl) Submit Standard Operating Procedure for magazine management.
- xli) This Bauxite mines is meant for captive use. The proponent has not yet established any refinery in the state. They have to give details of use of Bauxite in absence of refinery and also an undertaking that Bauxite Ore cannot export outside the state.
- xlii) Possibility of restoration/ creation of the pond present within lease area so that villagers can use it in future after mining lease period expires.

ITEM NO. 04

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR KHARIDA SAND BED MINING PROJECT ON JUNCTION OF RUSHIKULYA & GHORAHARA RIVER OVER AN AREA 5.261 HA AT KHATA NO-554, PLOT NO-4553/1 & 4532/1, VILLAGE- KHARIDA, TEHSIL HINJILICUT, DISTRICT- GANJAM OF SHRI KIRAN KUMAR PANDA - EC

1. This proposal is for Environmental Clearance for Kharida Sand Bed Mining Project on junction of Rushikulya & Ghorahara River over an area 5.261 ha at Khata No-554, Plot No-4553/1 & 4532/1, Village- Kharida, Tehsil Hinjilicut, District- Ganjam of Shri Kiran Kumar Panda.
2. **Category:** As per EIA Notification,2006 and its subsequent amendments, the proposed project falls under Category B in Schedule in item 1(a)- Mining of Minerals.
3. The Mining Lease has been granted vide letter no 1587 dated 02.03.2021. The Successful Bidder is Sri. Kiran Kumar Panda. S/O Late GopinathPanda, Khalasi Sahi, Po: Berhampur, PS: Berhampur Sadar, Dist:Ganjam, State:Odisha.
4. The Mining Plan of Kharida Sand Bed Mining Project has been approved by Deputy Director of Geology, O/o The Joint Director of Geology, South Zone, Berhampur, Odisha vide letter no 1274 dated 06.10.2020.

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5. This Mining lease is an identified sairat source in the DSR Report Page no. 56 and serial no. 5.
6. **TOR details:** The Terms Of Reference (TOR) letter was issued by SEIAA, Odisha vide letter No.3683/SEIAA Dated 27.12.2021.
7. **Public hearing details:** Public Hearing was conducted on 09/09/ 2022 at Debastali, Shri Maa Kureisuni Thakurani Hata (Over Plot No.4728 in Khata No. 555) in Village Kharida under Hinjilicut Tahasil of Ganjam district. Issues raised during public having are environmental protection, covering of loaded transporting vehicles, local employment, local development and development of temple.
8. **Location and connectivity:** The mine lease area is located in Village - Kharida, Tehsil- Hinjilicut, District- Ganjam, and is on Khata No-554, Plot No-4553/1 & 4532/1 of Rushikulya & Ghorahara River. The project is covered in the Survey of India Topo Sheet No – 74A/15, 74A/14 and is bounded between the Latitude - 19°30'.70"N to 19°29'52.56"N and Longitude 84°46'40.02"E to 84°46'40.19"E. The Nearest Airport is Biju Patnaik International Airport approx.. 136km towards NE. The Nearest Road Bridge is near about 2.5km in E Direction. Nearest River Embankment is 1.7km. Nearest Electric Transmission Line is 900m.
9. **Reserves and production:** The total Geological reserves is 48729 cum and Mineable Reserves is 41779 cum and the Proposed Production for the Proposed Project is 15501 cum /year.

Year	Surface area in Sq.mt	Thickness of sand in mtr.	Volume of sand in cu.m	Recovery Factor (100%)	Production of sand in cu.m/Annum
i)	10334	1.5	15501	1	15501
ii)	10334	1.5	15501	1	15501
iii)	10334	1.5	15501	1	15501
iv)	10334	1.5	15501	1	15501
v)	10334	1.5	15501	1	15501
TOTAL					77505

10. **Replenishment study details:** The Replenishment study was done during Pre- and Post-Monsoon Period (May2022 & November 2022) by Physical Method Survey which was conducted with the help of Total Station Survey Instrument and two numbers of GPS (GARMIN eTrex 10) hand held GPS. After the Replenishment study it was found that 27,853 cum of sand have been proposed to be replenished annually.
11. **Baseline study details:** Baseline Study was conducted during December, 2019 to Feb., 2020.

Parameter	No. of Locations	Environmental Baseline Study
Ambient Air Quality Monitoring	7 locations	PM _{2.5} - 39.4 µg/m ³ to 55.9 µg/m ³ PM ₁₀ - 60.56 to 92.14µg/m SO ₂ - 4.5to 11.8µg/m ³ NO ₂ - 11.3µg/m ³ to 22.1 µg/m ³
Noise level monitoring	4 locations	During daytime- 45.3 to 55.8Leq dB(A) During Night time- 38.4to 43.5 dB Leq dB(A)

		Results were found within permissible limits
Water samples	Surface water – 2 locations	pH (7.2 to 7.8), Chloride (66 – 98 mg/l) DO (6.8 to 7.8 mg/l) etc. are found within permissible limits & fit for consumption.
	Ground water- 4 locations	All parameters like TDS (412 mg/l to 505mg/l), pH (7.38 to 7.52), Chloride (76 mg/l to 118mg/l), Fluoride (0.40mg/l to 0.70 mg/l) etc. are found within permissible limits & fit for consumption.
Soil Samples	5 locations	pH- 7.82 to 8.40 Conductivity- 124-141 µmhos/cm

12. **Mining method:** The Method of Mining will be opencast Manual Method. Extraction and loading into truck & Tractor will be done by manual means. The transportation from Sand Quarry site to destination shall be achieved by dumper/tractor.

13. **Water requirement:** Total water requirement for the proposed project will be 9.86KLD.

Sr. No.	Purpose	Manpower/Area	Water Demand (KLD)	Source
i)	Drinking	Manpower (18) 18*10L =180 lpcd	0.18	Nearby village
ii)	For other(Toilet)	Manpower (18) 18*10L =180 lpcd	0.18	Private tanker(Treated Water /Pond Water)
iii)	Plantation	250trees *2L = 500L	0.5	Private tanker(Treated Water /Pond Water)
iv)	Dust Suppression	Length= 900m Width= 5m Area= 900*5=4500m ² 4500*2L =9000 L	9.0	Private Tanker(Treated Water /Pond Water)
Total			9.86	

14. **Greenbelt development:** 250 Plants are proposed to be planted for the Proposed project.

Year	No. of plants
1 st	50
2 nd	50
3 rd	50
4 th	50
5 th	50
Total	250

15. **Manpower requirement:** 18 nos of manpower are required for the proposed project.

16. **Project cost:** Estimated Project Cost is 55.90 lakh while EMP Cost is Rs 9,47,500.

Table- Budget for occupational health

S. No	Activity	Amount
i)	Doctors Visit	500*18*2= 18,000
ii)	Medicine Budget	500*18*2= 18,000

iii)	Quarterly pulmonary function test	600*4*18= 43,200
iv)	Extra Budget for medical test if required as per doctor's recommendation	60,000
Total		1,39,200/-

Table: Budget for environmental protection

Activities to be done		Amount
Haulage Road Repair & Maintenance <ul style="list-style-type: none"> Filling, Leveling and widening of the road up to width of 5m and length of 900 m. Setting & Fixing of Cut Stone on the leveled road. 	900 m (L) x 5 m (W)	1,00,000 (P.A)
Water Sprinkling on Haulage Road for Dust Suppression	Assuming Rs.1200/day for 260 days of working Tanker Cost: Rs. 600/Tanker Tanker Capacity: 4500 liter, No. of Tankers required: 2	3,12,000 (P.A)
Plantation along the road side & post plantation care	Plantation@100/sapling (50 sapling/Year) Post plantation care @500/day Note: Annual cost will increase with increase in no. of sapling.	5000 (P.A) 1,30,000 (P.A)
Environmental Monitoring & Compliances.	<ul style="list-style-type: none"> Half Yearly Monitoring of Environmental Parameters viz. Air, water, Noise & Soil. Half Yearly Submission of Compliances. 	4,00,000 (P.A)
> TOTAL		9,47,000

Table: CER Budget

Sr. No.	Activity	Capital Cost (In Rs.)
	Development of Temple in Kharida Village	1,12,000/-

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

Considering the information furnished and the presentation made by the consultant, M/s Cognizance Research India Pvt. Ltd., Noida with the project proponent, the SEAC decided to return the proposal to SEIAA for the following from the proponent.

- a) Replenishment study report of the proposed project is not accepted. Details of GCPs not given. Basis of P1 to P11 points is not there in the study report. Cross-sectional depiction of deposition and erosion for each section in pre and post monsoon season, supported by relevant field study

data and plan, not given. The proponent shall redo the replenishment study report from authorized agency for further consideration of the proposal.

- b) RL of the mining area and groundwater table in rainy season should be furnished.

ITEM NO. 05

PROPOSAL OF ENVIRONMENTAL CLEARANCE OF DERENGA & KHAJURIA SAND QUARRIES CLUSTER OVER AN AREA OF 30.00 ACRES OR 12.14 HECTARES IN VILLAGE DERENGA & KHAJURIA, TAHASIL KANIHA, DISTRICT ANGUL OF TAHASILDAR, KANHIA (SUBMITTED UNDER CLUSTER APPROACH WITH CONSISTING OF 2 SAND QUARRIES) – EC

1. This proposal is for Environmental Clearance of Derenga & Khajuria Sand Quarries Cluster over an area of 30.00 acres or 12.14 Hectares in village Derenga & Khajuria, Tahasil Kaniha, District Angul of Tahasildar, Kanhia (submitted under cluster approach with consisting of 2 sand quarries).
2. **Category:** As per EIA Notification, 2006 and its subsequent amendments, the proposed project falls under Category B in Schedule in item 1(a) - Mining of Minerals.
3. Mining Lease has been granted by vide letter no 6008, date 11/12/2020 for Derenga Sand Quarry & Successful Bidder is Shri Kishore Chandra Sahoo, S/o - Gopal Sahoo At - Derang, PO- Derang, PS - Kaniha, Dist - Angul, Odisha. Mining Lease has been granted by vide letter no 6005, date 11/12/2020 for Khajuria Sand Quarry & Successful Bidder is Shri Parama Nanda Sahoo ,C/o- Maa Bhaneswari Sand Supplier, At - Derang, PO - Derang, PS - Kaniha, Dist - Angul, Odisha.
4. The mining plan for the proposed quarry lease area has been approved by the Joint Director, Geology Authorized officer, Zonal Survey, Dhenkanal Odisha vide Memo no 686/DZ & 690/DZ dated 02.06.2020.
5. This Derenga sand quarry proposal is shown as an identified source of the particular minor mineral in the DSR of the district. Annexure - I, Page No.- 22 or SI.No.6 of table list of leases with location, area. This Khajuria sand quarry proposal is shown as an identified source of the particular minor mineral in the DSR of the district. Annexure-I, Page No.- 22 or SI.No.7 of table list of leases with location, area.
6. **TOR details :** The Terms Of Reference(TOR) for Derenga Sand Quarry has been granted vide letter No. 4091/SEIAA, Dated 22.02.2022 and for Khajuria Sand Quarry has been granted vide letter No. 4083/SEIAA, Dated 22.02.2022.
7. **Public hearing details:** Public hearing was successfully executed on date 17.09.2022 at Derang Village Playground Infront of Derang G.P Office, Derang village under Kaniha Tahasil of Angul District. Issues raised during the public hearing are water pollution and air pollution, local employment, plantation, transport road maintenance, tarpaulin covering of transportation vehicles.
8. **Location and connectivity:** The mine lease area is located in Village- Derenga & Khajuria, Tehsil-Kaniha, District-Angul, Odisha and is on Khata no- Khata No. 758, Plot No. 8953/10218 (Derenga Sand Quarry) & Khata No. 59, Plot No. 1000 (Khajuria Sand Quarry). The cluster is covered in the Survey of India Topo Sheet No – 73G/4 and is bounded between the

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21°07'47.80"N to 21°08'03.14"N and 85°01'28.72"E to 85°01'51.41"E. Kismat of land is Nadi. The mine site is well connected by approach road of approx. 1.1 km (0.5 km & 0.6 km). This road further connects to Rengali dam-Kaniha road in East direction at a distance of approx. 1.0 km from ML area. The Nearest highway is NH- 53 at approx. 0.98 km in SE direction. Biju Patnaik International Airport is approx. 125.19 km towards SE direction. The Nearest river embankment is near Takua road bridge over Tikira River at approx. 2.5 km in SE.

9. **Reserves and production:** Total Geological reserves is estimated to be 4, 58,416 cum & Total minable reserves is estimated to be 2, 10,876 cum. The average production is 42,175 cum/annum (Khajuria Sand Quarry -18,701 cum/annum and Deranga Sand Quarry-23,474 cum/annum) for a period of Concession of 5 years.
10. **Baseline study details:** Baseline Study was conducted during March, 2022 to May, 2022. Following observations are made:

Air Quality monitoring results	
PM 10	35.2µg/m ³ to 85.2µg/m ³ .
PM 2.5	14.10µg/m ³ to 34.5µg/m ³ .
SO ₂	5.40µg/m ³ to 12.80µg/m ³ .
NO _x	7.20µg/m ³ to 24.20µg/m ³ .
Ground Water monitoring results	
pH	pH varies from 6.98 to 7.72 during study period.
Total hardness	Total hardness varies from 164.0 mg/l to 236 mg/l at during study period.
Total dissolved solids	Total dissolved solids vary from 347 mg/l to 521 mg/l during study period.

Surface Water monitoring results	
pH	The analysis results indicate that the pH ranges between 6.98 and 7.08.
Dissolved Oxygen	Dissolved Oxygen (DO) was observed in the range of 7.1 to 7.4 mg/l.
BOD	BOD values were observed to be in the range of 2.2 – 2.8 mg/l.
Soil Quality monitoring results	
pH	pH value ranging from 6.29 to 7.16.
Potassium	Potassium is found to be from 162.0 mg/kg to 212 mg/kg.
Noise Quality monitoring results	
Day time	The minimum & maximum noise levels at day time were recorded as 52.4 Leq. dB (A) & 49.1 dB (A).
Night time	The minimum & maximum noise levels at night time were found to be 43.1 dB (A) & 39.4 dB (A).

11. **Mining method:** Mining will be done by Manual method only. The average production is 42,175 cu.m/annum (Khajuria Sand Quarry -18,701 cu.m/annum and Deranga Sand Quarry-23,474 cum/annum) for a period of Concession of 5 years. Proposed Mining Depth is 2 m.

Year	Deranga Sand Quarry (cum)	Khajuria Sand Quarry (cum)
1 st	23,474	18,701
2 nd	23,474	18,701
3 rd	23,474	18,701
4 th	23,474	18,701

5 th	23,474	18,701
Total	1,17,370	93,505

12. **Water requirement:** Total Water Requirement for the proposed project is 9.47 KLD for proposed project.

Activity	Calculation	Round off Figure in KLD
Drinking	@ 10 lpcd per labor $10 \times 45 / 1000 = 0.45$ KLD	0.45
Dust Suppression	Total approach road to be water sprinkled = 1100 m $1100 \text{ m} \times 6 \text{ m} \times 0.5 \times 2 \text{ times} / 1000 = 6.60$ KLD	6.60
Plantation	1214 plant (during plan period) @ 2 L/per plant = $1214 \times 2 \text{ lts} = 2428 / 1000 = 2.42$ KLD	2.42
Total		9.47

13. **Greenbelt development:** Total 1214 plants for proposed project to be planted during the lease period.

Year	No of plants along both side of approach road	No. of plants in buffer zone consulting local authorities	Location	Species
1 st	607	607	Approach road –607nos. – along both sides 1100m of approach road at spacing of 2 m. Village area – 607 nos. In village area like school premises, Aangawadi, Panchayat bhavan	Guava, mango, Jamun, jhaun, neem etc
2 nd	Maintenance			
3 rd				
4 th				
5 th				
Total	607	607		
Total	1214			

14. **Manpower requirement:** Total nos of persons required as manpower for the proposed project is 45 (Cluster).

15. **Project cost:** The estimated cost of the proposed project is Rs. 2 Crores. EMP Cost includes the Capital cost of Rs. 10.00 Lakhs and Recurring cost of Rs. 6.00 Lakhs.

**Table: Budget allocated for Environmental Management Plan
(For Cluster)**

Sl. No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
i)	Pollution Control Dust Suppression /Water Sprinkling	1,92,200	50,000

ii)	Pollution Monitoring i) Air pollution ii) Water pollution iii) Soil Pollution iv) Noise Pollution	--	1,00,000 80,000 40,000 20,000
iii)	Financial aid for Medical Camp in Derenga & Khjauria village.	90,000	30,000
iv)	Provision of Sanitation and Toilets in nearby schools.	1,00,000	50,000
v)	Provision of Water Facility and Installation of RO in Derenga & Khjauria village and nearby schools.	1,00,000	30,000
vi)	Green belt development	2,42,800	1,00,000
vii)	Maintenance of haul road	2,75,000	1,20,000
Total		10,00,000	6,00,000

Table: CER Budget for cluster

S. No.	Activity	Capital Cost (in Rs./annum)
i)	Financial aid for medical camp in Derenga & Khjauria village.	90,000
ii)	Skill development program camps like computer learning, sewing etc. in Derenga & Khjauria village.	1,10,000
iii)	Provision of Sanitation and Toilets in nearby schools.	1,00,000
iv)	Provision of Water Facility and Installation of RO in Derenga village and nearby schools.	1,00,000
TOTAL		4,00,000

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

Considering the information furnished and the presentation made by the consultant, M/s P & M Solution, Noida along with the project proponent, the SEAC decided to take the decision on the proposal after receipt of the following from the proponent

- The project proponent shall address the voids caused in the project site due to the previous mining (as per Public Hearing report). An action plan must be made so that mining activities will create no such voids further. The project proponent also to provide details of RL pre and post mining as per the approved mining plan along with RLs of ground water table in the ML area in the summer and rainy seasons.
- Clarify the discrepancy between the recurring cost in EIA report and Presentation.
- Previous EC compliance report.

ITEM NO. 06

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF UPPALADA STONE QUARRY - I, IV, VIII, IX (UNDER CLUSTER APPROACH OF UPPALADA STONE QUARRY - I, II, III, IV, V, VIII, IX) IS A STONE MINING PROJECT OVER AN AREA OF 20.478 HA. AND TOTAL CLUSTER AREA OF 39.811 HA. LOCATED IN VILLAGE - UPPALADA, TAHASIL - PARALAKHEMUNDI IN DISTRICT – GAJAPATI OF TAHSILDAR PARALAKHEMUNDI - EC

1. This proposal is for Environmental Clearance of Uppalada Stone Quarry - I, IV, VIII, IX (under cluster approach of Uppalada Stone Quarry - I, II, III, IV, V, VIII, IX) is a stone mining project over an area of 20.478 Ha. and Total Cluster area of 39.811 Ha. located in village - Uppalada, Tahasil - Paralakhemundi in District – Gajapati of Tahsildar Paralakhemundi.
2. **Category:** As per EIA Notification 2006 and its subsequent amendments, the proposed project falls under Category B in the Schedule of Item 1(a) - Mining of Minerals.
3. The Mining Lease has been granted for Uppalada Stone Quarry – I vide letter no 7325/Sairat, date 31.12.2019; Uppalada Stone Quarry – IV vide letter no 5705, date 19.08.2021; Uppalada Stone Quarry –VIII vide letter no2783/Sairat, date 17.07.2020; Uppalada Stone Quarry – IX vide letter no 286/ Sairat, date 20.01.2021.
4. The Successful Bidder for Uppalada Stone Quarry – I is Gaddi. Venkata Ramana, S/o G. Laxminarayana, Seri Street, Paralakhemundi. The Successful Bidder for Uppalada Stone Quarry – IV, Anni Gopal Rao, AT/ PO- Paralakhemundi. The Successful Bidder for Uppalada Stone Quarry – VIII Gunna Komali, W/o G. Koteswar Rao, Vill- Tekeli, Andhra Pradesh. The Successful Bidder for Uppalada Stone Quarry – IX, J. Jagan Babu, S/o J. Rama Rao, At/Po- Big Brahmin Street, Paralakhemundi. Gajapati.
5. The Mining Plan of Uppalada Stone Quarry – I has been approved by Deputy Director of Geology, O/o The Joint Director of Geology,(S.Z.), Berhampur on dated 01.07.2020. The Mining Plan of Uppalada Stone Quarry – IV has been approved by Deputy Director of Geology, O/o The Joint Director of Geology,(S.Z.), Berhampur on dated 25.08.2021. The Mining Plan of Uppalada Stone Quarry – VIII has been approved by Deputy Director of Geology, O/o The Joint Director of Geology,(S.Z.), Berhampur on dated 06.10.2020. The Mining Plan of Uppalada Stone Quarry – IX has been approved by Deputy Director of Geology, O/o The Joint Director of Geology,(S.Z.), Berhampur on dated 20.07.2021.
6. This is a new mine in cluster approach. Mining lease is an identified sairat source in the DSR Uppalada Stone Quarry – I - Annexure II, SI No 03; Uppalada Stone Quarry – IV - Annexure III, SI No11; Uppalada Stone Quarry – VIII - Annexure II, SI No 02; Uppalada Stone Quarry – IX- Annexure I, SI No 06.
7. The TOR has been granted by SEIAA, Odisha for Uppalada Stone Quarry – I , vide letter no. 5338/SEIAA Dt. 02.09.2022; Uppalada Stone Quarry – IV , vide letter no. 5340/SEIAA Dt. 02.09.2022; Uppalada Stone Quarry – VIII , vide letter no - 5342/SEIAA Dt. 02.09.2022; Uppalada Stone Quarry – IX , vide letter no - 5344/SEIAA Dt. 02.09.2022.

Mine	Mining Approval	Plan	TOR Granted Date
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Uppalada-I Stone Quarry	Date. 01.07.2020	vide letter no. 5338/SEIAA Dt. 02.09.2022
Uppalada-IV Stone Quarry	Date. 25.08.2021	vide letter no. 5340/SEIAA Dt. 02.09.2022
Uppalada-VIII Stone Quarry	Date. 06.10.2020	vide letter no - 5342/SEIAA Dt. 02.09.2022
Uppalada-IX Stone Quarry	Date. 20.07.2021	vide letter no - 5344/SEIAA Dt. 02.09.2022.

8. **Location and connectivity:** Uppalada Stone Quarry- I, IV, VIII, IX (Under Cluster) is located at village Uppalada, Tahasil - Paralakhemundi, District Gajapati in Odisha. The area falls in Survey of India Topo sheet No. E45G1. The Nearest distance of approach road is 2430 m. The nearest NH/SH is National Highway is NH- 326A at a distance of 0.85 km towards West direction; State Highway is SH- 4 at a distance of 5.0 km towards South direction. Nearest Airport is Swami Vivekanand International Airport is approx. 93 km towards NW direction. Nearest Waterbody is Mahendra Tanaya Dam, approx.5.4 km from the Lease Area. Nearest road bridge is at a distance of approx. 1.0 km from Uppalada Stone Quarry – I, IV, VIII and IX. The Nearest River Embankment is at a distance of 1.0 Km from Uppalada Stone Quarry – I, IV, VIII and IX. The Nearest Electric Transmission Line Pole is at a distance of 0.95 Km from Uppalada Stone Quarry – I, IV, VIII and IX.

Sl. No.	Name of Quarry	Lease Area	Land Schedule	Kissam	Status Mine
i)	Uppalada-I Stone Quarry	4.90 Ha.	Khata No- 376 Plot No - 1370, 1372	Parbat-II	EC applied
ii)	Uppalada-IV Stone Quarry	4.928 Ha.	Khata No- 376 Plot No - 1724	Parbat-II	EC applied
iii)	Uppalada-VIII Stone Quarry	5.90 Ha.	Khata No- 376 Plot No - 1725	Parbat-II	EC applied
iv)	Uppalada-IX Stone Quarry	4.75 Ha.	Khata No- 376 Plot No - 1726/1	Parbat-II	EC applied

9. **Total reserves and production:** The total Geological Reserves for the cluster is 4702038 cum, Mineable Reserves for the cluster is 2979131 cum, and the Proposed Production for the cluster is 15354 cum/year the details are given below

Table: Year wise production

Year	Vol. of Sand in (m ³)			
	Uppalada Stone Quarry- I	Uppalada Stone Quarry- IV	Uppalada Stone Quarry- VIII	Uppalada Stone Quarry- IX
1 st	3294	4500	2160	4050

2 nd	3294	4770	2160	4050
3 rd	3294	5220	2160	4050
4 th	3294	5580	2160	4050
5 th	3294	5850	2160	4050
TOTAL	16470	25920	10800	20250

Table: Total reserves

S. No.	Name of the Quarry	Geological Reserves (cum)	Mineable Reserves (cum)	Production (Cum/annum)
i)	Uppalada-I Stone Quarry	1180710	746773	3294
ii)	Uppalada-IV Stone Quarry	919620	512784	5850
iii)	Uppalada-VIII Stone Quarry	1872789	1265506	2160
iv)	Uppalada-IX Stone Quarry	728919	454068	4050
Total		4702038	2979131	15354

10. **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. The Proposed depth of mining is as per approved mining plan.

Mine	Depth(m RL)
Uppalada Stone Quarry- I	Upto 100 RL
Uppalada Stone Quarry- IV	Upto 126.80 RL
Uppalada Stone Quarry-VIII	Upto 158 RL
Uppalada Stone Quarry- IX	Upto 82 RL

11. **Waste generation:**

Mine	Waste (cu.m.)
Uppalada-I Stone Quarry	1,830
Uppalada-IV Stone Quarry	2,880
Uppalada-VIII Stone Quarry	1,200
Uppalada-IX Stone Quarry	2,250
Total	8,160

12. **Water requirement:** Total Water Requirement for the proposed cluster project is 28.43 ~ 28.50 KLD.

Activity	Calculation	Round off Figure in KLD
Drinking	@ 10 lpcd per labor 10*55/1000= 0.55 KLD	0.55
Dust Suppression	Total approach road to be water sprinkled = 2430 m 2430 m*6m*0.5 *2 times/1000= 14.58 KLD	14.58
Plantation	6632 plant (during plan period) @ 2L/per plant= 6632*2 lts = 13264/1000= 13.264 ~ 13.30 KLD	13.30
Total		28.43 = 28.50 KLD

13. **Public hearing** was conducted on 16.12.2022 at 11.00 PM at Gram Panchayat Office of Uppalada village in Gajapati District. Issues raised during public hearing are vibrational impact due to drilling and blasting, impacts on agriculture, dust in the environment, noise impact; environment protection, provision of guard wall in the ML area, peripheral development, road maintenance, plantation and employment.
14. **Baseline study details:** Baseline Study of the proposed project was conducted during March, 2022 to May, 2022. Results of the study are as below:

Air Quality Monitoring Results	
PM ₁₀	50.23 µg/m ³ to 77.38 µg/m ³ .
PM _{2.5}	25.23 µg/m ³ to 44.15 µg/m ³ .
SO ₂	6.15 µg/m ³ to 11.82 µg/m ³ .
NO _x	8.03 µg/m ³ to 20.4 µg/m ³ .
Ground Water Monitoring Results	
pH	pH varies from 6.78 to 7.51 during study period.
Total hardness	Total hardness varies from 123 mg/l to 169 mg/l at during study period.
Total dissolved solids	Total dissolved solids vary from 269 mg/l to 360 mg/l during study period.
Surface Water Monitoring Results	
pH	The analysis results indicate that the pH ranges between 7.25 to 7.62.
Dissolved Oxygen	Dissolved Oxygen (DO) was observed in the range of 5.4 to 7.4 mg/l against the minimum requirement of 4 mg/l.
BOD	BOD values were observed to be in the range of 8.0 – 15.3 mg/l.
Soil Quality Monitoring Results	
pH	pH value ranging from 6.78 to 7.81.
Potassium	Potassium is found to be from 72.20 mg/kg to 259.0 mg/kg.
Water holding capacity	The water holding capacity is found in between 26.2 % to 35.80 %.
Noise Quality Monitoring Results	
Day time	The minimum & maximum noise levels at day time were recorded as 50.8 Leq. dB (A) & 59.6 dB (A).

Night time	The minimum & maximum noise levels at night time were found to be 37.9 dB (A) & 44.0 dB (A).
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15. **Greenbelt development:** 6632 Plants are proposed to be planted for the proposed cluster.

Table: Plantation for proposed quarries(ppt)

S. No.	Quarry	No. of Plants in Safety zone, along approach road and at other places in village after consulting local authorities
i)	Uppalada Stone Quarry - I	490
ii)	Uppalada Stone Quarry - IV	495
iii)	Uppalada Stone Quarry - VIII	590
iv)	Uppalada Stone Quarry - IX	475
Total		2050

16. **Manpower:** 55 nos of persons are required for the manpower of the proposed project.

17. **Project cost:** The estimated project cost for the Cluster is 260 lakhs. Budget for environmental protection includes capital cost of Rs 26,97,000 and recurring cost includes Rs. 27,41,000 for cluster.

Table: BUDGET FOR ENVIRONMENTAL PROTECTION (Cluster)

S. No.	Measures	Capital Cost (In Rs.)	Recurring Cost (In Rs.)
i)	Pollution Control Dust Suppression /Water Sprinkling	--	14,00,000
ii)	Garland Drain and Settling Tank	7,00,000	3,50,000
iii)	Pollution Monitoring i) Air pollution ii) Water pollution iii) Soil Pollution iv) Noise Pollution	--	50,000 40,000 10,000 10,000
iv)	Green belt development	7,97,000	3,50,000
v)	Maintenance of approach road	12,00,000	5,31,000
Total		26,97,000	27,41,000

Table: CER BUDGET IN CLUSTER

S. No.	Activity	Capital Cost (in Rs.)/annum
i)	Financial aid for Medical Facilities in village Uppalada.	3,50,000
ii)	Installation of 2 Solar Lights in Schools of Uppalada Village.	40,000
iii)	Skill development Program Camps like computer learning, sewing etc. in village Uppalada.	1,50,000
iv)	Construction of Separate Toilet for Boys & Girls at Schools in village Uppalada.	2,00,000
TOTAL		7,40,000

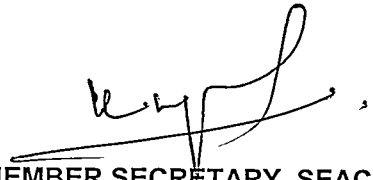
18. **Environment Consultant:** The Environment consultant M/s P & M Solution, Noida along with the proponent made a presentation on the proposal before the Committee.

Proceedings of the SEAC meeting held on 22.09.2023


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Considering the information furnished and the presentation made by the consultant, **M/s P & M Solution, Noida** along with the project proponent, the SEAC decided to take the decision on the proposal after receipt of the following from the proponent.

- a) Communication letter from the Tahsildar that the other quarries were not identified earlier.
- b) Chronological record of each quarry in the Cluster duly certified by Tahasildar.
- c) Clarification on distance of the project site from the nearest habitation from the Tahsildar. Further submit a detailed report for relocation of the local habitation or an action plan to make the nearby areas free from encroachments.
- d) Submit Standard Operating Procedures (SOP) for Flying rocks and elaborate how controlled blasting will be adopted for management for flying rocks.
- e) Provide a complete note on total mineral available, complete mineralization zone. Further in between the lease areas, find out the availability of mineralization. Thereafter prepare a plan so as proper mineral conservation can be done.
- f) Already Environmental Clearance (EC) granted to earlier 3 quarries i.e. quarry no. II, III & V and are under operation. How EC has been granted when 4 other mines (i.e. quarry no. I, IV, VIII & IX) are in cluster.
- g) Whether, EC has been granted to quarry II, III & V without following cluster approach and if so, why?
- h) Copy of Environmental Clearance of quarry no. II, III & V.
- i) Consultant has not visited the site and they need to visit the site and incorporate the same in the modified EMP if any.
- j) Habitation is 100 meter away from the mining site. So, the mining activity should be restricted to the minimum distance from the habitation area as per order of the Hon'ble NGT.
- k) Who has taken responsibility to apply for cluster approach and copy of consent letter of other lessees to be submitted.
- l) Project proponent to provide RLs of ground water in the ML area during summer and rainy seasons along with RL of the surfaces surrounding the ML area.


MEMBER SECRETARY, SEAC

TERMS OF REFERENCE (ToR) FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT FOR M/S. KALINGA ALUMINA LIMITED OF BALLADA BAUXITE MINE FOR A PEAK RATED CAPACITY OF 4.0 MTPA OVER A MINING LEASE AREA OF 144.945 HA AT VILLAGE - BALLADA, TALUKA – NANDAPUR, DISTRICT- KORAPUT OF SRI KASSIREDDY ANIL KUMAR – TOR.

A. STANDARD TOR FOR MINING PROJECT

1. The Environmental Clearance will not be operational till such time the Project Proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors..
2. Department of Mining & Geology, State Government shall ensure that mining operation shall not commence till the entire compensation levied, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.
3. Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
4. A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
5. All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.
6. All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/toposheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
7. Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.
8. Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.
9. It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of


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- Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the proposed safeguard measures in each case should also be provided.
10. The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.
 11. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
 12. Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.
 13. A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
 14. Status of forestry clearance for the broken-up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
 15. Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
 16. The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
 17. A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.
 18. Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.
 19. A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the

project cost.

20. Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.
21. Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects failing under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).
22. R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs/STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine (lease area) will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.
23. One season (non-monsoon) [i.e. March - May (Summer Season); October - December (post monsoon season) ; December - February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM₁₀, particularly for free silica, should be given.
24. Air quality modelling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modelling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.
25. The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
26. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
27. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided,


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28. Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
29. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater, Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter- alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.
30. Details of any stream, seasonal or otherwise, passing through the tease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be.
31. Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.
32. A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.
33. Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.
34. Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.
35. Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.
36. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
37. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
38. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative

dimensions may be given with time frames for implementation.

39. Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.
40. Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
41. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
42. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
43. A Disaster management Plan shall be prepared and included in the EIA/EMP Report.
44. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.
45. The activities and budget earmarked for Corporate Environmental Responsibility (CER) shall be as per MoEF&CC, Govt. of India O.M No 22-65/2017-IA. II (M) dated 01.05.2018 and the action plan on the activities proposed under CER shall be submitted at the time of appraisal of the project included in the EIA/EMP Report.
46. The Action Plan on the compliance of the recommendations of the CAG as per MoEF&CC, Govt. of India Circular No. J-11013/71/2016-IA.I (M), dated 25,10.2017 needs to be submitted at the time of appraisal of the project and included in the EIA/EMP Report.
47. Compliance of the MoEF&CC, Govt. of India Office Memorandum No. F: 3-50/2017-IA.III (Pt.), dated 30.05.2018 on the judgement of Hon'ble Supreme Court, dated the 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India needs to be submitted and included in the EIA/EMP Report.

B. Besides the above, the below mentioned general points are also to be followed: -

- a) All documents to be properly referenced with index and continuous page numbering.
- b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.
- c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.
- d) Where the documents provided are in a language other than English, an English translation should be provided.
- e) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.
- f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006- IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.



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- g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.
- h) As per the circular no. J-11011/618/2010-IA.II (I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.
- i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) Sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.
- C. The prescribed TOR would be valid for a period of four years for submission of the EIA/EMP report.**